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

0850001-003-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

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
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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

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

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

Kawaii

401 347-2059
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:

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" ...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