



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

July 15, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Lindsay
Plant General Manager
Florida Power & Light
Post Office Box 176
Indiantown, Florida 34946-0176

Re: DEP File No. PSD-FL-146(G) and 0350001-005AC
Inlet Foggers Project - Martin Power Plant

Dear Mr. Lindsay:

The Department reviewed your request to modify the PSD Permit to authorize the installation of inlet foggers on the four General Electric PG7221 combustion turbine-electrical generators (Combustion Turbines 3A&B, 4A&B). The request is acceptable as detailed in the Department's Technical Evaluation and Preliminary Determination.

PSD-FL-146 permit is hereby modified as follows:

Inlet Fogger Installation

Inlet foggers may be installed on Units CT3A, CT3B, CT4A and CT4B. Operation of the foggers on each unit may not exceed the following limits: 181,661 degree F-hours in aggregate firing natural gas fuel if no distillate fuel is fired. If distillate oil is fired in any of the CT's during a calendar year, the allowable degree F-hours for natural gas shall be decreased by 2.77 degree F-hours for every hour operated on distillate oil fuel. No CT may exceed 4,000 degree F-hours per year firing distillate oil fuel.

The temperature drop across the inlet foggers shall be monitored whenever water is injected at the foggers and hourly average temperature drops shall be calculated and recorded automatically using computer system. The product of each hour of fogger operation and the average temperature depression for that hour shall be summed for each calendar year and shall be submitted to the DEP SE District Office with the Annual Operating Report. The temperature monitoring system shall be calibrated annually in accordance with Guidance Document No. DARM-EM-03 (attached).

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes. Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by the filing of a Notice of Appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000,

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Mr. John Lindsay
July 15, 1999

and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within (thirty) days after this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Sincerely,



Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/aal

Enclosures

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this PSD PERMIT MODIFICATION was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 7-20-99 to the person(s) listed:

John Lindsay, FP&L*
Richard G. Piper, FP&L
Ken Kosky P.E., Golder Associates
Isidore Goldman, SED
John Bunyak, NPS
Gregg Worley, EPA

Clerk Stamp

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

Ken Jiben 7-20-99
(Clerk) (Date)

Z 333 618 111

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34946-0176

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FINAL DETERMINATION

Florida Power and Light Company (FP&L)
Martin Power Plant, Martin County
Inlet Foggers Installation
DEP File No: 0850001-005-AC (PSD-FL-146G)

An Intent to Issue an air construction permit modification, authorizing the installation of inlet foggers on the four General Electric PG7221 FA combustion turbine-electrical generators (E.U.No. 003-006) at the Martin Power Plant was distributed on June 15, 1999. This facility is located 7 miles North of Indiantown, Martin County, Florida.

The Public Notice of Intent to Issue Air Construction Permit was published in The Okeechobee News on June 19, 1999. Comments were received from FP&L.

FP&L comments were related to the new Specific Condition for the foggers. FP&L requested to revise this condition to include an allowance for increasing fogger operating hours if distillate oil is not fired. The Department evaluated FP&L comments and agreed with their request. The new Specific Condition for the foggers is revised as follows:

Inlet Fogger Installation:

Inlet foggers may be installed on Units CT3A, CT3B, CT4A and CT4B. Operation of the foggers on each unit may not exceed the following limits: 181,661 degree F-hours in aggregate firing natural gas fuel if no distillate fuel is fired. If distillate oil is fired in any of the CT's during a calendar year, the allowable degree F-hours for natural gas shall be decreased by 2.77 degree F-hours for every hour operated on distillate oil fuel. No CT may exceed 4,000 degree F-hours per year firing distillate oil fuel

The temperature drop across the inlet foggers shall be monitored whenever water is injected at the foggers and hourly average temperature drops shall be calculated and recorded automatically using computer system. The product of each hour of fogger operation and the average temperature depression for that hour shall be summed for each calendar year and shall be submitted to the DEP SE District Office with the Annual Operating Report. The temperature monitoring system shall be calibrated annually in accordance with Guidance Document No. DARM-EM-03 (attached).

The final action of the Department will be to issue the permit modification as noted above.



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DARM-EM-03

TO: District Air Program Administrators Local Air Program Administrators Bureau of Air Regulation Engineers

FROM: Howard L. Rhodes, Director Division of Air Resources Management

DATE: October 10, 1994

SUBJECT: Guidance on Calibration of the Temperature Monitoring System for Soil Thermal Treatment Facilities

Rule 62-296.415(1)(c), F.A.C., requires the temperature of the flue gases leaving the high temperature zone of a soil thermal treatment facility to be monitored continuously. Rule 62-297.500(6), F.A.C., requires the temperature monitoring system to be calibrated at least annually from 10 percent below to 10 percent above its normal operation range by the procedures recommended by the manufacturer. The temperature monitoring system generally consists of a thermocouple, a temperature indicator, and a recorder. The purpose of the calibration is to provide reasonable assurance that the temperature being recorded by the monitoring system is the actual temperature of the flue gases.

If the manufacturer has provided recommended calibration procedures, those procedures should be followed. If the manufacturer has not provided recommended calibration procedures, the following general calibration procedures should be used:

THERMOCOUPLE: The calibration points should bracket the hot zone temperature range over which the thermocouple is to be used. The rule requires the

voltage output from the thermocouple to be measured at a minimum of three temperatures and over a range from 10% below to 10% above the designed flue gas hot zone temperature. The thermocouple should be calibrated against a NIST (National Institute of Standards and Technology) traceable reference thermocouple. The thermocouple may be calibrated using ASTM E 220, Method B. For these high temperature calibrations, electrical tube furnaces or dry fluidized baths can be used as stable heat sources. The incinerator duct may also be used for thermocouple calibration as discussed in guideline document GD-24, "Temperature Measurements and Calibration of Type K Thermocouples in High Temperature Stacks."

This document is available from the EPA Emission Measurement and Technical Information Center (EMTIC). The telephone number for the EPA bulletin board system is (919) 541-5742. Alternatively, the thermocouple can be replaced each year with a new thermocouple certified by the manufacturer to be accurate to within 0.9% of the flue gas temperatures being measured. A certificate of conformance from the manufacturer (certifying that the new thermocouple conforms to published specifications) will satisfy the annual calibration requirements of Rule 62-297.500(6), F.A.C.

TEMPERATURE INDICATOR: The instrument, which converts voltage output from the thermocouple to a temperature reading, can be calibrated by applying known voltages (mv), and reading the reported temperatures. The voltage values should correspond to the voltages generated by the thermocouple for temperatures over a range from 10% below to 10% above the designed flue gas hot zone temperature. The reference voltage supply should be accurate to within 0.1% of the reading.

RECORDER: The strip chart recorder or digital data acquisition system should be connected to the temperature indicator during its calibration and can be calibrated at the same time. The recorder should be adjusted to reproduce the readings of the temperature indicator.

The temperature monitoring system calibration error should not exceed 1% of the temperature reading

pursuant to Rule 62-297.500(6), F.A.C.

HLR/mh/hf

Last updated:
May 17, 1999

Florida Department of
Environmental Protection

Memorandum

TO: Howard L. Rhodes

THRU: Clair H. Fancy *CHF*
Al Linero *AL* 7/15

FROM: Teresa Heron *T.H.*

DATE: July 15, 1999

SUBJECT: FP&L Martin Plant
DEP File No. 0850001-005-AC (PSD-FL-146G)

Attached is the final PSD permit modification package for the compressor inlet fogger project at the FP&L Martin Plant. The application is to install inlet foggers ahead of the compressor inlets of four combined cycle combustion turbines. The foggers will operate on hot days and days of relatively low humidity. The evaporative cooling effected by the foggers will allow the units to operate closer to their rated capacity.

Both short-term and annual emissions will increase because the heat rate through the units will increase when the foggers. Maximum short-term emissions will still occur during cold days when use of the foggers is not feasible. The units already comply with 40 CFR 60, Subpart GG, so NSPS applicability is not an issue. FP&L proposes to limit operation of the coolers to 34,320 degrees F-hour on gas and 4000 degrees F-hour on oil to insure PSD is not triggered by their use.

I recommend your signature and approval of the cover letter and the final permit modification letter.

AAL/th

Attachments

COMPLETE	MAY 7	
INTENT	JUNE 7 (DAY 31)	
PROOF	JULY 8	ACTUALLY PUBLISHED ON JUNE 19 - SINCE
RESTART	JULY 22 (DAY 31)	> 14 DAYS HAVE ELAPSED, WE CAN ISSUE.
TODAY	JULY 15	
<u>DAY 90</u>	SEPTEMBER 18	