Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

IN RE: FLORIDA POWER & LIGHT COMPANY)
MARTIN COAL GASIFICATION/) CERTIFICATION NO. PA89-27
COMBINED CYCLE PROJECT,)
MARTIN COUNTY, FLORIDA) OGC CASE NO. 91-0581
MODIFICATION OF CONDITIONS OF)
CERTIFICATION)

NOTICE OF INTENDED AGENCY ACTION

The Florida Department of Environmental Protection hereby provides notice of an intent to modify the conditions of certification for the Florida Power & Light Company Martin Plant to conform the conditions to the amended Prevention of Significant Deterioration Permit issued on October 14, 1997, in accordance with Condition XXI.B. which allows the Department to modify conditions of certification to conform to amended federally approved permits. A copy of the proposed modification is attached.

Pursuant to 403.516, F.S., a party to the original certification proceeding has 45 days from the date of receipt of this notice in which to respond to the proposed modification. Any objection to the modification shall be in writing and shall be filed with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. Failure to file a response constitutes a waiver of objection to the modification.

DONE AND ENTERED this 15th day of December, 1997, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Hamilton S. Oven

Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

Martin Power Plant

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing and attachments have been furnished to the following on this 11th day of ~~September, 1996.~~ December 1997

Douglas S. Roberts, Esquire
Hopping Green Sams & Smith
Post Office Box 6526
Tallahassee, Florida 32313

Charles T. Collette, Esquire
Assistant General Counsel
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Kathy C. Carter
Clerk, Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David Jordan, Senior Attorney
Florida Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

William Roberts
Assistant General Counsel
Florida Department of Transportation
Haydon Burns Building
605 Suwannee Street, M.S. #58
Tallahassee, Florida 32399

Toni Leidy
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

Susan M. Coughanour
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

Fred Van Vonno
Assistant County Attorney
Martin County
2401 Southeast Monterey Road
Stuart, Florida 34996

Michael Palecki
Division of Legal Services
Florida Public Service Commission
101 East Gaines Street
Fletcher Building, Room 212
Tallahassee, Florida 32399-0850

Roger Saberson
Treasure Coast Regional Planning Council
110 E. Atlantic Avenue
Delray Beach, Florida 33444

Peter Merritt
Treasure Coast Regional Planning Council
3228 SW Martin Downs Blvd., Suite 205
Palm City, Florida 33490

Gary Simmons
Troup-Indiantown Drainage District
Post Office Box 128
Indiantown, Florida 34956

Hamilton S. Oven

Hamilton S. Oven, P.E
Administrator, Siting
Coordination Office

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 14, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Senior Environmental Specialist
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408

RE: Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

Dear Mr. Piper:

The Department has reviewed your April 28, 1993 letter with supporting data submitted to EPA and additional data submitted by Fax to the Department on October 1, 1997, requesting an NSPS Custom Fuel Monitoring Schedule. The schedule would only apply to a monitoring schedule for sulfur dioxide (SO_2) and nitrogen oxide (NO_x) when natural gas is being fired at the subject facility (refer to Attachments No. 1 & 2). 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, as stated in the letter from EPA on June 2, 1993, the EPA Region IV will provide their determination of this request to the Department. The Department received a letter, dated June 8, 1993, from EPA on October 1, 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 attachment No. 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 SO_2 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:

A. Specific Condition Number;

From

15. This project shall comply with all the applicable requirements of Chapter 17-2, Florida Administrative Code (F.A.C.) and the June 27, 1989 version of 40 CFR Subpart GG, Gas Turbines.

To

15. This source shall be in compliance with all requirements of 40 CFR 60, Subpart GG (Standards of Performance for Stationary Gas Turbines) and Rule 62-204.800(7), F.A.C. (Standards of Performance for New Stationary Sources (NSPS)).

A. Natural Gas

Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule 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 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, 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, 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 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.**

B. <u>New No. 2 Fuel Oil</u>

The records of new No. 2 fuel oil usage shall be kept by the company for a five year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel oil being fired in the gas turbine exceeds 0.5 percent sulfur content and 0.3 percent sulfur content, by weight, for hourly and annual emissions, respectively.

B. <u>Attachments to be Incorporated</u>;

- FPL letter dated April 28, 1993
- EPA letter dated June 2, 1993
- EPA letter dated June 8, 1993
- FPL fax dated October 1, 1997

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 at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. 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.

This letter amendment must be attached to PA 89-27, PSD-FL-146(A) Permit and shall become part of the permit.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/CSL

Attachments

cc: H. Oven, DEP
I. Goldman, SED
A. Linero, DEP
J. Harper, EPA
J. Lindsay, FPL
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT and all copies were sent by certified mail before the close of business on 10/14/97 to the person(s) listed:

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.

Barbara J. Pritchard 10/14/97
(Clerk) (Date)

Attachment No. 1

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN -2 1993

4APT-AEB

Mr. Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company
P.O. Box 088801
North Palm Beach, Florida 33408-8801

RE: FPL Martin Customized Fuel Monitoring Schedule

Dear Mr. Ondler:

This letter is in response to your request for approval of a customized fuel monitoring schedule at the Florida Power & Light-Martin site, as outlined to EPA Region IV in your correspondence dated April 28, 1993. We are presently reviewing the schedule for adherence to the requirements of 40 CFR Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). Our comments regarding the proposal will be forwarded to the Florida Department of Environmental Regulation (DER). Since the Florida DER has been granted authority to implement 40 CFR Part 60, a final decision regarding the proposal will be provided to you by the DER.

If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

April 28, 1993

FPL-JEN-EPA-170-93-18

Ms. Jewell A. Harper, Chief
Air Enforcement Branch, Region IV
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

RE: FPL Martin CG/CC Project
PA89-27, PSD-FL-146
Customized Fuel Monitoring Schedule

Dear Ms. Harper:

The Martin CG/CC Project at the FPL Martin site has been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS- 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine 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. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Martin CG/CC Project. While firing natural gas, FPL 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 and the attached enclosure.

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 D4084-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule which ever is later, 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, represents 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 quarter 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, FPL will notify the Department of Environmental Regulation of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. FPL will notify the Department of Environmental Regulation 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 greater than 10 grains/1000 cf 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 sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL 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 the Martin site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or your staff have any question about this request please call Dan MacDougall at (407) 625-7661.

Sincerely,

Wayne Ondler

Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company

cc: Doug Neeley-EPA/Atlanta
Clair Fancy-DER/TAL
H. S. Oven-DER/TAL
Tom Title-DER/WPB

ATTACHMENT A

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

AUG 14 1997

OFFICE OF AIR AND RADIATION

MEMORANDUM

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

FROM: John B. Rasnic, Chief
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

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with (60.333 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_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 SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to OSCD for approval.

If you have any questions, please contact Sally K. Farrell at FTS 382-2875.

Attachment

cc: John Crenshaw
George Walsh
Robert Ajax
Earl Salo

 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 B

Sulfur Content of Natural Gas

Date	Sulfur Content (gr/1000 cf)
02/06/90	3.0
02/13/90	0.5
02/20/90	3.5
02/27/90	4.5
03/06/90	4.5
03/13/90	3.0
03/20/90	3.5
03/27/90	3.5
04/03/90	6.0
04/10/90	2.5
04/17/90	4.0
04/24/90	3.0
05/01/90	4.0
05/08/90	2.5
05/15/90	2.0
06/05/90	4.5
06/12/90	4.0
06/19/90	7.0
06/26/90	4.5
07/03/90	5.5
07/10/90	3.5
07/17/90	4.5
07/30/90	3.0
08/07/90	5.0
08/14/90	4.5
08/21/90	4.0
08/28/90	7.0
09/04/90	5.5
09/11/90	4.0
09/18/90	4.5
09/25/90	4.0
10/02/90	4.5
10/09/90	4.5
10/16/90	7.0
10/28/90	8.0
Average	4.3
Maximum	8.0
Minimum	0.5

Source: Florida Gas Transmission Company, 1990

Attachment No. 2

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

Customized Fuel Monitoring Schedule - FPL Martin Plant

Sulfur in Natural Gas

1994

1/5/94	*0.3* gr/ccf	
1/31/94	*0.18* gr/ccf	
2/14/94	*0.09* gr/ccf	
2/21/94	*0.07* gr/ccf	
3/23/94	*0.08* gr/ccf	Twice Per Month for First six months
3/15/94	*0.05* gr/ccf	
4/6/94	*0.06* gr/ccf	
4/26/94	*0.07* gr/ccf	
5/11/94	*0.05* gr/ccf	
5/31/94	*0.07* gr/ccf	
6/14/94	*0.09* gr/ccf	
6/29/94	*0.08* gr/ccf	
		"Data shows little variability in sulfur content"
7/6/94	0.07 gr/ccf	
7/19/94	0.06 gr/ccf	
8/8/94	0.08 gr/ccf	Once per Quarter for six quarters
8/23/94	0.09 gr/ccf	
9/13/94	0.07 gr/ccf	
9/7/94	0.08 gr/ccf	
11/28/94	0.06 gr/ccf	
12/27/94	0.05 gr/ccf	

1995

1/24/95	0.04 gr/ccf	
2/28/95	0.04 gr/ccf	
3/7/95	0.09 gr/ccf	
4/18/95	0.17 gr/ccf	
4/25/95	0.16 gr/ccf	
5/2/95	0.14 gr/ccf	
5/30/95	0.14 gr/ccf	
6/14/95	0.15 gr/ccf	
6/28/95	0.17 gr/ccf	
7/25/95	0.17 gr/ccf	"Data shows little variability in sulfur content"
11/10/95	11 ppm	
		Florida Gas Changed report from GR/CCF to PPM.

1996

1/2/96	5.5 ppm	
1/30/96	6.2 ppm	
4/14/96	3.3 ppm	
7/2/96	6.6 ppm	
10/1/96	3 ppm	
		"Data shows little variability in sulfur content"

1997

		Twice per year
2/6/97	8.48 ppm	
7/7/97	6.56 ppm	

Attachment No. 3

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

DRAFT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN - 8 1993

4APT-AEB

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

RE: Florida Power & Light Company - Martin (PSD-FL-146)
Customized Fuel Monitoring Schedule

Dear Mr. Fancy:

This is in response to correspondence received from the Florida Power and Light Company (FPL), dated April 28, 1993, concerning the enclosed proposed fuel monitoring schedule at their Martin Cogeneration facility. The proposed schedule from FPL fulfills the requirements for monitoring as promulgated in 40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines. The proposal is submitted under the provisions of §60.334(b)(2). The FPL proposal satisfies the conditions required for a custom fuel sampling schedule for stationary gas turbines, including fuel nitrogen content monitoring, fuel sulfur content monitoring, notification of changes in the fuel supply, and recordkeeping.

We have reviewed the proposed fuel monitoring schedule in accordance with EPA guidance for the approval of custom fuel monitoring schedules and have no adverse comments on the FPL proposal. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division

Enclosure

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

April 28, 1993

FPL-JEN-EPA-170-93-18

Ms. Jewell A. Harper, Chief
Air Enforcement Branch, Region IV
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

RE: FPL Martin CG/CC Project
PA89-27, PSD-FL-146
Customized Fuel Monitoring Schedule

Dear Ms. Harper:

The Martin CG/CC Project at the FPL Martin site has been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS- 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine 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. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Martin CG/CC Project. While firing natural gas, FPL 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 and the attached enclosure.

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 D4084-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule which ever is later, 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, represents 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 quarter 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, FPL will notify the Department of Environmental Regulation of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. FPL will notify the Department of Environmental Regulation 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 greater than 10 grains/1000 cf 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 sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL 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 the Martin site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or your staff have any question about this request please call Dan MacDougall at (407) 625-7661.

Sincerely,

Wayne Ondler

Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company

cc: Doug Neeley-EPA/Atlanta
Clair Fancy-DER/TAL
H. S. Oven-DER/TAL
Tom Title-DER/WPB

Department of
Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

February 19, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John M. Lindsay
Plant General Manager
FP&L Martin Plant
Post Office Box 14000
Juno Beach, Florida 33408

Re: FPL Martin Plant Units 3B and 4A, Combustion Turbines
PSD-FL-146, PA89-27

Dear Mr. Lindsay:

The Department reviewed Mr. Hampp's letter request dated February 1, 1999 to test and tune new nozzles installed on combustion turbine Units 3B and 4A. The request is approved provided emissions of NO_X do not exceed the applicable NSPS Subpart GG limits and do not exceed the permitted limits for any measured pollutants for more than 12 hours per turbine as a result of the testing and tuning. The tuning of Unit 4A shall be conducted between February 26 and April 1. Tuning of Unit 3B shall be conducted between May 28 and July 1, 1999. Based on the more extensive Dry Low NO_X Verification Testing program conducted in 1994, it is obvious that the testing and tuning is necessary following installation of new combustors and nozzles and results in substantially lower emissions.

Please indicate any exceedances of the applicable limits in your quarterly excess emissions report and reference this authorization.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3) of the Florida Statutes 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. Under Section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of

publication. A petitioner shall 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 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the Rules and statutes which entitle the petitioner to relief; and (f) A demand for relief.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

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. 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.

Mediation is not available in this proceeding.

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.

A copy of this letter shall be filed with the referenced permit and certification and shall become part of the permit.

Sincerely,

Howard L. Rhodes

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2-24-99 to the person(s) listed:

Mr. John M. Lindsay, FP&L *
Mr. John C. Hampp, FP&L
Mr. Isadore Goldman

Clerk Stamp

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

Kyra Tober 2-24-99
(Clerk) (Date)

BEST AVAILABLE COPY

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

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.

Is your RETURN ADDRESS completed on the reverse side?

3. Article Addressed to:
John Lindsay, Plant Gen. Mgr.
FP&L Martin Plant
PO Box 14000
Juno Beach, FL 33408
NOT JES

4a. Article Number
P 265 659 424

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

7. Date of Delivery

5. Received By: (Print Name)

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

6. Signature: (Addressee or Agent)
X

Thank you for using Return Receipt Service.

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

P 265 659 424

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

Sent to John Lindsay	
Street & Number FP&L Martin Plant	
Post Office, State, & ZIP Code Juno Bch, 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 2-24-99	
PSD-FI-146 PA 89-27	

PS Form **3800**, April 1995

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 14, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Senior Environmental Specialist
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408

RE: Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

Dear Mr. Piper:

The Department has reviewed your April 28, 1993 letter with supporting data submitted to EPA and additional data submitted by Fax to the Department on October 1, 1997, requesting an NSPS Custom Fuel Monitoring Schedule. The schedule would only apply to a monitoring schedule for sulfur dioxide (SO_2) and nitrogen oxide (NO_x) when natural gas is being fired at the subject facility (refer to Attachments No. 1 & 2). 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, as stated in the letter from EPA on June 2, 1993, the EPA Region IV will provide their determination of this request to the Department. The Department received a letter, dated June 8, 1993, from EPA on October 1, 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 attachment No. 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 SO_2 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:

A. Specific Condition Number;

From

15. This project shall comply with all the applicable requirements of Chapter 17-2, Florida Administrative Code (F.A.C.) and the June 27, 1989 version of 40 CFR Subpart GG, Gas Turbines.

To

15. This source shall be in compliance with all requirements of 40 CFR 60, Subpart GG (Standards of Performance for Stationary Gas Turbines) and Rule 62-204.800(7), F.A.C. (Standards of Performance for New Stationary Sources (NSPS)).

A. Natural Gas

Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule 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 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, 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, 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 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.

B. <u>New No. 2 Fuel Oil</u>

The records of new No. 2 fuel oil usage shall be kept by the company for a five year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel oil being fired in the gas turbine exceeds 0.5 percent sulfur content and 0.3 percent sulfur content, by weight, for hourly and annual emissions, respectively.

B. <u>Attachments to be Incorporated</u>;

- FPL letter dated April 28, 1993
- EPA letter dated June 2, 1993
- EPA letter dated June 8, 1993
- FPL fax dated October 1, 1997

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 at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. 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.

This letter amendment must be attached to PA 89-27, PSD-FL-146(A) Permit and shall become part of the permit.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/CSL

Attachments

cc: H. Oven, DEP
I. Goldman, SED
A. Linero, DEP
J. Harper, EPA
J. Lindsay, FPL
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT and all copies were sent by certified mail before the close of business on 10/14/97 to the person(s) listed:

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.

Barbara J. Boutwell 10/14/97
(Clerk) (Date)

Attachment No. 1

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN - 2 1993

4APT-AEB

Mr. Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company
P.O. Box 088801
North Palm Beach, Florida 33408-8801

RE: FPL Martin Customized Fuel Monitoring Schedule

Dear Mr. Ondler:

This letter is in response to your request for approval of a customized fuel monitoring schedule at the Florida Power & Light-Martin site, as outlined to EPA Region IV in your correspondence dated April 28, 1993. We are presently reviewing the schedule for adherence to the requirements of 40 CFR Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). Our comments regarding the proposal will be forwarded to the Florida Department of Environmental Regulation (DER). Since the Florida DER has been granted authority to implement 40 CFR Part 60, a final decision regarding the proposal will be provided to you by the DER.

If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

April 28, 1993 FPL-JEN-EPA-170-93-18

Ms. Jewell A. Harper, Chief
Air Enforcement Branch, Region IV
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

RE: FPL Martin CG/CC Project
PA89-27, PSD-FL-146
Customized Fuel Monitoring Schedule

Dear Ms. Harper:

The Martin CG/CC Project at the FPL Martin site has been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS- 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine 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. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Martin CG/CC Project. While firing natural gas, FPL 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 and the attached enclosure.

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 D4084-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule which ever is later, 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, represents 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 quarter 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, FPL will notify the Department of Environmental Regulation of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. FPL will notify the Department of Environmental Regulation 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 greater than 10 grains/1000 cf 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 sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL 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 the Martin site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or your staff have any question about this request please call Dan MacDougall at (407) 625-7661.

Sincerely,

Wayne Ondler

Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company

cc: Doug Neeley-EPA/Atlanta
Clair Fancy-DER/TAL
H. S. Oven-DER/TAL
Tom Title-DER/WPB

ATTACHMENT A

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

AUG 14 1987

OFFICE OF AIR AND RADIATION

MEMORANDUM

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

FROM: John B. Rasnic, Chief
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

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with §60.333 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_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 ESCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to OECD for approval.

If you have any questions, please contact Sally M. Farrell at FTS 382-2875.

Attachment

cc: John Crenshaw
George Walsh
Robert Ajax
Earl Salo

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 B

Sulfur Content of Natural Gas

Date	Sulfur Content (gr/1000 cf)
02/06/90	3.0
02/13/90	0.5
02/20/90	3.5
02/27/90	4.5
03/06/90	4.5
03/13/90	3.0
03/20/90	3.5
03/27/90	3.5
04/03/90	6.0
04/10/90	2.5
04/17/90	4.0
04/24/90	3.0
05/01/90	4.0
05/08/90	2.5
05/15/90	2.0
06/05/90	4.5
06/12/90	4.0
06/19/90	7.0
06/26/90	4.5
07/03/90	5.5
07/10/90	3.5
07/17/90	4.5
07/30/90	3.0
08/07/90	5.0
08/14/90	4.5
08/21/90	4.0
08/28/90	7.0
09/04/90	5.5
09/11/90	4.0
09/18/90	4.5
09/25/90	4.0
10/02/90	4.5
10/09/90	4.5
10/16/90	7.0
10/28/90	8.0
Average	4.3
Maximum	8.0
Minimum	0.5

Source: Florida Gas Transmission Company, 1990

Attachment No. 2

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

Customized Fuel Monitoring Schedule - FPL Martin Plant

Sulfur in Natural Gas

1994

1/5/94	*0.3* gr/ccf	
1/31/94	*0.18* gr/ccf	
2/14/94	*0.09* gr/ccf	
2/21/94	*0.07* gr/ccf	
3/23/94	*0.08* gr/ccf	Twice Per Month for First six months
3/15/94	*0.05* gr/ccf	
4/6/94	*0.06* gr/ccf	
4/26/94	*0.07* gr/ccf	
5/11/94	*0.05* gr/ccf	
5/31/94	*0.07* gr/ccf	
6/14/94	*0.08* gr/ccf	
6/29/94	*0.08* gr/ccf	
		"Data shows little variability in sulfur content"
7/6/94	0.07 gr/ccf	
7/19/94	0.06 gr/ccf	
8/8/94	0.08 gr/ccf	Once per Quarter for six quarters
8/23/94	0.09 gr/ccf	
9/13/94	0.07 gr/ccf	
9/7/94	0.08 gr/ccf	
11/28/94	0.06 gr/ccf	
12/27/94	0.05 gr/ccf	

1995

1/24/95	0.04 gr/ccf	
2/28/95	0.04 gr/ccf	
3/7/95	0.09 gr/ccf	
4/18/95	0.17 gr/ccf	
4/25/95	0.16 gr/ccf	
5/2/95	0.14 gr/ccf	
5/30/95	0.14 gr/ccf	
6/14/95	0.15 gr/ccf	
6/28/95	0.17 gr/ccf	
7/25/95	0.17 gr/ccf	"Data shows little variability in sulfur content"
11/10/95	11 ppm	
		Florida Gas Changed report from GR/CCF to PPM.

1996

1/2/96	5.5 ppm	
1/30/96	6.2 ppm	
4/14/96	3.3 ppm	
7/2/96	6.6 ppm	
10/1/96	3 ppm	
		"Data shows little variability in sulfur content"

1997

		Twice per year
2/6/97	8.48 ppm	
7/7/97	6.56 ppm	

Attachment No. 3

Amendment to PA 89-27, PSD-FL-146(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power & Light Company
Martin Plant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN - 8 1993

4APT-AEB

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

RE: Florida Power & Light Company - Martin (PSD-FL-146)
Customized Fuel Monitoring Schedule

Dear Mr. Fancy:

This is in response to correspondence received from the Florida Power and Light Company (FPL), dated April 28, 1993, concerning the enclosed proposed fuel monitoring schedule at their Martin Cogeneration facility. The proposed schedule from FPL fulfills the requirements for monitoring as promulgated in 40 CFR Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines. The proposal is submitted under the provisions of §60.334(b)(2). The FPL proposal satisfies the conditions required for a custom fuel sampling schedule for stationary gas turbines, including fuel nitrogen content monitoring, fuel sulfur content monitoring, notification of changes in the fuel supply, and recordkeeping.

We have reviewed the proposed fuel monitoring schedule in accordance with EPA guidance for the approval of custom fuel monitoring schedules and have no adverse comments on the FPL proposal. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division

Enclosure

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

April 28, 1993 FPL-JEN-EPA-170-93-18

Ms. Jewell A. Harper, Chief
Air Enforcement Branch, Region IV
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

RE: FPL Martin CG/CC Project
PA89-27, PSD-FL-146
Customized Fuel Monitoring Schedule

Dear Ms. Harper:

The Martin CG/CC Project at the FPL Martin site has been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS- 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine 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. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Martin CG/CC Project. While firing natural gas, FPL 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 and the attached enclosure.

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 D4084-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule which ever is later, 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, represents 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 quarter 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, FPL will notify the Department of Environmental Regulation of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. FPL will notify the Department of Environmental Regulation 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 greater than 10 grains/1000 cf 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 sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL 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 the Martin site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or your staff have any question about this request please call Dan MacDougall at (407) 625-7661.

Sincerely,

Wayne Ondler

Wayne C. Ondler
Environmental Licensing Project Manager
Florida Power & Light Company

cc: Doug Neeley-EPA/Atlanta
Clair Fancy-DER/TAL
H. S. Oven-DER/TAL
Tom Title-DER/WPB

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

August 1, 1996

Mr. Al Linero
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee FL 32399-2400

Re: FPL Martin Plant
Proof of Publication - Modification of PSD Permit

Dear Mr. Linero:

Enclosed please find the proof of publication of the Notice of Intent to Issue permit, which was published in the Stuart News on June 16, 1996. I apologize for the delay in providing your office with this information. Please issue the revised PSD permit as soon as practicable. Thank-you once again for your assistance in this matter.

If you have any questions regarding this modification request, please do not hesitate to contact me at (561) 625-7661.

Very truly yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Hamilton Oven FDEP - Tallahassee
Tom Tittle FDEP - West Palm Beach

P 339 251 150

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

Sent to: Richard Piper	
Street & Number: Fla. Power + Light	
Post Office, State, & ZIP Code: P.O. Palm Bch, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee: Re Sending	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: 9-6-96	

PS Form **3800**, April 1995

PSD-FI-146(A)

Is 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):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Richard Piper E.S.
Fla Power & Light
PO Box 088801
N. Palm Bch, Fl
33408-88

4a. Article Number: P 339 251 150

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)

POST OFFICE PALM BEACH FL NO. PALM BEACH COUNTY SEP 9 1996

PS Form **3811**, December 1994 *U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Amended Final
PSD Permit Amendment
See page 4
13b
Corrected 1550 to 15%02

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

September 6, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Environmental Specialist
Florida Power and Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Dear Mr. Piper:

Re: FPL Martin Plant - PSD Permit Amendment
Rate of Operation During Compliance Testing
0850001-002-AC,0850001-003-AC,PSD-FL-146(A)

The Department has reviewed your request of April 9 to incorporate Guidance DARM-EM-05, "Rate of Operation During Compliance Testing for Combustion Turbines (attached)," to eliminate redundant testing requirements, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within the PSD permit applicable to the FPL Martin Power Plant. The permit is amended as follows:

Specific Condition 1

From:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuously determined and recorded.

To:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuously determined and recorded. **Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curves will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.**

<u>Specific Condition 10.f.</u>

From:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I, A)

To:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I)

Specific Condition 13

From:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet performance specifications of 40 CFR 60, Appendix B.

b. CEMS data shall be recorded and reported in accordance with Chapter 17-2, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.

e. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in condition No. II.A.4.

To:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 **CFR 75**, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet specifications of 40 CFR **75 Appendices A, B, and F.**

b. CEMS data shall be recorded and reported in accordance with 40 CFR 75 **and 40 CFR 60.7.** The **excess emission report shall** include periods of startup, shutdown and malfunction **and shall be based on NO_X data corrected to** 15% O_2 and 40 degrees F.

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in Condition No. II.A.4.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-146.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

for Howard L. Rhodes, Director
Division Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this **PERMIT AMENDMENT** was mailed by certified mail (*) and copies were mailed by U.S. mail before the close of business on September 6, 1996 to the persons listed:

Mr. Richard Piper, FPL*
Ms. Jewell Harper, EPA
Mr. John Bunyak, NPS
Mr. Isidore Goldman, DEP
Mr. Hamilton Oven, PPS

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(11), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

Kimi Jobin 9-6-96
(Clerk) (Date)

BEST AVAILABLE COPY

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):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Richard Piper, Env. Sp.
FLA Power & Light
PO Box 088801
N. Palm Bch, FL
33408-8801

4a. Article Number
P339 251 139

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

7. Date of Delivery
AUG 1993

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form 3811, December 1991 *U.S. GPO: 1993—352-714 DOMESTIC RETURN RECEIPT

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

P 339 251 139

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

Sent to: Richard Piper	
Street & Number: FPL	
Post Office, State, & ZIP Code: N PB, 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	$

PS Form 3800, April 1995

Incorrect
See Sept-6-96

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

August 9, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Environmental Specialist
Florida Power and Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Dear Mr. Piper:

Re: FPL Martin Plant - PSD Permit Amendment
Rate of Operation During Compliance Testing
0850001-002-AC,0850001-003-AC,PSD-FL-146(A)

The Department has reviewed your request of April 9 to incorporate Guidance DARM-EM-05, "Rate of Operation During Compliance Testing for Combustion Turbines (attached)," to eliminate redundant testing requirements, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within the PSD permit applicable to the FPL Martin Power Plant. The permit is amended as follows:

Specific Condition 1

From:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuosly determined and recorded.

To:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuosly determined and recorded. **Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.**

Specific Condition 10.f.

From:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I, A)

To:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I)

Specific Condition 13

From:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet performance specifications of 40 CFR 60, Appendix B.

b. CEMS data shall be recorded and reported in accordance with Chapter 17-2, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

c. A malfunction means any suden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless opration or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.

e. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in condition No. II.A.4.

To:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 **CFR 75**, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet specifications of 40 CFR **75 Appendices A, B, and F.**

b. CEMS data shall be recorded and reported in accordance with 40 CFR 75 **and 40 CFR 60.7.** The **excess emission report shall** include periods of startup, shutdown and malfunction **and shall be based on NO_x data corrected to** 155 O_2 and 40 degrees F.

15%

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless opration or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in Condition No. II.A.4.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-146.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes

Howard L. Rhodes, Director
Division Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this **PERMIT AMENDMENT** was mailed by certified mail (*) and copies were mailed by U.S. mail before the close of business on 8-14-96 to the persons listed:

Mr. Richard Piper, FPL*
Ms. Jewell Harper, EPA
Mr. John Bunyak, NPS
Mr. Isidore Goldman, DEP
Mr. Hamilton Oven, PPS

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(11), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

Kori Tobe 8-14-96
(Clerk) (Date)

Memorandum

Florida Department of
Environmental Protection

al

TO: Howard Rhodes

THRU Clair Fancy cmf for CHF 8/9

FROM: Al Linero 8/7

DATE: August 7, 1996

SUBJECT: FPL Martin Plant - PSD Permit Amendment
Rate of Operation During Compliance Testing
08500001-002 & 003-AC, PSD-FL-146 (A)

Attached for your review and signature is an amendment incorporating the conditions of our Guidance DARM-EM-05, "Rate of Operation During Compliance Testing," into the FPL Martin Plant PSD permit. We are also getting rid of some redundant CEMS conditions so they can use their Part 75 devices to take care of their obligations for other purposes. They publicly noticed this item and we received no comments.

BEST AVAILABLE COPY

The Stuart News and The Port St. Lucie News

(an edition of The Stuart News)

RECEIVED

AUG 5 1996

BUREAU OF AIR REGULATION

STATE OF FLORIDA
COUNTY OF MARTIN: COUNTY OF ST. LUCIE:

Before the undersigned authority appeared KATHLEEN N PRITCHARD who on oath says that he/she ACCTS REC MANAGER of The Stuart News, and The Port St. Lucie News, a daily newspaper Published at Stuart in Martin County, Florida, that the attached copy of advertisement, being a NOTICE OF INTENT TO ISSUE PERMIT in the matter of FLORIDA POWER AND LIGHT COMPANY

in the _____ Court, was Published in The Stuart News and The Port St. Lucie News in the issues of JUNE 16, 1996

Affiant further says that the said The Stuart News and The Port St. Lucie News is a newspaper published at Stuart, in said Martin County, Florida with offices and paid circulation in Martin County, Florida, and St. Lucie County, Florida and that the said newspapers have heretofore been continuously published in said Martin County, Florida and distributed in Martin County, Florida and St. Lucie 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/she 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 the said newspaper. The Stuart News has been entered as second class matter at the post office in Stuart, Martin County, Florida, and Ft. Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

Kathleen N Pritchard

Sworn to and subscribed before me

this 5th day of July

A.D. 1996

CATHERINE HUDSON
Notary Public - State of Florida
My Commission Expires Apr 19, 2000
Commission # CC556661

(Seal) Notary Public

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT
PSD-FL-146(A),
0850001-002/3-AC

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Florida Power and Light Company (FPL), Post Office Box 088801, North Palm Beach, Florida 33408-8801 to incorporate Department Guidance "Rate of Operation During Compliance Testing for Combustion Turbines," to eliminate redundant emission test requirement, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within its PSD permit applicable to Units 3 and 4 at the FPL Martin Power Plant west of Indiantown, Martin County.

The Department requires that periodic air compliance testing of combustion turbines be conducted at 95-100 percent of maximum heat input capacity. The amendment recognizes that the capacity varies with conditions, such as ambient temperature on the test date, which are beyond the control of operators. It allows FPL to employ manufacturer's equipment characteristics to insure the Department's test requirements are satisfied and that results are applicable over the full operating temperature range. The Department will eliminate the annual VOC test requirement because historical tests using various sampling methods have shown undetectable levels or levels below the minimum detectable limits for the methods employed. The results are well below the permitted value of 1.6 parts per million.

The Department has determined that there will be no significant increases in emissions as a result of this amendment.

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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of publication of this notice. 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, Florida Statutes.

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; and (g) A statement of the relief sought by petitioner stating precisely the action 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 Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the 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 publication of this notice 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 60Q-2.010, F.A.C.

The application 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

Department of
Environmental Protection
Southeast District
400 North Congress Avenue
West Palm Beach, Florida 33401

Any person may send written

To - FPL Martin 6/6

FPL

FACSIMILE COVER SHEET

FLORIDA POWER & LIGHT COMPANY
ENVIRONMENTAL SERVICES DEPARTMENT
11770 U.S. HIGHWAY ONE
P.O. BOX 088801
NORTH PALM BEACH, FLORIDA 33408-8801

DATE: July 27, 1996

SEND TO:

NAME: Kim TOBER

COMPANY: FDEP

FACSIMILE PHONE NUMBER: 904 922 6979

PHONE NUMBER EXTENSION:

FROM: RICH PIPER

PHONE NUMBER (407) 625- 7661

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE:

SPECIAL INSTRUCTIONS: Kim, As you can see from the attached letter, I'm having as rather difficult time with what ought to be a simple task. I faxed this letter to the newspaper today, so it will be there Monday a.m. Also attached is the affidavit that I do have so far, for your files. I'll keep plugging!

Rich Piper

filename: faxcovr

JES/GB FACSIMILE PHONE NO: (407) 625-7251

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

July 27, 1996

Ms. Cindy Rosemont
The Stuart News
P.O. Box 9009
Stuart, FL 34995-9009

Re: Proof of Publication of Legal Advertisement

Dear Ms. Rosemont:

I am writing in reference to the legal advertisement which I requested to be published in the Stuart News in June. As you know, I did not receive the proof of publication of the ad. In a subsequent call to the paper, I requested a second copy to be sent. The information I received, however, did not include a copy of the actual advertisement, which is what I need. This advertisement was for an environmental permit change, and the Florida Department of Environmental Protection requires an actual copy of the published advertisement.

As you may recall, I then spoke to you and requested the proof of publication yet again. You promised to send me out another complete package; however I have not yet received it. In the meantime, I have (miraculously) received your invoice number 224055 (second notice) with an amount due of $157.75.

I will be happy to process this invoice once I have received the proof of publication. Until I do, my internal procedures do not allow me to process the invoice.

I suggest that my name be included on the envelope address to ensure that I receive it. Thank-you for your assistance.

Very truly yours,

Richard Piper
Senior Environmental Specialist
Florida Power & Light Company

cc: Kim Tober, Florida Dept. of Environmental Protection, Tallahassee, FL

The Stuart News and The Port St. Lucie News
(an edition of The Stuart News)

STATE OF FLORIDA
COUNTY OF MARTIN: COUNTY OF ST. LUCIE:

Before the undersigned authority appeared KATHLEEN N. PRITCHARD who on oath says that he/she ACCTS .REC. MANAGER of The Stuart News, and The Port St. Lucie News, a daily newspaper Published at Stuart in Martin County, Florida, that the attached copy of advertisement, being a NOTICE OF INTENT

in the matter of FLORIDA POWER AND LIGHT COMPANY

in the _____ Court, was Published in The Stuart News and The Port St. Lucie News in the issues of JUNE 16. 1996

Affiant further says that the said The Stuart News and The Port St. Lucie News is a newspaper published at Stuart, in said Martin County, Florida with offices and paid circulation in Martin County, Florida, and St. Lucie County, Florida and that the said newspapers have heretofore been continuously published in said Martin County, Florida and distributed in Martin County, Florida and St. Lucie 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/she 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 the said newspaper. The Stuart News has been entered as second class matter at the post office in Stuart, Martin County, Florida, and Ft. Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

Kathleen N. Pritchard

Sworn to and subscribed before me

this 26th day of July

A.D. 1996

CATHERINE HUDSON
Notary Public - State of Florida
My Commission Expires Apr 19, 2000
Commission # CC644652

Catherine Hudson

(Seal) Notary Public

Kim - Pls check with Marjane to confirm no petitions have been filed. Tell Rich we must see what they published. I'll accept copy for now of Notice of Intent.

FACSIMILE COVER SHEET

FLORIDA POWER & LIGHT COMPANY
ENVIRONMENTAL SERVICES DEPARTMENT
11770 U.S. HIGHWAY ONE
P.O. BOX 088801
NORTH PALM BEACH, FLORIDA 33408-8801

DATE: July 17, 1996

SEND TO:

NAME: Kim Tober

COMPANY: FDEP

FACSIMILE PHONE NUMBER: 904 922 6979

PHONE NUMBER EXTENSION:

FROM: RICH PIPER

PHONE NUMBER (407) 625- 7661

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE: 2

SPECIAL INSTRUCTIONS:

As we discussed.

filename: faxcovr

JES/GB FACSIMILE PHONE NO: (407) 625-7251

The Stuart News and The Port St. Lucie News
(an edition of The Stuart News)

STATE OF FLORIDA
COUNTY OF MARTIN: COUNTY OF ST. LUCIE:

Before the undersigned authority appeared KATHLEEN N. PRITCHARD who on oath says that he/she ACCTS .REC. MANAGER of The Stuart News, and The Port St. Lucie News, a daily newspaper Published at Stuart in Martin County, Florida, that the attached copy of advertisement, being a NOTICE OF INTENT

in the matter of FLORIDA POWER AND LIGHT COMPANY

in the _____ Court, was Published in The Stuart News and The Port St. Lucie News in the issues of JUNE 16, 1996

Affiant further says that the said The Stuart News and The Port St. Lucie News is a newspaper published at Stuart, in said Martin County, Florida with offices and paid circulation in Martin County, Florida, and St. Lucie County, Florida and that the said newspapers have heretofore been continuously published in said Martin County, Florida and distributed in Martin County, Florida and St. Lucie 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/she 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 the said newspaper. The Stuart News has been entered as second class matter at the post office in Stuart, Martin County, Florida, and Ft. Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

Kathleen N. Pritchard

Sworn to and subscribed before me this 17th day of July A.D. 1996

CATHERINE HUDSON
Notary Public - State of Florida
My Commission Expires Apr 19, 2000
Commission # CC514652

Catherine Hudson
Notary Public

(Seal)

Is 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):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Richard Piper, E.S.
Fla. Power & Light Co.
PO Box 088601
North Palm Bch, Fl
33408-880

4a. Article Number
Z 127 632 593

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

7. Date of Delivery

5. Signature (Addressee)

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

6. Signature (Agent)

PS For

FORM

RECEIPT

Thank you for using Return Receipt Service.

WEST PALM BEACH FL NO. PALM BEACH BRANCH 33400
JUN 4 1996
USPS

Z 127 632 593

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Richard Piper	
Street and No. Fla Power & Light	
P.O. State and ZIP Code N. Palm Bch. Fl	
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 5-31-96	

Form 3800, March 1993

085 0001-01-002
" -03
PSD-FT-146A

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 31, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Environmental Specialist
Florida Power and Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Dear Mr. Piper:

Re: FPL Martin Power Plant - PSD Permit Amendment
Rate of Operation During Compliance Testing
0850001-01-002, 0850001-003-AC, PSD-FL-146(A)

Attached is one copy of the draft Permit Amendment, Intent to Issue, and Notice of Intent to Issue Permit Amendment (for publication by FPL) for the existing Martin Power Plant located in Dania, Florida.

Please submit any written comments concerning the Department's proposed action to Mr. A. A. Linero, P.E. Administrator, at the above address. If you have any questions, please call Mr. Linero at (904)488-1344.

Sincerely,

A A Linero, P.E 5/31 for

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

CHF/aal/l

Enclosure

cc: J. Harper, EPA
J. Bunyak, NPS
B. Oven, DEP
I. Goldman, SED

Department of
Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CERTIFIED MAIL

In the Matter of an
Application for Permit by:

Florida Power & Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801
_____/

DEP File Nos. 0850001-002-AC
0850001-003-AC
PSD-FL-146(A)
Martin County

INTENT TO ISSUE

The Department of Environmental Protection (Department) gives notice of its intent to issue an amendment (copy attached) for the proposed changes as detailed in the application specified above, for the reasons stated below.

The applicant, Florida Power and Light Company (FPL), applied on April 19, 1996 to the Department of Environmental Protection for a permit amendment to incorporate Department Guidance "Rate of Operation During Compliance Testing for Combustion Turbines," to eliminate redundant monitoring requirements, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within its PSD Permit applicable to the FPL Martin Power Plant located west of Indiantown in Martin County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes, DEP Rule 62-4, F.A.C., and DEP Rules 62-210 through 297, F.A.C. The above actions are not exempt from permitting procedures. The Department has determined that an amendment to the PSD permit is required.

Pursuant to Section 403.815, Florida Statutes and DEP Rule 62-103.150, F.A.C., you (FPL) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit Amendment. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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, at 2600 Blair Stone Road, Tallahassee, Florida 32399, within 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 amendment.

The Department will issue the amendment with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. 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, Florida Statutes.

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; and
(g) A statement of the relief sought by petitioner, stating precisely the action 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 intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the 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 intent 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 60Q-2.010, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

5/31 for

C. H. Fancy, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this **INTENT TO ISSUE** and all copies were mailed by certified mail before the close of business on 5-31-96 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to 120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kris Jobes 5/31/96
Clerk Date

Copies furnished to:

J. Harper, EPA
J. Bunyak, NPS
H. Oven, DEP
I. Goldman, SED
D. Banu, BCDNRP

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT
PSD-FL-146(A), 0850001-002/3-AC

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Florida Power and Light Company (FPL), Post Office Box 088801, North Palm Beach, Florida 33408-8801 to incorporate Department Guidance "Rate of Operation During Compliance Testing for Combustion Turbines," to eliminate redundant emission test requirement, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within its PSD permit applicable to Units 3 and 4 at the FPL Martin Power Plant west of Indiantown, Martin County.

The Department requires that periodic air compliance testing of combustion turbines be conducted at 95-100 percent of maximum heat input capacity. The amendment recognizes that the capacity varies with conditions, such as ambient temperature on the test date, which are beyond the control of operators. It allows FPL to employ manufacturer's equipment characteristics to insure the Department's test requirements are satisfied and that results are applicable over the full operating temperature range. The Department will eliminate the annual VOC test requirement because historical tests using various sampling methods have shown undetectable levels or levels below the minimum detectable limits for the methods employed. The results are well below the permitted value of 1.6 parts per million.

The Department has determined that there will be no significant increases in emissions as a result of this amendment.

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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of publication of this notice. 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, Florida Statutes.

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; and (g) A statement of the relief sought by petitioner, stating precisely the action 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 Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the 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 publication of this notice 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 60Q-2.010, F.A.C.

The application 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

Department of Environmental Protection
Southeast District
400 North Congress Avenue
West Palm Beach, Florida 33401

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road - Mail Station 5505, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's Final Determination.

Department of
Environmental Protection

DRAFT

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

June xx, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Piper
Environmental Specialist
Florida Power and Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Dear Mr. Piper: Martin

Re: FPL ~~Lauderdale~~ Plant - PSD Permit Amendment
Rate of Operation During Compliance Testing
0850001-002-AC,0850001-003-AC,PSD-FL-146(A)

The Department has reviewed your request of April 9 to incorporate Guidance DARM-EM-05, "Rate of Operation During Compliance Testing for Combustion Turbines (attached)," to eliminate redundant testing requirements, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within the PSD permit applicable to the FPL Martin Power Plant. The permit is amended as follows:

Specific Condition 1

From:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuosly determined and recorded.

DRAFT

To:

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@ 40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuosly determined and recorded. **Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.**

Specific Condition 10.f.

From:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I, A)

DRAFT

To:

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat input for the tested operating temperature. Annual (A) compliance tests shall be performed on each combustion turbine with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

f. 18 for VOC (I)

Specific Condition 13

From:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet performance specifications of 40 CFR 60, Appendix B.

b. CEMS data shall be recorded and reported in accordance with Chapter 17-2, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

c. A malfunction means any suden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless opration or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.

e. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in condition No. II.A.4.

DRAFT

To:

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 **CFR** 75, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMS) shall meet specifications of 40 CFR **75 Appendices A, B, and F.**

b. CEMS data shall be recorded and reported in accordance with 40 CFR 75 **and 40 CFR 60.7.** The **excess emission report shall** include periods of startup, shutdown and malfunction **and shall be based on NO_x data corrected to** 155 O_2 and 40 degrees F.

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless opration or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. For the purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to conditions No. II.A.18 herein, which exceeds the applicable emission limits in Condition No. II.A.4.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-146.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes, Director
Division Air Resources
Management

DRAFT

CERTIFICATE OF SERVICE

This is to certify that this **PERMIT AMENDMENT** and all copies were mailed to the listed persons before the close of business on _____.

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Chapter 120.52(9), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

_____
Clerk Date

Copies furnished to:

J. Harper, EPA
J. Bunyak, NPS
B. Oven, DEP
I. Goldman

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

085 0001-003-AC

085 3AMND.DOC

085003.DOC

April 19, 1996

Mr. Clair Fancy, Chief
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road, MS 48
Tallahassee FL 32399-2400

Re: FPL Martin Plant
Incorporation of DARM Guidance Document to PSD Permit #PSD-FL-146

Dear Mr. Fancy:

This correspondence is to request a modification to the subject PSD permit in order to incorporate the recently issued DARM guidance document that relates to compliance testing of combustion turbines. In addition, FPL seeks additional flexibility in performing VOC testing on the combined-cycle units. A check in the amount of $250 is included pursuant to Rule 62-4.050(4)(r)5, F.A.C..

Please note that pursuant to a pending modification to the Martin Site Certification, that is expected within a few days, FPL requests that this change also be incorporated in the the Conditions of Certification (PA89-27) for the Martin facility.

DARM Guidance Document

The DEP Division of Air Resources Management (DARM) issued a guidance document on December 1, 1995 entitled "Rate of Operation During Compliance Testing for Combustion Turbines". Contained within that memo is language which is required to be inserted in air operating permits, if a permittee desires to utilize ambient temperature curves for compliance testing purposes. Accordingly, FPL hereby requests that the following language be inserted in the Martin PSD permit (and Site Certification):

(Insert at end of Specific Condition 1): "Testing of emissions shall be conducted with the combustion turbines operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then each of the Martin combustion turbines may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report."

VOC Test Method

Specific Condition 10.f. requires the use of EPA Method 18 for VOC analysis. FPL would like to have the optional ability to alternatively use EPA Method 25A as well. The Department prescribed EPA Method 25A to be used at FPL's Lauderdale facility in 1991. The Lauderdale combined-cycle units are very similar to the combined-cycle units at Martin and have similar emission limits (1ppmvd at Lauderdale on natural gas fuel vs. 1.6 ppmvd at Martin on natural gas fuel).

Accordingly, FPL hereby requests that the following language be inserted in the Martin PSD permit (and Site Certification):

10.f. 18 **or 25A** for VOC (I,A)

At the Martin combustion turbine units, unburned fuel is expected to be the only VOC present, due to the extremely high (~2,350 °F) firing temperature of the machine. In the 1995 compliance testing at Martin, both Methods 18 and 25A were employed. No VOC's were detected using Method 18, except for methane, which is specifically excluded from the VOC definition under Rule 62-210.200. Method 25A yielded total hydrocarbon values ranging from 0.07 to 0.37 ppmv as methane, in the 1995 testing at the Martin combustion turbine units. Since the results indicated that hydrocarbons may have been present using Method 25A that were not detected by Method 18, a subtraction was performed, in which the non-VOC methane detected via Method 18 was subtracted from the total hydrocarbon values detected via Method 25A, yielding the net VOC values.

Please note that all test results from either test method were significantly less than the permit limit basis of 1.6 ppmv.

In view of the fact that Method 25A has yielded representative VOC data, and because the Department has accepted Method 25A at another, very similar combined-cycle combustion turbine facility (FPL Lauderdale combined-cycle) with similar emission limits, it appears justifiable to also utilize Method 25A at the Martin combined-cycle units.

If you have any questions regarding this modification request, please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Hamilton Oven FDEP - Tallahassee
Mike Harley FDEP - Tallahassee
Tom Tittle FDEP - West Palm Beach

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

085 0001-002-AC
085LAMND.DOC
085002.DOC

April 19, 1996

Mr. Clair Fancy, Chief
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road, MS 48
Tallahassee FL 32399-2400

RECEIVED
APR 25 1996
BUREAU OF
AIR REGULATION

Re: FPL Martin Plant
Modification to PSD Permit #PSD-FL-146 - CEM

Dear Mr. Fancy:

This correspondence is to request a modification to the subject PSD permit in order to eliminate a duplicative continuous emission monitoring system (CEM) situation on the Unit 3 and 4 combined-cycle combustion turbines. A check in the amount of $250 is included pursuant to Rule 62-4.050(4)(r)5, F.A.C..

Please note that pursuant to a pending modification to the Martin Site Certification which is expected within a few days, FPL requests that this change also be incorporated into the Conditions of Certification (PA 89-27) for the Martin facility.

Background

Specific Condition 13 in the Martin PSD permit requires the installation, maintenance and operation of continuous emission monitors (CEMs) in accordance with the NSPS requirements. In January 1996, FPL began utilizing the new Acid Rain NOx CEMs at the Martin 3 and 4 units, which has resulted in 2 sets of NOx monitors on the combined-cycle units. Since the specifications, RATA requirements, etc. are at least as stringent on the Part 75 monitors as they are for the Part 60 monitors, FPL proposes to use the Part 75 monitors in lieu of the Part 60 monitors.

FPL has also recently become aware of a written guidance from EPA Region II to New York state regarding the requirement to perform steam-to-fuel monitoring (see Attachment A). This guidance appears to provide a mechanism by which a facility can request a waiver from the steam-to-fuel monitoring requirement that is given in 40 CFR 60 SubPart GG, and utilize a NOx CEM instead. FPL would like to request a similar waiver. Please note that the Martin Unit 3 and 4 combustion turbines utilize General Electric "Dry Low Nox" or "DLN2" technology. This technology does not require the use of water or steam to be injected into the combustion zone of the combined-cycle unit in order to control NOx. It is therefore unnecessary (and indeed impossible) to monitor the steam-to-fuel ratio, (since it does not exist). In order to meet the NOx monitoring requirement of SubPart GG, FPL proposes to utilize the Part 75 NOx monitors, as mentioned in the paragraph above.

FPL proposes to continue to submit the quarterly data to EPA as required by 40 CFR 75, and to additionally use the Part 75 monitors to provide data for the quarterly excess emission reports to the DEP Southeast District Office. Due to differences in the rules governing the submittal of the NOx data, FPL will correct the NOx data to be utiilized in the quarterly excess emission reports to lb/hour, corrected to 15% O_2 and 40°F. Forty degrees is proposed because the current PSD permit limits at Martin are referenced to forty degrees.

To effect this change, the following specific conditions in the PSD permit are requested to be made:

"Specific Condition 13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with ~~40 CFR 60, Appendix F~~ **40 CFR 75**, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMs) meet ~~performance~~ specifications of ~~40 CFR 60, Appendix B~~ **40 CFR 75 Appendices A,B, and F.**

b. CEMS data shall be recorded and reported in accordance with ~~Chapter 17-2, F.A.C., and 40 CFR 60~~ **40 CFR 75, and 40 CFR 60.7.** The ~~record~~ **excess emission report** shall include periods of startup, shutdown and malfunction **and shall be based on NOx data corrected to 15% O_2 and 40 degrees F.**

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

~~d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.~~

e. d. For purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. II.A.18 herein, which exceeds the applicable emissions limits in Condition No. II.A.4. "

These changes should serve to simplify the monitoring and recordkeeping requirements at the facility, without impacting air quality, or DEP's or EPA's ability to assess compliance. If you have any questions regarding this modification request, please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Hamilton Oven FDEP - Tallahassee
Mike Harley FDEP - Tallahassee
Tom Tittle FDEP - West Palm Beach

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

401 347-2059
Tom Tittle

MEMORANDUM

SUBJECT: Approval of the Use of NO_x CEMS as an Alternative Method to the Water-fuel Ratio Monitoring under NSPS Subpart GG

FROM: John B. Rasnic, Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Karl Mangels, Chief
New York Compliance Section
Air Compliance Branch, Region II

In response to your January 12, 1993, memorandum to Linda Lay, SSCD investigated the feasibility of our approval of your request. You asked SSCD to approve a request from East Syracuse Generating Company to allow the use of the NO_x continuous emission monitoring system (CEMS) as an alternative monitoring method to the continuous water-fuel ratio monitoring method.

East Syracuse Generating Company is to commence development of a 100 MW natural gas-fired cogeneration combustion turbine facility in the village of East Syracuse, New York. The facility is allowed to use a limited amount of low sulfur distillate oil as a backup fuel. To control the emissions of NO_x, this turbine will use both water injection and selective catalytic reduction as required by the New York State Department of Environmental Conservation (NYSDEC). Since the NYSDEC permit conditions are more restrictive than the requirements of NSPS Subpart GG, East Syracuse is asking for a waiver from the following monitoring requirements:

1. Fuel sulfur monitoring
2. Fuel nitrogen monitoring
3. Continuous water-fuel ratio monitoring for NO_x compliance.

You have already made determinations on the first two issues and asked SSCD to address only the third issue, use of NO_x CEMS, that is required by the State permit, instead of the water-fuel ratio monitoring method.

SSCD determined that the use of a NO_x CEMS can be allowed as an alternative monitoring method if the facility meets the following conditions:

...ine meets the emission limitation (STD) ...ned according to 40 CFR Part 60.332. The "Y" ...ue for the applicable equation and supporting documentation should be provided by the applicant and the limitation for NO_x emissions from pipeline quality natural gas should be fixed by EPA assuming the "F" value equals 0. The emission limitation shall be expressed in ppmv, dry, corrected to 15 percent O_2.

- Each NO_x CEMS meets the applicable requirements of 40 CFR §60.13, Appendix B, and Appendix F for certifying, maintaining, operating and assuring quality of the system.
- Each NO_x CEMS must be capable of calculating NO_x emissions concentrations corrected to 15% O_2 and ISO conditions.
- Monitor data availability shall be no less than 95 percent on the quarterly basis.
- NO_x CEMS should provide 4 data points for each hour and calculate a 1-hour average.
- Each owner or operator of a NO_x CEMS shall submit an excess emissions (calculated according to the requirements of paragraph 60.13(h)) and monitoring systems performance report and/or a summary report form to the Administrator on a quarterly basis, if excess emissions are determined, or semiannually. The report shall be postmarked by the 30th day following the end of each reporting period. Written reports shall include information required in paragraphs 60.7(c) and 60.7(d). This report shall also contain the content of nitrogen in fuel oil for each reporting period when oil is fired and a clearly calculated corresponding emission limitation (STD).
- Recordkeeping requirements shall follow the requirements specified in 40 CFR §60.7.

In addition, to upgrade the EPA data, we recommend that the NO_x CEMS be used to demonstrate compliance with the emission limitation on a continuous basis and that the quarterly report include the NO_x mass emissions for the reported period as reported to the State.

If you have any questions, please call Zofia Kosim at 703-308-8733.

cc: Air, Pesticides, and Toxics Management Division Directors
Regions I and IV

Air and Waste Management Division Director
Region II

Air, Radiation, and Toxics Division Director
Region III

Air and Radiation Division Director
Region V

Air, Pesticides, and Toxics Division Director
Region VI

Air and Toxics Division Directors
Regions VII, VIII, IX, and X

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

0850001-003-AC

April 19, 1996

Mr. Clair Fancy, Chief
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road, MS 48
Tallahassee FL 32399-2400

Re: FPL Martin Plant
Incorporation of DARM Guidance Document to PSD Permit #PSD-FL-146

Dear Mr. Fancy:

This correspondence is to request a modification to the subject PSD permit in order to incorporate the recently issued DARM guidance document that relates to compliance testing of combustion turbines. In addition, FPL seeks additional flexibility in performing VOC testing on the combined-cycle units. A check in the amount of $250 is included pursuant to Rule 62-4.050(4)(r)5, F.A.C..

Please note that pursuant to a pending modification to the Martin Site Certification, that is expected within a few days, FPL requests that this change also be incorporated in the the Conditions of Certification (PA89-27) for the Martin facility.

DARM Guidance Document
The DEP Division of Air Resources Management (DARM) issued a guidance document on December 1, 1995 entitled "Rate of Operation During Compliance Testing for Combustion Turbines". Contained within that memo is language which is required to be inserted in air operating permits, if a permittee desires to utilize ambient temperature curves for compliance testing purposes. Accordingly, FPL hereby requests that the following language be inserted in the Martin PSD permit (and Site Certification):

(Insert at end of Specific Condition 1): "Testing of emissions shall be conducted with the combustion turbines operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then each of the Martin combustion turbines may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report."

VOC Test Method

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Please note that all test results from either test method were significantly less than the permit limit basis of 1.6 ppmv.

In view of the fact that Method 25A has yielded representative VOC data, and because the Department has accepted Method 25A at another, very similar combined-cycle combustion turbine facility (FPL Lauderdale combined-cycle) with similar emission limits, it appears justifiable to also utilize Method 25A at the Martin combined-cycle units.

If you have any questions regarding this modification request, please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Hamilton Oven FDEP - Tallahassee
Mike Harley FDEP - Tallahassee
Tom Tittle FDEP - West Palm Beach

EPA
NPS

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

0850001-002-AC

FPL

April 19, 1996

Mr. Clair Fancy, Chief
Bureau of Air Permitting
State of Florida Department of Environmental Protection
2600 Blair Stone Road, MS 48
Tallahassee FL 32399-2400

RECEIVED
APR 25 1996
BUREAU OF
AIR REGULATION

Re: FPL Martin Plant
Modification to PSD Permit #PSD-FL-146 - CEM

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This correspondence is to request a modification to the subject PSD permit in order to eliminate a duplicative continuous emission monitoring system (CEM) situation on the Unit 3 and 4 combined-cycle combustion turbines. A check in the amount of $250 is included pursuant to Rule 62-4.050(4)(r)5, F.A.C..

Please note that pursuant to a pending modification to the Martin Site Certification which is expected within a few days, FPL requests that this change also be incorporated into the Conditions of Certification (PA 89-27) for the Martin facility.

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FPL has also recently become aware of a written guidance from EPA Region II to New York state regarding the requirement to perform steam-to-fuel monitoring (see Attachment A). This guidance appears to provide a mechanism by which a facility can request a waiver from the steam-to-fuel monitoring requirement that is given in 40 CFR 60 SubPart GG, and utilize a NOx CEM instead. FPL would like to request a similar waiver. Please note that the Martin Unit 3 and 4 combustion turbines utilize General Electric "Dry Low Nox" or "DLN2" technology. This technology does not require the use of water or steam to be injected into the combustion zone of the combined-cycle unit in order to control NOx. It is therefore unnecessary (and indeed impossible) to monitor the steam-to-fuel ratio, (since it does not exist). In order to meet the NOx monitoring requirement of SubPart GG, FPL proposes to utilize the Part 75 NOx monitors, as mentioned in the paragraph above.

FPL proposes to continue to submit the quarterly data to EPA as required by 40 CFR 75, and to additionally use the Part 75 monitors to provide data for the quarterly excess emission reports to the DEP Southeast District Office. Due to differences in the rules governing the submittal of the NOx data, FPL will correct the NOx data to be utiilized in the quarterly excess emission reports to lb/hour, corrected to 15% O_2 and 40°F. Forty degrees is proposed because the current PSD permit limits at Martin are referenced to forty degrees.

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b. CEMS data shall be recorded and reported in accordance with ~~Chapter 17-2, F.A.C., and 40 CFR 60~~ **40 CFR 75, and 40 CFR 60.7.** The ~~record~~ **excess emission report** shall include periods of startup, shutdown and malfunction **and shall be based on NOx data corrected to 15% O_2 and 40 degrees F**.

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~~d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.~~

e. d. For purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. II.A.18 herein, which exceeds the applicable emissions limits in Condition No. II.A.4. "

These changes should serve to simplify the monitoring and recordkeeping requirements at the facility, without impacting air quality, or DEP's or EPA's ability to assess compliance. If you have any questions regarding this modification request, please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper

Richard Piper
Environmental Specialist
Florida Power & Light Company

EPA
NPS

cc: Hamilton Oven FDEP - Tallahassee
Mike Harley FDEP - Tallahassee
Tom Tittle FDEP - West Palm Beach

Kanaan

401 347-2051
Tom Tittle

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

MEMORANDUM

AIR ENFORCEMENT BRANCH
EPA Region III

SUBJECT: Approval of the Use of NO_x CEMS as an Alternative Method to the Water-fuel Ratio Monitoring under NSPS Subpart GG

FROM: John B. Rasnic, Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Karl Mangels, Chief
New York Compliance Section
Air Compliance Branch, Region II

In response to your January 12, 1993, memorandum to Linda Lay, SSCD investigated the feasibility of our approval of your request. You asked SSCD to approve a request from East Syracuse Generating Company to allow the use of the NO_x continuous emission monitoring system (CEMS) as an alternative monitoring method to the continuous water-fuel ratio monitoring method.

East Syracuse Generating Company is to commence development of a 100 MW natural gas-fired cogeneration combustion turbine facility in the village of East Syracuse, New York. The facility is allowed to use a limited amount of low sulfur distillate oil as a backup fuel. To control the emissions of NO_x, this turbine will use both water injection and selective catalytic reduction as required by the New York State Department of Environmental Conservation (NYSDEC). Since the NYSDEC permit conditions are more restrictive than the requirements of NSPS Subpart GG, East Syracuse is asking for a waiver from the following monitoring requirements:

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3. Continuous water-fuel ratio monitoring for NO_x compliance.

You have already made determinations on the first two issues and asked SSCD to address only the third issue, use of NO_x CEMS, that is required by the State permit, instead of the water-fuel ratio monitoring method.

SSCD determined that the use of a NO_x CEMS can be allowed as an alternative monitoring method if the facility meets the following conditions:

[redacted] meets the emission limitation (STD) [redacted]ed according to 40 CFR Part 60.332. The "Y" [redacted]or the applicable equation and supporting documentation should be provided by the applicant and the limitation for NO_x emissions from pipeline quality natural gas should be fixed by EPA assuming the "F" value equals 0. The emission limitation shall be expressed in ppmv, dry, corrected to 15 percent O_2.

- Each NO_x CEMS meets the applicable requirements of 40 CFR §60.13, Appendix B, and Appendix F for certifying, maintaining, operating and assuring quality of the system.

- Each NO_x CEMS must be capable of calculating NO_x emissions concentrations corrected to 15% O_2 and ISO conditions.

- Monitor data availability shall be no less than 95 percent on the quarterly basis.

- NO_x CEMS should provide 4 data points for each hour and calculate a 1-hour average.

- Each owner or operator of a NO_x CEMS shall submit an excess emissions (calculated according to the requirements of paragraph 60.13(h)) and monitoring systems performance report and/or a summary report form to the Administrator on a quarterly basis, if excess emissions are determined, or semiannually. The report shall be postmarked by the 30th day following the end of each reporting period. Written reports shall include information required in paragraphs 60.7(c) and 60.7(d). This report shall also contain the content of nitrogen in fuel oil for each reporting period when oil is fired and a clearly calculated corresponding emission limitation (STD).

- Recordkeeping requirements shall follow the requirements specified in 40 CFR §60.7.

In addition, to upgrade the EPA data, we recommend that the NO_x CEMS be used to demonstrate compliance with the emission limitation on a continuous basis and that the quarterly report include the NO_x mass emissions for the reported periods as reported to the State.

If you have any questions, please call Zofia Kosim at 703-308-8733.

cc: Air, Pesticides, and Toxics Management Division Directors
Regions I and IV

Air and Waste Management Division Director
Region II

Air, Radiation, and Toxics Division Director
Region III

Air and Radiation Division Director
Region V

Air, Pesticides, and Toxics Division Director
Region VI

Air and Toxics Division Directors
Regions VII, VIII, IX, and X

FLD

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 25, 1995

CERTIFIED MAIL- RETURN RECEIPT REQUESTED

Mr. Richard Piper, Environmental Specialist
Florida Power and Light
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Dear Mr. Piper:

RE: Amendment of Permits No. AC43-4037, AC43-4038, AO43-170567, and AO43-170568 FPL Martin Plant Units 1 and 2. Request for additional information.

The Department has reviewed your September 15, and October 5, 1995, application for modification of the above referenced permits. It has been assigned the AIRS ID# 0850001. Please reference this number in all further correspondence. To process your application, the Department requests the following information:

1. Please provide an analysis of any increases in emissions in accordance with the requirements in 62-212.400 F.A.C., if the Department is to remove the fuel sulfur limit for the Martin Units 1 and 2.

2. Substitution of Method 5 with Method 17 will require an Alternate Sampling Procedure (ASP) request. The information outlined in 62-297.620 F.A.C., should be submitted to The Bureau of Air Monitoring and Mobile Sources, Emissions Monitoring, attention Mike Harley, if this substitution is desired.

We will resume processing the application after receipt of the above information. If you have any questions, please call me or Martin Costello at (904) 488-1344

Sincerely,

A A Linero 10/25

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

AAL/mc/kw

cc: M. Harley, DEP
J. Kahn, SED
T.Tittle, SED

Marty

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

December 7, 1995

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

Re: AIRS ID# AO43-0850001
Amendment of FPL Martin Units 1 and 2 Operating and Construction Permits

In response to your letter of October 25, 1995, FPL is providing the following information that demonstrates that the Department rules given in 62-212.400 F.A.C. do not apply to our request to co-fire higher sulfur fuel oils with natural gas.

Change in the Method of Operation

FPL does not agree that co-firing fuel oil and natural gas is a change in the method of operation, regardless of the sulfur content of the fuel oil. The current operation permit provides for this operation when 1 percent fuel oil is co-fired with natural gas. When co-firing in this way, the controlling requirement is to assure that the sulfur dioxide *emissions limit* of 0.8 lb/mmBtu is met. The sulfur dioxide emission limit is a requirement of the New Source Performance Standards (NSPS) applicable to each unit [i.e., 40 Code of Federal Regulations (CFR) Part 60 Subpart D and rule 62-296.800 F.A.C.]. Co-firing is expressly allowed by the NSPS [refer to Section 60.43(c) which states: "Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels"]. In addition, as shown on the attached table which presents a comparison of emission when co-firing, emissions when co-firing would meet the NSPS emissions limits.

Capable of Accommodating

Even if the use of high sulfur oil is deemed a change in the method of operation, the Martin units would not be required to undergo PSD review due to the exemption in Rule 62-212.400(2)(c)4. F.A.C. which states:

> "A modification that is to occur for any of the following reasons shall not be subject to the preconstruction review requirements of this section.....4) Use of an alternative fuel or raw material which the facility was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975..."

The Martin units "commenced construction" as defined in rule 62-212.200(19) F.A.C. prior to January 5, 1975 and were capable of accommodating any sulfur content fuel oil when the construction permits were issued on March 20, 1973. The emissions limits expressly stated in the construction permits and FDEP rules was the NSPS 40 CFR Part 60 Subpart D. Since the construction permit was issued, there have been no federally enforceable permit conditions that have limited the units ability to co-fire fuel oil and natural gas as long as the NSPS emission limit is met. As discussed on previous cases, FDEP-issued operation permits are not federally enforceable. Moreover, the use of the sulfur content in fuel is arguably not an emission limit but a description on how an emission limit would be met.

For these reasons the analysis of emission increases requested in your letter does not appear to be necessary, and I am requesting that the Department resume processing of the application in accordance with my previous request.

With respect to the Alternative Sampling Procedure you requested, FPL will follow this up with the Department at a later date.

As always, I would be pleased to discuss these issues with you or your staff. I may be reached at (407) 625-7661.

Very truly yours,

Rich Piper
Environmental Specialist
Florida Power & Light Company

cc: Tom Tittle FDEP/SED

Example Emission Comparison for Co-Firing Residual Oil and Natural Gas at Martin Units 1 and 2

KBN/RGP
12/7/95

Fuel Parameters	Current Permit (Oil firing Only)	Current Permit (Gas firing Only)	Co-Firing with 2.5% Sulfur Fuel Oil 29.21%	Gas 70.79%	Total	Co-Firing with 1% Sulfur Fuel Oil 73.13%	Gas 26.87%	Total
Heat Content (Btu/gal)	150,952	NA	150,952	NA		150,952	NA	
Heat Content (Btu/cf)	NA	1,000	NA	1000		NA	1000	
Heat Content (Btu/lb)	18,300	21,956	18,300	21,956		18,300	21,956	
Heat Input (MMBtu/hr)	8,650	9,040	2,526	6,124	8,650	6,326	2,324	8,650
Fuel Input (lb/hr)	472,678	411,733	138,050	278,907	416,957	345,668	105,861	451,529
Fuel Input (1,000 gal or MMcf)	57.3	9.04	16.74	6.12		41.91	2.32	
Sulfur Content:								
Oil (%)	0.70%	NA	2.50%	NA		1.00%	NA	
gas (grains/100cf)	NA	1.0	NA	1.0		NA	1	
Sulfur Dioxide								
Basis	NSPS Limit	1 gr/100cf	2.5% Sulfur	1 gr/100cf		1% Sulfur	1 gr/100cf	
Emissions Rate (lb/MMBtu)	0.8	0.0029	2.73	0.0029	0.8	1.09	0.0029	0.8
Emissions (lb/hr)	6,920	25.83	6,903	1,750	6,920	6,913	6.64	6,920
Particulate Matter								
Basis	NSPS Limit	AP-42	AP-42	AP-42		AP-42	AP-42	
Emissions Rate (lb/MMBtu)	0.1	0.003	0.17	0.003	0.05	0.08	0.003	0.06
Emissions (lb/hr)	865	27.12	438	18.37	457	520	6.97	527
Nitrogen Oxides								
Basis	NSPS Limit	NSPS Limit	NSPS Limit	NSPS Limit		NSPS Limit	NSPS Limit	
Emissions Rate (lb/MMBtu)	0.3	0.2	0.3	0.2	0.23	0.3	0.2	0.27
Emissions (lb/hr)	2,595	1,730	758	1225	1,983	1,898	465	2,363
Carbon Monoxide								
Basis	AP-42	AP-42	AP-42	AP-42		AP-42	AP-42	
Emissions Rate (lb/MMBtu)	0.033	0.04	0.033	0.04	0.038	0.033	0.04	0.035
Emissions (lb/hr)	286.5	361.6	84	245	329	210	93	302
Volatile Organic Compounds								
Basis	AP-42	AP-42	AP-42	AP-42		AP-42	AP-42	
Emissions Rate (lb/MMBtu)	0.005	0.0014	0.005	0.0014	0.002	0.005	0.0014	0.004
Emissions (lb/hr)	43.55	12.75	12.72	8.63	21.35	31.65	3.28	35.13

NOS PS

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

September 15, 1995

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

Re: Amendment of Permits AC43-4037, AC43-4038, AO43-170568 and AO43-170567
FPL Martin Plant Units 1 and 2

Dear Clair:

The purpose of this correspondence is to request that the Department modify the air construction and air operating permits for these two emission units.

The two subject units are oil and gas-fired steam electric generating units that are currently subject to 40 CFR 60, SubPart D regulation. FPL has installed, operated and maintained continuous emission monitors (CEMs) for SO_2 on these units pursuant to 1993 modifications of the air construction and air operating permits for these units as an indicator for SO2 emissions during co-firing. In addition, FPL has continued to monitor the fuel sulfur content for these units on a monthly basis, in accordance with specific condition 5 in the aforementioned permits.

FPL proposes to begin utilizing the continuous emission monitor for SO_2 as the compliance method for this pollutant. Limiting emissions to 0.8 lb/mmBtu is consistent with 40 CFR Subpart D requirements. In view of this proposal, the requirement to also limit the sulfur content of the fuel oil sulfur content is superfluous and redundant. FPL suggests the following modified language to the air construction and air operating permits:

Unit 1 - Permit No. AC43-4037 and Unit 2 - Permit No. AC43-4038
Unit 1 - Permit No. AO43-170568 and Unit 2 - Permit No. AO43-170567

Source Description: An air pollution source consisting of a 800 MW Class Fossil Fuel-Fired Steam Generator Unit (900 megawatt gross capacity) equipped with Low Nox Dual Fuel Firing Burners to reduce emission of nitrogen oxides; and multicyclones to control particulate matter emissions. The unit burns ~~low sulfur~~ fuel oil ~~containing a maximum of 0.7% sulfur (by weight)~~, natural gas, or a mixture of ~~low sulfur~~ fuel oil ~~containing a maximum of 1.0% sulfur (by weight)~~ and natural gas in a ratio that will result in a maximum sulfur dioxide emission rate of 0.80 lbs/mmBtu heat input. In addition, the unit has a continuous emission monitoring system for opacity, NOx, and sulfur dioxide. The unit's heat input is 8,650 mmBtu/hr on oil and 9,040 mmBtu/hr on natural gas. When a blend of fuel oil and natural gas are burned, the heat input is prorated based on the percent heat input of each fuel.

Specific Condition No. 14: ~~Prior to burning a blend of No. 6 fuel oil containing above 0.7 percent sulfur to a maximum of 1.0 percent sulfur~~, the permittee shall install, calibrate, maintain, and operate a continuous emissions monitor for sulfur dioxide that meets the requirements of ~~Performance Specification 2 of~~ 40 CFR **75.** ~~60, Appendix B (July 1, 1992)~~. **The permittee shall utilize the continuous emission monitor for SO_2 as the method for determining compliance with the emission limit of 0.8 lb/mmBtu. In the event of a failure of the CEM, the permittee shall collect daily samples of fuel oil fired, and composite them over the duration that the CEM is inoperative, and then perform sulfur analysis on the sample to demonstrate compliance with the SO_2 emission limit until such time as the CEM is repaired and operational.**

~~Specific Condition No. 5: Until such time when the Environmental Protection Agency (EPA) promulgates final rules regarding fuel sampling and test methods, the Department will accept the current fuel sampling and analysis program, provided that daily as fired fuel oil samples are composited and analyzed for sulfur content on a monthly basis to demonstrate compliance with the fuel oil sulfur content limits. Quarterly reports containing the results of monthly fuel oil sampling and analysis shall be submitted to the Department no later than thirty (30) days after the end of each quarter.~~

~~The permittee shall be allowed 90 days after promulgation of fuel sampling and analysis methods to implement an EPA approved method of monitoring sulfur dioxide emissions either by fuel samping and analysis or continuous instack monitoring or other methods as approved under the provisions of 40 CFR 60.45.~~

FPL views this change as relatively minor in nature. The emission rate will not be affected, therefore PSD review should not be required.

I would like to thank the Department in advance for their consideration of this matter. As always, I would be pleased to anwer any questions you may have. Please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Joe Kahn DEP / SED
Tom Tittle DEP / SED

0050001-001-AC

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

October 5, 1995

RECEIVED
OCT 9 1995
Bureau of
Air Regulation

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

Re: Fee: Amendment of Permits AC43-4037, AC43-4038, AO43-170568 and AO43-170567
FPL Martin Plant Units 1 and 2

Dear Clair:

Pursuant to a conversation with Mr. Al Linero of your staff, enclosed please find a check in the amount of $250.00 to cover the administrative costs of the FDEP processing the subject permit amendments for the FPL Martin Plant.

Due to some recent conversations with the Southeast District office, I would like to additionally suggest that the Department add the following change to the permits' Specific Condition #6:

Specific Condition No. 6: The Department may, after reviewing the quarterly opacity, nitrogen oxides, or sulfur dioxide excess emission reports, require the Permittee to perform testing in accordance with reference Method ~~5, 6, 7,~~ **17, 6C, 7E,** and / or 9 or alternate test methods approved by the Department. The Department will notify the Permittee of such request, as well as the objective for such testing. At the request of the Permittee, the Department will take into account any potential instrument error or malfunction before requiring the scheduling of tests. Substantive violations, as verified by reference method testing, are subject to appropriate legal action; moreover, repetitive violation shall require the Permittee to revise operating and/or maintenance practice to abate these violations.

I would also like to take the opportunity to thank the Department for working with industry to resolve these types of issues in a common-sense, non-bureaucratic fashion. As always, I would be pleased to answer any questions you may have. Please do not hesitate to contact me at (407) 625-7661.

Very truly yours,

Richard Piper

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Joe Kahn DEP / SED
Tom Tittle DEP / SED
Al Linero per KPW

Florida Power & Light Company, P.O. Box 088801, North Palm Beach, FL 33408-8801

FPL

file

April 12, 1995

RECEIVED
APR 13 1995
Bureau of
Air Regulation

Clair Fancy
Chief, Bureau of Air Regulation
State of Florida
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Florida Power & Light Company
Martin Power Plant
Temporary Permit Amendment

Dear Clair:

This correspondence is submitted to request from the Department a temporary permit amendment for FPL Martin Unit 4A combustion turbine. This emission unit is currently governed by PSD permit # PSD-FL-146 and Site Certification PA 89-27. This emission unit was placed into service on April 15, 1994. In September 1994, the Department granted a permit revision which allowed for testing of all four combustion turbines with redesigned combustor cans. Testing has been completed on three of the four combustion turbines as of this date.

However, FPL has, within the past few weeks, become aware of potential design issues in the compressor section of the GE combustion turbines. In order to adequately investigate these issues, FPL would like to conduct testing as described below.

Background

FPL has experienced two compressor failures on the 4A combustion turbine since October, 1994. There is no evidence that these failures are related to the dry low NOx combustors which, in their final design configuration, have performed well. The cause of these failures has not yet been determined. GE has identified additional problems with the same model combustion turbine in other installations outside of Florida. Some of these problems have been experienced at the Martin facility, but most were identified overseas. GE has initiated a world-wide test program to investigate the problems and identify their root cause. The root cause identification of the compressor failures and other related problems is the basis for a portion of the proposed test program.

Scope of Testing and Benefits

The test program that is contemplated for the 4A combustion turbine consists of five elements:

1. Compressor
2. Exhaust Diffuser
3. Vibration
4. Performance
5. Turbine Compartment

The purposes of the compressor testing are: 1) Verify the bolt clamping force at assembly and during machine operation; 2) Map the thermal response of the compressor rotor during operation; 3) Obtain rotor temperature data to determine the impact of temperatures on the compressor wheel; 4) Measure the dynamic response on stage 15 blades and stage 15 compressor wheel; and 5) Obtain operational data on the compressor.

The purpose of testing the exhaust diffuser is to determine the excitation mechanisms of the diffuser.

The purpose of the rotor vibration testing is to determine and understand vibrations during the various modes of operation.

The purpose of the performance testing is to determine the base load performance change with increased inlet guide vane (IGV) angle. This will allow determination of the firing temperature characteristics at current and future appropriate performance levels.

The purpose of the compartment temperature test is to monitor the turbine compartment during standard operating sequences.

Benefits of Testing

By performing this testing, FPL and GE will be able to determine what engineering design issues may exist in the compressor section of the combustion turbine, so they can be addressed and thus reduce the possibility of future failures of this component.

The Martin combined-cycle units are among the lowest-emitting as well as among the most efficient generating units in the FPL system. Therefore, when the Martin units are unavailable to provide generating capacity, other, higher-emitting units must be operated in order to make up the deficit in generating capacity.

Test Dates and Times

Unit 4A is currently out of service for an outage. The proposed test program is planned to commence on April 26, 1995, and to be completed on May 26, 1995 or 30 days after initial startup from the current outage. It is possible that the start date could change depending on when the unit is available to return to service. FPL has identified 75 to 100 hours of operation during the test period during which there is a potential for emissions to be higher than the current 25 ppm NOx permit *basis*. During that 75 to 100 hours,

emissions may at times be higher than the current permit limit of 177 pounds per hour of NOx.

Testing will be performed for 12-14 hours on a typical test day. However, the combustion turbine will be operated normally, in full compliance with current permit limits, during the remainder of each day during the testing period. During the evaluation and testing of the combustion turbine, all pollutant emissions will comply with applicable NSPS limits. Due to the fragile nature of the installed test instrumentation, the testing must be completed as soon as possible after the unit has been restarted from the current outage.

FPL understands that this temporary permit amendment will be in effect for 30 days after startup from the current outage or the completion of testing, whichever occurs first.

Attachment 1 to this letter is potential language for a Temporary Permit Amendment which FPL requests the Department issue, allowing the short-duration testing proposed herein.

FPL recognizes and is appreciative of the Department's cooperation in resolving this situation. Please do not hesitate to contact me at (407) 625-7661 if you have any questions. Thank-you in advance for your consideration of this matter.

Very Truly Yours,

Vince Slenes for Richard Piper

Richard Piper
Environmental Specialist
Florida Power & Light Company

cc: Hamilton S. Oven FDEP/Tallahassee
Tom Tittle FDEP/West Palm Beach

ATTACHMENT 1
TEMPORARY PERMIT AMENDMENT

Florida Power & Light Company is hereby authorized to perform operational testing on combustion turbine 4A for a maximum period of 30 days in order to evaluate potential design issues in the compressor section of the unit, subject to the following conditions:

1. The Department's Southeast District Air Program Administrator shall be notified either in writing or by facsimile, at least 3 days prior to the commencement of testing.

2. To allow time for evaluation and testing of alterations to the compressor section of the combustion turbine, the emission limitations in Specific Condition 4 of the referenced permit (PSD-FL-146) shall not apply on any day during which testing is being conducted during a 30-day period following startup after the current outage. This temporary permit amendment shall remain in effect for 30 days from startup after the current outage or until the testing is completed on combustion turbine 4A, whichever occurs first.

3. During the evaluation and testing of the combustion turbine all pollutant emissions shall comply with the emission limits specified by the New Source Performance Standards (NSPS) for CTs, 40 CFR 60, Subpart GG. The annual allowable emissions (TPY) of NOx for CT 4A in permit PSD-FL-146 shall not be exceeded.

4. During the test period, the currently permitted pounds per hour emission limits for NOx, CO and VOC shall apply as 24-hour average emission limits.

5. After completion of the testing period, CT 4A must be in compliance with all limitations in the referenced permit.

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

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OF COUNSEL
W. ROBERT FOKES

MEMORANDUM

TO: Bruce Mitchell

FROM: Doug Roberts DR

RE: FPL Martin Project; Paper on Relation of VOCs to UHCs

DATE: September 12, 1994

==========

To follow up our call last Friday, I have attached a GE paper on the relation of VOCs to UHCs in GE combustion turbines. This is related to our scheduled conference call this afternoon at 2PM.

I trust this is useful to you.

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
345 E. 47 St., New York, N.Y. 10017

90-GT-279

Unburned Hydrocarbon, Volatile Organic Compound, and Aldehyde Emissions from General Electric Heavy-Duty Gas Turbines

ROBINTON E. PAVRI, Senior Engineer
RICHARD A. SYMONDS, Senior Engineer
General Electric Company
Schenectady, New York

ABSTRACT

Field data clearly show that the emissions of UHC, VOC, (sometimes also called Reactive Organic Gases), and Aldehydes from GE heavy-duty gas turbines are very low. At loads exceeding 75% of base, these emissions are less than 2 ppm. In fact, stack emissions are often less than background concentration. Proper methods of measurement and quality assurance are necessary to detect and measure such low values. Allowance for background hydrocarbons should be made when guaranteeing UHC/VOC.

INTRODUCTION

It has been suspected for years that VOC's (Volatile Organic Compounds) are a precursor to smog/ozone formation which is detrimental to human health at ground level. As such, the VOC's (which are a fraction of the UHC's - Unburned HydroCarbons) are one of the "criteria pollutants" (others are NOx, SOx, CO, particulates and lead) for which National Ambient Air Quality Standards (NAAQS) have been established.

Since the 1970's, many groups perceived a need to go beyond the criteria pollutants in NAAQS and also control the emissions of toxic or hazardous substances. A toxic or hazardous substance is any substance which may cause or contribute to increased mortality or illness, or which may pose a hazard to human health on either a short or long term basis. Formaldehyde, the simplest aldehyde molecule (HCHO), has been defined as a potential carcinogen; its emission and allowable maximum concentration are being increasingly monitored. For example, one state's requirement is that the formaldehyde emissions may not result in an additional cancer risk of one per million. All aldehydes are of interest due to their health risks.

VOC's and aldehydes are products of partial oxidation of fuel molecules or fragments in any combustion process; thus, all gas turbines are a potential source of these emissions. For more than a decade now, GE has collected extensive field data to show that total UHC emissions from the heavy duty gas turbines, at high loads, are quite low. In the last two years, testing methods and programs have been established to measure also the VOC fraction of the UHC and aldehydes. Even though the program is continuing to measure these emissions at all operating conditions of load, NOx levels, fuels and water/steam injection, the data to date clearly show that these emissions are almost negligible at high loads. (Hydrocarbon concentrations in this report are expressed as equivalent methane.)

UNBURNED HYDROCARBONS AND VOLATILE ORGANIC COMPOUNDS

Definitions

UHC's. The total unburned hydrocarbons in the gas turbine exhaust. VOC's are a part of UHC's. Normally, aldehydes are not included in UHC's because the usual method of UHC detection and measurement does not detect aldehydes, especially formaldehyde.

VOC's - EPA. Any organic compound which participates in atmospheric photochemical reactions

VOC's - TYPICAL STATE. Any chemical compound of carbon with a true vapor pressure greater than .002 PSIA at standard conditions excluding CO, CO2, carbonic acid, metallic carbonates, metallic carbides, ammonium carbonates, CH4, ethane, benzene, methylene chloride, methyl chloroform and freon 113.

*Presented at the Gas Turbine and Aeroengine Congress and Exposition—June 11-14, 1990—Brussels, Belgium

VOC's - G.E. All non-methane organic compounds in the exhaust. Note that this definition is most conservative.

MEASUREMENT METHODS

Measurement methods of UHC/VOC are well defined and established by the EPA and given in detail in the Code of Federal Regulations, Vol. 40, Part 60 (40CFR60), Appendix A, Methods 18, 25, and 25A, and 40CFR87, Subpart G for aircraft engine exhaust gas sampling. A brief description of the methods is given below.

Method 25

This is the method of measuring non-methane hydrocarbons in gases where their concentration is relatively high. Figures 1 and 2 show the schematics of sampling and analysis techniques. As shown later, this method is not recommended for measuring gas turbine exhaust VOC's.

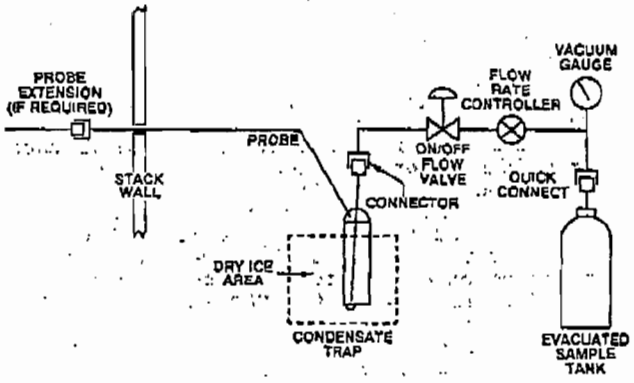


FIGURE 1: EPA METHOD 25 SAMPLING APPARATUS

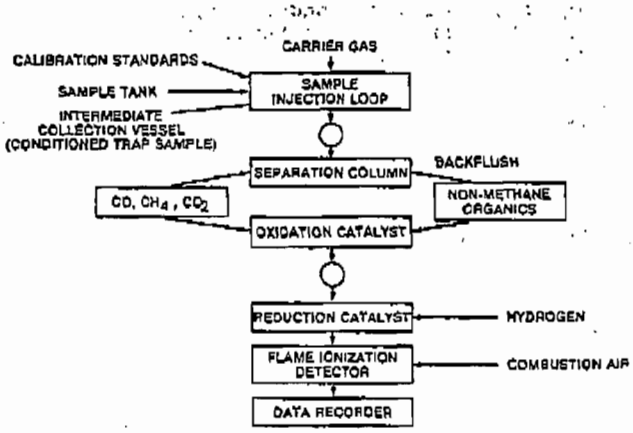


FIGURE 2: EPA METHOD 25
SIMPLIFIED SCHEMATIC OF NON-METHANE ORGANIC (NMO) ANALYZER

Method 25A

This is an accurate method to measure UHC's in gas turbine exhaust. It does not separate the hydrocarbons into its constituents and hence is unsuitable to measure VOC's. After the gases are properly treated, they are analyzed using an on-line flame ionization detector (FID). See Figure 3.

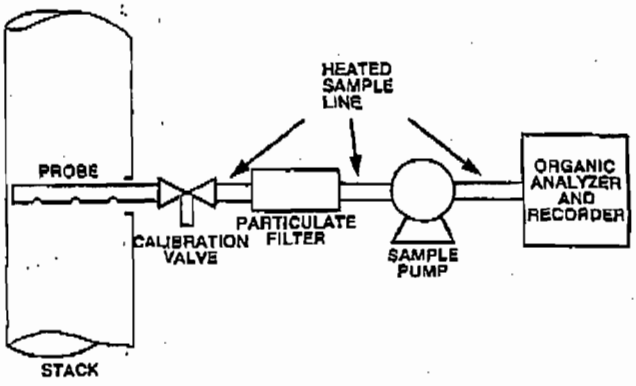


FIGURE 3: EPA METHOD 25A: ON-LINE FID
ORGANIC CONCENTRATION MEASUREMENT SYSTEM

Method 18

This method is for measurement of UHC's and VOC's.

Method 18.7.1

This is an integrated bag sampling method where the gases are collected in a grab bag and analyzed with off-line gas chromatograph (GC). A schematic of this method is shown in Figure 4.

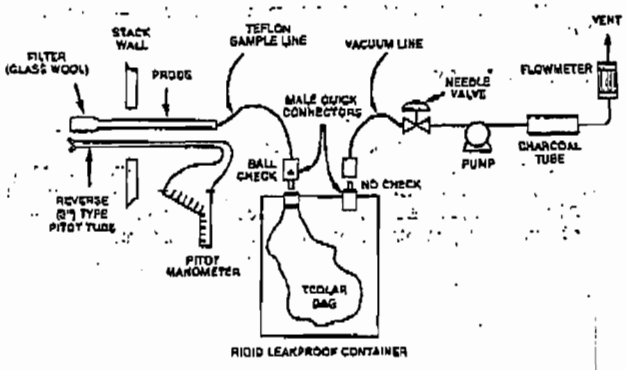


FIGURE 4: EPA METHOD 18: GRAB BAG WITH OFF-LINE GC

Method 18.7.2

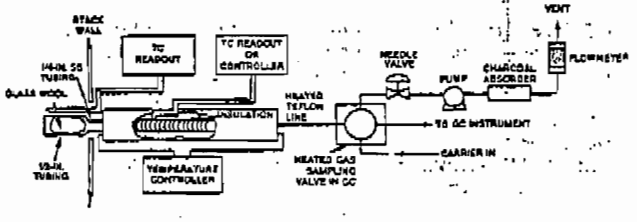
As shown in Figure 5, this is the direct interface sampling system for measuring the UHC/VOC's. It requires an on-line gas chromatograph in the field to measure the total UHC as well as separate them into VOC components. This is the most accurate method and is recommended for VOC measurement in gas turbine exhaust.

TABLE I
MEASUREMENT METHODS

METHODS	FOR	VOC	ACCURACY (PPM)	PRINCIPLE	REMARKS
EPA-25	TOTAL GASEOUS NON-METHANE	YES	± 20(1)	WET CHEMISTRY, & FID	PRONE TO CONTAMINATION ORIGINALLY DESIGNED FOR VARNISH PLANTS. NOT RECOMMENDED FOR GT EXHAUST
EPA-25A	TOTAL GASEOUS ORGANIC	NO	± .1	ON-LINE FID	ACCURATE METHOD FOR UHC
EPA-18	TOTAL GASEOUS ORGANIC	YES	± 5(2) ± 20(3)	GRAB BAG & GC (18.7.1)	UNRELIABLE METHOD. NEEDS EXTREME CARE TO PRODUCE REPEATABLE RESULTS
			±.1 to .2	ON-LINE GC (18.7.2)	BEST METHOD FOR GT EXHAUST. MODIFIED VERSION OF THIS USED AT UE AND GILROY. (GE RECOMMENDED METHOD WITH MODIFICATIONS AS SPECIFIED)
40CFR87 SUBPART G	AIRCRAFT ENGINE EXHAUST GAS INCLUDING TOTAL GASEOUS ORGANICS	NO	± .1	FID	ACCURATE METHOD FOR UHC

(1) TRUESDAIL LAB'S ESTIMATE
GE's ESTIMATE IS ± 50 PPM
(2) TEDLAR BAGS
(3) ALUMINIZED MYLAR BAGS

ON-LINE GC IS THE ONLY RELIABLE METHOD TO ACCURATELY MEASURE VOC's IN GAS TURBINE EXHAUSTS



DIRECT INTERFACE SAMPLING SYSTEM

FIGURE II EPA METHOD 18.7.2 ON-LINE GC

Method of 40CFR87, Subpart G

This is an on-line FID technique similar to Method 25A.

Table I summarizes these methods including their expected accuracy and measurement principle. The accuracy for Method 25 and Method 18.7.1 could be very poor. The conclusion from this table is that the on-line FID and on-line GC are the only reliable methods to accurately measure UHC's and VOC's, respectively , in gas turbine exhaust.

FIELD AND FACTORY DATA

Table II summarizes field data on twelve GE heavy-duty gas turbines. The data include operation on MS7C/7E/7EA and 6B, on oil, natural gas, propane and butane with NOx levels varying from NSPS to 25 PPM with water and/or steam injection. The effect of the VOC/UHC measurement method is clearly discernible. Where EPA Method 25 was used, the measured values are extremely high and the variation in data is very wide. Both these are non-representative of a gas turbine. The grab bag plus GC method also shows wide variations from <1 PPM UHC to as high as 14 PPM UHC, and the VOC variation is also large, from <1 to 8 PPM. This points out the unreliability of this method. Using the most reliable method of on-line FID and on-line GC, the data show that the total UHC emissions from GE heavy-duty gas turbines at base load are less than 2 PPM on oil or natural gas.

TABLE II
GE HEAVY DUTY GAS TURBINE UHC/VOC EMISSIONS
FIELD DATA (BASE LOAD, METHOD)

DATE	MACHINE	FUEL	NOx LEVEL	DILUENT	UHC/VOC(PPM)	METHOD (VENDOR)
MAY, 78	7001C	OIL	USEPA	WATER	1.2/ND	FID (GE, BECKMAN)
SEPT, 84	7001E	COAL GAS	20 PPM	STEAM OR MOISTURIZATION	ND/ND	ON LINE GC (ACCUREX) ON LINE GC (RADIAN CORP.)
JUNE, 85	7001E(4)	NAT. GAS	42 PPM	WATER	0-3/ND	GRAB BAG + GC (EPA-18)
		OIL	42 PPM	WATER	0-3/0-2.3 (0-97% WT)	GC BY ZAL CO + CHEMACOLOGY
DEC, 85	6001B	NAT. GAS	42 PPM	WATER	10-48(TNM) GASEOUS 8-10 CONDENSIBLE 2-38	EPA-25 (TRUESDAIL)
		OIL	65 PPM	WATER	41-50 (TNM) GASEOUS 7-10 CONDENSIBLE 43-31	" "
JULY, 87	6001B	NAT. GAS	42 PPM	WATER	1.2-1.6/ND-0.2 (0-20% WT)	ON LINE GC (GE, CUBIX)
NOV, 87	7001EA	NAT. GAS	25 PPM	STEAM	1-1.6/ND	ON LINE GC (GE, CUBIX)
MAY, 88	6001B	NAT. GAS	42 PPM	STEAM	4/3	GRAB BAG + GC
		PROPANE	65 PPM	"	11/8	(EPA - 18.7.1)
		BUTANE	65 PPM	"	7/4	(ENGRG. SCIENCE INC.)
MAY, 88	7001EA	NAT. GAS	42 PPM	STEAM	1-14/<1-2.1	GRAB BAG + GC
		BUTANE	65 PPM	STEAM		(ENGRG. SCIENCE INC.)
MAR, 89	7001E	NAT. GAS	25 PPM	WATER	<1.0/<1.0	ON LINE GC
		OIL	42 PPM	WATER	<1.0/<1.0	(ENGRG. SCIENCE INC.)

NOTES:
FID = FLAME IONIZATION DETECTION
ND = NONE DETECTED
GC = GAS CHROMATOGRAPH
TNM = TOTAL NON-METHANE

FIELD TEST ON MS6001B

A detailed test was run on a MS6001B machine in July 1987. The fuel was natural gas. Test purposes were to:

- Measure total UHC using on-line GC
- Measure VOC and separate the compounds into C1, C2, C3, and C4
- Compare the grab bag plus GC method vs. on-line GC method
- Evaluate the effect of background hydrocarbons

Figure 6 shows the measuring equipment train set-up using on-line GC. Cubix Corporation was hired as an independent contractor to measure the emissions. Results of the test are summarized in Tables III and IV. Table III shows that the only UHC compounds detected were CH4 and C2H6 (last two columns on right). Also, the highest amount of C2H6 detected was about 20% of the total UHC (C1 + C2). For natural gas burning, then, VOC's are C2 only, and are about 20% of the total UHC measurement, which at base load was never more than 3ppm. (Details of the sampling location are shown in Figure 7. Calibration gases were:

A. 10 ppm CH4, air balance
B. 15% O2, 3% CO2, N2 balance
C. 10 ppm C1-C4
D. 100 ppm C1-C6

Gas chromatographs were:

1. Varian CS+
2. Shimadzu C1-C4
3. AID THC Analyzer)

Of particular interest are the background hydrocarbon levels at the site of 2-3 PPM, while the average UHC level integrated over the stack area was about 1.2 PPM. The machine is incinerating some of the background hydrocarbons.

Table IV shows the analysis of exhaust gas samples using grab bags. Two types of bags were used, Tedlar(R) and Aluminized Mylar(R). Of the two, the Tedlar bags gave better results although not as accurate as on-line GC. Note that bag #6, a certified zero calibration gas sample, showed a reading of 2.0 PPM of non-methane hydrocarbons. Aluminized Mylar bags are totally unacceptable. Bag 15, a certified zero gas sample, read 23.0 PPM non-methane hydrocarbons.

FACTORY TEST ON MS7001F

Table V summarizes the UHC/VOC emissions from the MS7001F on oil in the factory prototype test. The test was run over the load range at various NOx levels. Again, the UHC/VOC emissions are almost negligible. The VOC fraction on oil on 7001F varied from none detected (<0.2 PPM) to about 0.35 PPM. The

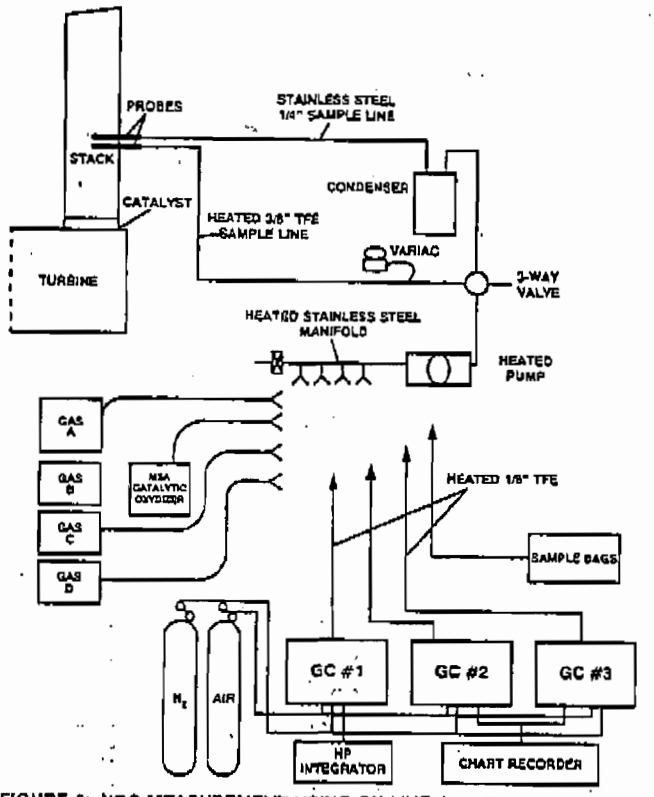


FIGURE 6: VOC MEASUREMENT USING ON-LINE GAS CHROMATOGRAPH USED BY CUBIX CORP. AT UNIVERSITY ENERGY

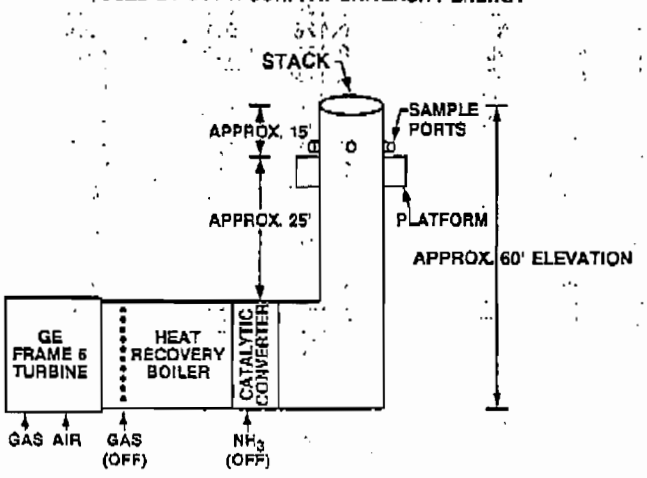


FIGURE 7. SAMPLING LOCATIONS, MS6001B

highest VOC fraction was 47% of the UHC. The only VOC species detected was butane. For distillate burning, then, the VOC's are C4, and are less than 50% of the total UHC measured which was less than 2 ppm.

EFFECT OF BACKGROUND HYDROCARBONS

Anywhere in the USA, for that matter, anywhere in the world, there is a background level of hydrocarbons present in the ambient air. The level of these hydrocarbons varies widely depending on the location (e.g., oil fields, process plants, marshes, etc.) as well as with time. These hydrocarbons are sucked into the gas turbine. A fraction of these will be burned as they pass through the high temperature section of the combustor and the rest then go up the stack. It is important to realize that the stack hydrocarbons do not all arise in the gas turbine. A substantial portion could be coming from the ambient air itself.

The test on the MS6001B, described earlier, proved this. Another test was run on a MS7001EA in west Texas. The background hydrocarbon levels varied from 10 PPM to 100 PPM. In all cases, the stack hydrocarbons were 50% of the ambient levels. A test on a MS6001B in New Jersey also showed similar results. The background values varied from 10 to 30 PPM while the stack concentration was about half that.

Since the gas turbine is not the source of these hydrocarbons, this fact becomes very significant when obtaining the environmental permit for the turbine. An allowance for background hydrocarbons needs to be made.

ALDEHYDES

As mentioned previously, aldehydes are products of incomplete combustion. They are collected in an integrated sample, analyzed and reported as the simplest aldehyde, namely formaldehyde.

ALDEHYDE MEASUREMENT METHODS

Aldehyde measurement methods are well established. They usually involve a wet chemistry method with the gas sample bubbled through impingers where aldehydes are captured. The sample is then analyzed by titration, spectrometer or liquid chromatography. The titration method is usually good for detection to 0.5 PPM while the liquid chromatography can detect 0.02 PPM formaldehyde.

FIELD TESTS

Within the last year, several field tests have been run to measure formaldehyde emissions from GE heavy-duty gas turbines. These are listed in Table VI. As can be seen, the values are very low, especially at high loads. Also, the repeatability of the results is very good. At base load (100%) the formaldehyde emissions on gas fuel (natural gas, propane and butane) are less than 1.0 PPM. On oil, the value is less than 1.5 PPM.

CONCLUSIONS

1. UHC/VOC emissions from GE heavy-duty gas turbines are very low at high loads.

2. Correct measurement and proper quality control are crucial to obtaining representative results.

TABLE III

SUMMARY OF C1 THROUGH C4 ANALYSES

G.E. Turbine Test - MS6001B
15 July 87

Shimadzu Mini-2 Data

Injection No.	Time	Description	Sample Line	Peak Height (in mm) C1	C2	C3	i-C4	n-C4	C1 Calibration Factor	ppmv as methane C1	C2
1	0911	C1-C4 calibration gas	TFE	70	109	150	149	133	0.125	8.8	13.6
2	0914	C1-C4 calibration gas	direct	75	122	163	164	149	0.117	8.8	14.3
3	0918	C1-C4 calibration gas	direct	75	122	164	164	150	0.117	8.8	14.3
4	0921	10ppm methane	direct	89	ND	ND	ND	ND	0.112	10.0	<0.2
5	0924	10ppm methane	direct	89	ND	ND	ND	ND	0.112	10.0	<0.2
6	0928	ambient air @ stack	TFE	27	ND	ND	ND	ND	0.112	3.0	<0.2
7	0956	ambient air @ stack	TFE	24	ND	ND	ND	ND	0.112	2.7	<0.2
8	0957	sample point C-1	TFE	10	2	ND	ND	ND	0.112	1.1	0.2
9	0959	sample point C-1	TFE	5	1	ND	ND	ND	0.112	0.6	<0.2
10	1000	sample point C-2	TFE	2	2	ND	ND	ND	0.112	0.6	<0.2
11	1001	sample point C-3	TFE	8	1	ND	ND	ND	0.112	0.9	<0.2
12	1003	sample point C-4	TFE	7	0.5	ND	ND	ND	0.112	0.8	<0.2
13	1006	sample point D-1	TFE	25	0.5	ND	ND	ND	0.112	2.8	<0.2
14	1007	sample point D-1	TFE	19	0.5	ND	ND	ND	0.112	2.1	<0.2
15	1008	sample point D-2	TFE	18	0.5	ND	ND	ND	0.112	2.0	<0.2
16	1010	sample point D-3	TFE	20	2	ND	ND	ND	0.112	2.2	0.2
17	1012	sample point D-4	TFE	7	2	ND	ND	ND	0.112	0.8	0.2
18	1014	sample point D-4	TFE	6	2	ND	ND	ND	0.112	0.7	0.2
19	1016	10ppm methane	direct	80	ND	ND	ND	ND	0.125	10.0	<0.2
20	1020	10ppm methane	direct	79	ND	ND	ND	ND	0.127	10.0	<0.2
21	1021	sample point A-1	TFE	9	ND	ND	ND	ND	0.126	1.1	<0.2
22	1023	sample point A-1	TFE	10	0.5	ND	ND	ND	0.126	1.3	<0.2
23	1025	sample point A-2	TFE	11	3	ND	ND	ND	0.126	1.4	0.4
24	1027	sample point A-3	TFE	7	2	ND	ND	ND	0.126	0.9	0.3
25	1029	sample point A-4	TFE	7	3	ND	ND	ND	0.126	0.9	0.4
26	1031	sample point B-1	TFE	10	ND	ND	ND	ND	0.126	1.3	<0.2
27	1044	10ppm methane	direct	70	ND	ND	ND	ND	0.143	10.0	<0.2
28	1128	10ppm methane	direct	70	ND	ND	ND	ND	0.143	10.0	<0.2
29	1207	10ppm methane	direct	84	ND	ND	ND	ND	0.119	10.0	<0.2
30	1212	10ppm methane	direct	85	ND	ND	ND	ND	0.118	10.0	<0.2
31	1215	C1-C4 calibration gas	direct	68	120	164	168	155	0.129	8.8	15.5
32	1225	sample @ stack center	TFE	6	2	ND	ND	ND	0.119	0.7	0.2
33	1230	sample @ stack center	TFE	6	2	ND	ND	ND	0.119	0.7	0.2
34	1238	sample @ stack center	TFE	6	1	ND	ND	ND	0.119	0.7	<0.2
35	1245	sample @ stack center	TFE	6	1	ND	ND	ND	0.119	0.7	<0.2
36	1253	sample @ stack center	TFE	5	2	ND	ND	ND	0.119	0.6	0.2
37	1306	10ppm methane	direct	79	ND	ND	ND	ND	0.127	10.0	<0.2
39	1332	10ppm methane	direct	78	ND	ND	ND	ND	0.128	10.0	<0.2
40	1335	sample @ stack center	SS	6	ND	ND	ND	ND	0.128	0.8	<0.2
41	1338	sample @ stack center	SS	5	ND	ND	ND	ND	0.128	0.6	<0.2
42	1540	10ppm methane	direct	88	ND	ND	ND	ND	0.114	10.0	<0.2
43	1541	ambient air @ intake	TFE	18	ND	ND	ND	ND	0.114	2.1	<0.2
44	154	ambient air @ intake	TFE	18	ND	ND	ND	ND	0.114	2.1	<0.2
45	1545	ambient air	TFE	18	ND	ND	ND	ND	0.114	2.1	<0.2
46	1546	10ppm methane	TFE	90	ND	ND	ND	ND	0.111	10.0	<0.2

THC via Shimadzu Mini-2

Run	Conc. (ppm) in methane equivalents
1	1.6
2	1.2
Average	1.4

ND = Not Detected, TFE = Heat Traced Teflon Sample Line,
SS = Stainless Steel Sample Line

TABLE IV
SUMMARY OF BAG SAMPLE ANALYSES

General Electric/MS6001B
Gas Turbine/Generator

Bag samples from a General Electric Gas Turbine

Tedlar (R) sample bags

Bag	1	2	3	4	5	6	7
Time	0937	1312	1325	1359	1416	1435	1538
Source	ambient	stack	stack	stack	stack	zero	stack
Temp (^{o}F)	90	96	98	99	103	82	98
Atm. Press.(in. Hg)	28.56	28.55	28.55	28.50	28.50	28.50	28.50
Sample Line	TFE	TFE	SS	SS	TFE	TFE	TFE
methane (ppm)	2.9	<0.5	0.8	0.8	<0.5	<0.5	2.0
non-methane THC	2.4	1.9	2.0	2.0	3.5	2.0	2.2

Aluminized Mylar (R) sample bags

Bag	11	12	13	14	15
Time	0937	1312	1325	1435	1538
Source	ambient	stack	stack	stack	zero
Temp (^{o}F)	90	96	98	98	82
Atm. Press.(in. Hg)	28.56	28.55	28.55	28.50	28.50
Sample Line	TFE	TFE	SS	TFE	TFE
methane(ppm)	3.2	<0.5	1.0	2.0	<0.5
non-methane THC	23.6	37.5	29.8	21.4	23.0

* SS = stainless steel, TFE = heat raced Teflon sample line

TABLE V

MS7001F PROTOTYPE FACTORY TEST
UNBURNED HYDROCARBON EMISSIONS

T_f (^{o}F)	MW	FUEL	IGV	UHC[1] (PPM)	%VOC[2]	NOx[3] (PPM)	DILUENT
2023	65	0.1	53	.57	47	188	--(DRY)
1984	66	"	53	.32	ND[4]	79	WATER
1940	65	"	53	.11	"	39	"
1909	65	"	53	.26	"	27	"
1876	65	"	"	.96	35	21	"
1656	35	"	"	.39	ND	160	--(DRY)
1631	35	"	"	.6	40	71	WATER
1607	35	"	"	2.0	ND	37	"
1388	15	"	"	.74	ND	129	"
2289	78	"	80	.43	ND	247	--(DRY)
2100	78	"	80	.04	ND	22	WATER

NOTES

(1) UHC measured by GE using on-line FID

(2) VOC measured by Cubix using on-line GC

(3) NOx @ 15% O_2 and ISO humidity

(4) ND = None Detected (< 0.2 PPM)

(5) T_f = Firing Temperature

3. Allowance for background hydrocarbons should be made when guaranteeing UHC/VOC.

4. On natural gas, VOC's are 20% of UHC and the principal constituent is ethane. On distillate oil, VOC's are 50% of UHC and the principal constituent is butane.

5. Formaldehyde emissions from GE heavy-duty gas turbines are also very low. At base load, these emissions are less than 1.0 - 1.5 PPM on all fuels.

REFERENCES

1. Code of Federal Regulations, Title 40 - Protection of Environment, Parts 53 to 80, Office of the Federal Register, Washington, 1984.

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

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:
John Lindsay, Plant Gen. Mgr.
FP & L Martin Plant
PO Box 14000
Juno Beach, FL 33408

NOT 323

4a. Article Number P 265 659 424

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

7. Date of Delivery
WEST PALM BEA FEB 26 USPS

5. Received By: *(Print Name)*

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

6. Signature: *(Addressee or Agent)*
X

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

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Thank you for using Return Receipt Service.

P 265 659 424

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

Sent to John Lindsay	
Street & Number FP & L Martin Plant	
Post Office, State, & ZIP Code Juno Bch, 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 2-24-99	

PS Form **3800**, April 1995

PSD-Fl-146
PA 89-27

printout of the code and image.

P 339 251 150

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

Sent to: Richard Piper	
Street & Number: Fla. Power + Light	
Post Office, State, & ZIP Code: N. Palm Bch, FL	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	Re sending
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: 9-6-96 PSD-FL-146(A)	

PS Form **3800**, April 1995

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3. Article Addressed to:
Richard Piper, E.S.
Fla Power & Light
PO Box 088801
N. Palm Bch, FL
33408-8801

4a. Article Number: P339 251 150

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

7. Date of Delivery: SEP 9 1996

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form **3811**, December 1994 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

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Fla Power & Light
PO Box 088801
N. Palm Bch, Fl
33408-8801

4a. Article Number
P 339 251 139

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

5. Signature (Addressee)

6. Signature (Agent)

7. Date of Delivery
AUG 1996

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

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

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

Sent to: Richard Piper	
Street & Number FPL	
Post Office, State, & ZIP Code N PB, 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 Martin Plant 8-14-96	

PS Form **3800**, April 1995

The Stuart News and The Port St. Lucie News
(an edition of The Stuart News)

RECEIVED
AUG 5 1996
BUREAU OF AIR REGULATION

STATE OF FLORIDA
COUNTY OF MARTIN: COUNTY OF ST. LUCIE:

Before the undersigned authority appeared KATHLEEN N PRITCHARD who on oath says that he/she ACCTS REC MANAGER of The Stuart News, and The Port St. Lucie News, a daily newspaper Published at Stuart in Martin County, Florida; that the attached copy of advertisement, being a NOTICE OF INTENT TO ISSUE PERMIT in the matter of FLORIDA POWER AND LIGHT COMPANY in the _____ Court, was Published in The Stuart News and The Port St. Lucie News in the issues of JUNE 16, 1996

Affiant further says that the said The Stuart News and The Port St. Lucie News is a newspaper published at Stuart, in said Martin County, Florida with offices and paid circulation in Martin County, Florida, and St. Lucie County, Florida and that the said newspapers have heretofore been continuously published in said Martin County, Florida and distributed in Martin County, Florida and St. Lucie 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/she 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 the said newspaper. The Stuart News has been entered as second class matter at the post office in Stuart, Martin County, Florida, and Ft. Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

Kathleen N Pritchard

Sworn to and subscribed before me

this 24th day of July

A.D. 1996

CATHERINE HUDSON
Notary Public - State of Florida
My Commission Expires Apr 19, 2000
Commission #CC558452

Catherine Hudson
Notary Public

(Seal)

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE
PERMIT AMENDMENT
PSD-FL-146(A),
0850001-002/3-AC

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Florida Power and Light Company (FPL), Post Office Box 088801, North Palm Beach, Florida 33408-8801 to incorporate Department Guidance "Rate of Operation During Compliance Testing for Combustion Turbines," to eliminate redundant emission test requirement, and to allow flexibility in testing for Volatile Organic Compounds (VOCs) within its PSD permit applicable to Units 3 and 4 of the FPL Martin Power Plant west of Indiantown, Martin County.

The Department requires that periodic air compliance testing of combustion turbines be conducted at 95-100 percent of maximum heat input capacity. The amendment recognizes that the capacity varies with conditions, such as ambient temperature on the test date, which are beyond the control of operators. It allows FPL to employ manufacturer's equipment characteristics to insure the Department's test requirements are satisfied and that results are applicable over the full operating temperature range. The Department will eliminate the annual VOC test requirement because historical tests using various sampling methods have shown undetectable levels or levels below the minimum detectable limits for the methods employed. The results are well below the permitted value of 1.6 ports per million.

The Department has determined that there will be no significant increases in emissions as a result of this amendment.

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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of publication of this notice. 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, Florida Statutes.

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 re-

quire reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner stating precisely the action 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 Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the 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 publication of this notice 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 60Q-2.010, F.A.C.

The application 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

Department of
Environmental Protection
Southeast District
400 North Congress Avenue
West Palm Beach, Florida 33401

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road - Mail Station 5505, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's Final Determination.

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I also wish to receive the following services (for an extra fee):
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2. ☐ Restricted Delivery

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3. Article Addressed to:
Richard Piper, E.S.
Fla. Power & Light Co.
PO Box 088801
North Palm Bch, Fl
33408-880

4a. Article Number
Z 127 632 593

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

7. Date of Delivery
JUN 1 1996

5. Signature (Addressee)

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

6. Signature (Agent)

PS For

Thank you for using Return Receipt Service.

Z 127 632 593

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Richard Piper	
Street and No.: Fla Power & Light	
P.O., State and ZIP Code: Ft. Palm Bch, Fl	
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	5-31-96

Form 3800, March 1993

085C001-01-002
-03
PSD-FT-146A