

Jeb Bush  
Governor

Department of  
Environmental Protection

085 0001-007-AV

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

David B. Struhs  
Secretary

August 23, 2001

Ms. Raisa Neginsky, Compliance Engineer  
Air Resources Section  
Southeast District Office, DEP  
Florida Department of Environmental Protection  
P.O. Box 15425  
West Palm Beach, FL 33416-5425

Re: Discussion of "Tuning" Conditions  
FPL Martin Plant - Units 8A and 8B

Dear Ms. Neginsky:

Over the past two weeks, we've discussed several issues related to "tuning" the new simple cycle gas turbines at the FPL Martin plant. The following summarizes the main items:

- As part of the permit application, FPL requested that the permit allow NOx monitoring data collected during "tuning" to be excluded from the compliance demonstration. FPL explained that maintenance or repair of the gas turbine would occasionally require a major tuning session to be performed with the manufacturer's representative. During such sessions, NOx emissions may be elevated above normal levels for more than an hour until the optimum operating parameters are established. For major tuning sessions, the Department believed this request was reasonable *if* FPL provided a 5-day advance notice of such tuning. This would alert the District Office of the possibility of elevated NOx emissions from tuning and allow representatives an opportunity to be present during the scheduled session. Permit condition Nos. 12 and 18e resulted from FPL's request.
- Condition No. 12 requires "... at least a five day advance notice prior to any tuning session." The condition relates to the initial tuning session and subsequent major tuning sessions of a similar nature. With the new gas turbine control systems, operators make small changes to the control parameters almost daily to ensure efficient operation. Similarly, it is also possible for the manufacturer to make minor adjustments to the control parameters telemetrically from their main office. These minor types of "tuning" would not result in lengthy periods of elevated emissions (if any) and do not require advance notice.
- Condition No. 18e allows up to three 1-hour NOx averages to be excluded from the compliance demonstration due to tuning *if* FPL provides a 5-day advance notice of the tuning session. Again, the condition relates to major tuning sessions that would be similar to the initial tuning session. This is supported by the permitting note, which states that no more than two such sessions are expected each year.

Because the initial performance tests are complete or nearly complete, FPL must submit an application to revise their Title V permit to operate Units 8A and 8B. I spoke briefly with Scott Sheplak regarding these issues and he agreed that the tuning conditions could be clarified in the Title V permit. If you have any questions please contact me at 850/921-9536.

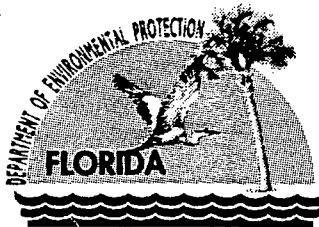
Sincerely,

Jeffery F. Koerner  
New Source Review Section

cc: Ms. Mary Archer, FPL  
Mr. Scott Sheplak, DEP - Title V

"More Protection, Less Process"

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# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

June 6, 2001

Richard Piper, Licensing Manager  
Environmental Services Department  
Florida Power and Light Company  
P.O. Box 14000  
Juno Beach, FL 33408

Re: FPL Martin Plant  
Air Permit No. PSD-FL-286  
Martin Peaking Units 8A and 8B

Dear Mr. Piper:

I received your letter informing the Department that FPL does not intend to perform emissions testing on the Martin peaking units in either power augmentation mode or high temperature peaking mode. The site does not have steam capability to provide steam injection for power augmentation. In addition, operating the units in high temperature peaking mode is predicted to shorten the maintenance interval for the units. As I recall, each unit was restricted to 400 hours per year for power augmentation and 60 hours per year of high temperature peaking mode.

I agree that, without the required testing, FPL is not authorized to operate these units in either power augmentation mode or high temperature peaking mode. During submittal of the Title V permit revision to incorporate Units 8A and 8B, please request removal of the conditions associated with these methods of operation. Otherwise, you will need to include a Compliance Plan that outlines a proposed schedule for testing each unit and demonstrating compliance with the standards.

If you have any questions, please contact me at 850/921-9536.

Sincerely,

Jeffery F. Koerner

New Source Review Section

cc: Al Linero  
Scott Sheplak ✓  
Isidore Goldman, SED



May 22, 2001

Mr. Jeff Koerner, P.E.  
State of Florida  
Department of Environmental Protection  
Division of Air Resources Management  
2600-Blair Stone Road  
Tallahassee, FL 32399-2400

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MAY 29 2001

BUREAU OF AIR REGULATION

**Re: FPL Martin Plant  
PSD Permit #PSD-FL-286**

Dear Mr. Koerner:

Per our discussion, this correspondence is to inform the Department that FPL does not at this time intend to perform emissions testing on the Martin peaking units 8A and 8B in either power augmentation mode or in high temperature peaking mode.

Currently, the site does not have excess steam capability with which to provide power augmentation capability. In addition, the operation of the new units in high temperature peaking mode is predicted to shorten the maintenance interval for the equipment.

FPL recognizes that we will be unable to operate in either of the two referenced operating modes unless and until the emissions testing is performed.

If you should have any questions, please do not hesitate to contact me at (561) 691-7058 or via email at rich\_piper@fpl.com.

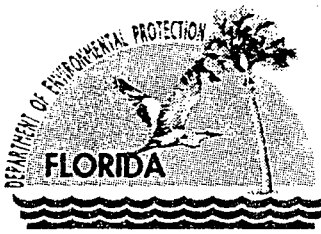
Very truly yours,

A handwritten signature in black ink, appearing to read 'Richard Piper', is written over a horizontal line.

Richard Piper  
Licensing Manager  
Florida Power & Light Company

cc:

Tom Tittle - DEP Southeast District Office



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

May 21, 2001

Mr. John C. Hampp  
Sr. Regulatory Specialist  
Environmental Services Dept.  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, Florida 33408

Re: FPL – Martin Plant Combustion Turbine 3B  
Rotor Changeout Request

Dear Mr. Hampp:

The Title V Section in Tallahassee has reviewed the support information provided on April 25 regarding the FPL – Martin Plant Combustion Turbine 3B rotor changeout.

In response to your original request, the Department has determined that authorization of the extended excess emission period is appropriate because of the uniqueness of the Full Speed No Load (FSNL) operation specified by the manufacturer for rotor changeouts. The following items were considered in making this decision:

- Rule 62-210.700(1), F.A.C. states “Excess emission resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.”
- Rule 62-210.700(4), F.A.C. states “Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonable by prevented during startup, shutdown, or malfunction shall be prohibited.”
- Rule 62-210.700(5), F.A.C. states “Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.”

Based on this information you provided, the Department has reasonable assurance, that:

- The excess emissions may be unavoidable. The data that has already been collected for CT Units 3A, 4A and 4B has resulted in Florida Power & Light developing best operational practice guidelines to follow during FSNL conditions to limit excess

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May 21, 2001  
FPL – Martin Plant Combustion Turbine 3B  
Rotor Changeout Request  
Page 2

emissions. These operational practices may not always be able to limit the emissions sufficiently to prevent excess emissions for a period less than 2 hours.

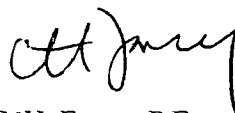
- Any excess emissions which are due (or are due in part) to poor maintenance, poor operation, or any other reasonably avoidable equipment or process failure are not allowed.
- At least a 5 hour period of extended startup for FSNL is necessary per the turbine manufacturer – G.E. Energy Services. (See G.E. letter dated April 20, 2001.)

Therefore in accordance with Rule 62-210.700(1), F.A.C. excess emissions during startup for CT Unit 3B will be allowed for up to 15 hours during the Full Speed No Load (FSNL) startup operation which is scheduled to occur between May 23-27 of this year.

This authorization is contingent on the following: (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions is minimized. Please note that this authorization cannot allow the violation of any ambient air quality standards; therefore, the Department shall be provided with reasonable assurance that the excess emissions from FSNL operations did not contribute to a violation of the ambient air quality standards within 45 days of the completion of FSNL operation. If no exceedances occur, a statement to that fact will be sufficient demonstration. Also note that Annual Operation Report (AOR) for this facility should include any excess emissions resulting from FSNL operation. After the rotor changeout has occurred please submit a record of the actual duration of the excess emissions to the Southeast District air compliance office.

If you should have any questions please contact Scott M. Sheplak, P.E. at 850/921-9532.

Sincerely,



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

SMS/bjf

Enclosure

copy to: Tom Tittle, SED  
Jim Pennington, BAR

## Sheplak, Scott

---

**From:** John\_Hampp@fpl.com  
**Sent:** Wednesday, April 25, 2001 3:52 PM  
**To:** Sheplak, Scott  
**Subject:** FPL Martin Plant Rotor Replacement

Microsoft Word 4

Scott,

I have written a reply to your request for additional information for our request to permit emission exceedences which may result from the required manufacturer's test of the gas turbines at the Martin Power Plant. The subject test is called a "Full Speed No Load Test" (FSNL) and is required by the combustion turbine manufacturer following the replacement of the turbine rotor. Attached you will find a letter from General Electric who is the manufacturer of the Turbines in use at the Martin Combined Cycle facility. The rotor replacements are not routine but are part of a warranty replacement by the manufacturer. The combustion turbines at Martin were basically the first of their kind and when they were constructed as some of the most efficient and lowest emitting turbines in the US. The rotor replacement process requires that a rotor is removed and shipped to the manufacturer. These outages have been scheduled in the off-peak months to ensure that there is adequate generation to meet the state's electrical needs in the summer and winter. The warranty rotor replacements are being performed to avoid a rotor failure which would likely result in the catastrophic loss of the majority of the affected combustion turbine.

The outage is scheduled to begin April 30th with the projected return of the combustion turbine to occur during the period of May 23 to May 27. The FSNL test would be required before the unit is approved by the manufacturer to return to normal service.

If you have any questions, or have need of any additional information, please contact me at 561-691-2894. Thank you for your assistance.

Sincerely,

John C. Hampp  
Env. Specialist  
Florida Power & Light Co.

(See attached file: FPLMartinRotor042001.doc)

John D. Wells  
Service Manager

Global Installation & Field Services  
General Electric International, Inc.  
4300 West Cypress Street, Suite 700  
Tampa, FL 33607-4159  
Tel: 813-286-4807, Dial Comm: 8\*584-4807  
Fx: 813-286-4808  
Email: John.Wells@ps.ge.com

April 20, 2001

Ms. Carine Bullock  
Plant Manager  
FPL Martin Plant  
PO Box 176  
Indiantown, FL 34956

Re: New Rotor Start-up Process  
Martin 3B – Turbine S/N 295851

Dear Carine:

As you are aware, the initial start-ups following installation of a new or reconfigured GE F-Class gas turbine rotor are carefully orchestrated to ensure that the rotor is properly tested and run-in. There is a structured GE procedure that must be followed to prevent damage to the unit during this initial operation. The intent of this procedure is to demonstrate vibration stability and repeatability on two consecutive runs.

Each run involves operation at full-speed, no load (FSNL) for an extended period of time. The first start-up run is done completely off-line, with the unit being operated for at least 5 hours, and possibly longer if problems are encountered. The second run involves a similar extended run at FSNL prior to synchronization and loading of the machine. In the event there is a machine trip on either run, the procedure may require a repeat of the activities on that particular run, depending on the situation.

The details of this procedure will be reviewed with your outage planning team in the next few weeks. In the meantime, if you have any questions, please do not hesitate to contact me.

Very truly yours,

John Wells

## Sheplak, Scott

---

**From:** John\_Hampp@fpl.com  
**Sent:** Wednesday, April 25, 2001 3:52 PM  
**To:** Sheplak, Scott  
**Subject:** FPL Martin Plant Rotor Replacement

Microsoft Word 4

Scott,

I have written a reply to your request for additional information for our request to permit emission exceedences which may result from the required manufacturer's test of the gas turbines at the Martin Power Plant. The subject test is called a "Full Speed No Load Test" (FSNL) and is required by the combustion turbine manufacturer following the replacement of the turbine rotor. Attached you will find a letter from General Electric who is the manufacturer of the Turbines in use at the Martin Combined Cycle facility. The rotor replacements are not routine but are part of a warranty replacement by the manufacturer. The combustion turbines at Martin were basically the first of their kind and when they were constructed as some of the most efficient and lowest emitting turbines in the US. The rotor replacement process requires that a rotor is removed and shipped to the manufacturer. These outages have been scheduled in the off-peak months to ensure that there is adequate generation to meet the state's electrical needs in the summer and winter. The warranty rotor replacements are being performed to avoid a rotor failure which would likely result in the catastrophic loss of the majority of the affected combustion turbine.

The outage is scheduled to begin April 30th with the projected return of the combustion turbine to occur during the period of May 23 to May 27. The FSNL test would be required before the unit is approved by the manufacturer to return to normal service.

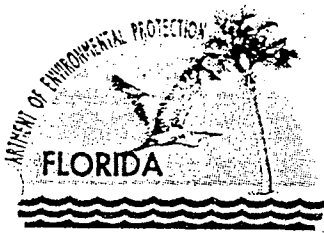
If you have any questions, or have need of any additional information, please contact me at 561-691-2894. Thank you for your assistance.

Sincerely,

John C. Hampp  
Env. Specialist  
Florida Power & Light Co.

(See attached file: FPLMartinRotor042001.doc)





Jeb Bush  
Governor

Department of  
**Environmental Protection**

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

David B. Struhs  
Secretary

*Reading File* 5114

February 28, 2001

Mr. John C. Hampp  
Sr. Regulatory Specialist  
Environmental Services Dept.  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, Florida 33408

Re: FPL – Martin Plant Combustion Turbine 3B  
Rotor Changeout Request

Dear Mr. Hampp:

The Title V Section in Tallahassee has received your request to changeout the FPL – Martin Plant Combustion Turbine 3B rotor. In your letter dated February 6 to Tom Tittle, you requested an extended period of excess emissions. Prior to approving the request the department requests more information.

Please provide a letter from the combustion turbine manufacturer supporting your request. The manufacturer's letter should include the duration of excess emissions expected.

Is this routine maintenance? If so, how often do you expect this replacement to occur?

If you should have any questions please contact me at 850/921-9532.

Sincerely,

Scott M. Sheplak, P.E.  
Administrator  
Title V Section

SMS/bjf

copy to: Tom Tittle, SED



Florida Power & Light Company, Environmental Services Dept., P.O. Box 14000, Juno Beach, FL 33408

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FEB - 9 2001

DEPT OF ENV PROTECTION  
WEST PALM BEACH

Tuesday, February 06, 2001

Tom Tittle  
Air Resources Management  
Florida Department of Environmental  
Protection Southeast District  
P.O. Box 15425  
West Palm Beach, FL 33416

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FEB 16 2001

BUREAU OF AIR REGULATION

Dear Mr. Tittle,

Florida Power & Light Company is requesting an authorization of an extended excess emission period for the Martin Plant Combustion Turbine 3B following the rotor changeout during February of this year. The turbine manufacturer has identified that this necessitates a Full Speed No Load (FSNL) operation following rotor changeout. The extended startup period is scheduled to occur sometime during the period of March 1 through March 11 of this year with the target date of the test on March 8. The Southeast District granted a similar request on November 18, 1996 following the replacement of the rotor on Martin Combustion Turbine 4B and in February of 2000 for the Unit 3A rotor replacement.

The attached Microsoft Word document contains the text of the approval for excess emissions from the 4B rotor replacement for your convenience in drafting the requested approval. Should you have any question, or need any additional information, please contact me at your earliest convenience.

Sincerely,

John C. Hampp  
Sr. Regulatory Specialist  
Florida Power & Light Company  
JES-JB  
700 Universe Blvd.  
Juno Beach, FL 33408  
Email: jhampp@email.fpl.com

***\*Text of November, 1996 approval of Martin 4B excess emissions following rotor replacement***

Re: Marting Plant – Rotor Changeout on FPL Martin Combustion Turbine 4B

In response to your letter dated October 10, 1996, the Department has determined that authorization of the extended excess emissions period is appropriate because of the uniqueness of the Full Speed No Load (FSNL) operation specified by the manufacturer for rotor changeouts. The following items were considered in making this decision:

F.A.C. Rule 62-210.700(1) states "Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

F.A.C. Rule 62-210.700(4) states "Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

F.A.C. Rule 62-210.700(5) states "Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

Even though Code of Federal Regulations, Part 60, including Subpart GG for stationary Gas Turbines applies to CT Unit 4B, it does not apply to CO and VOC emissions.

Our review of the Prevention of Significant Deterioration permit and Power Plant Siting Certification for this facility indicates that there is no prohibition to the applicability of F.A.C. Rule 62-210.700 to CT Unit 4B.

Based on the information you provided, the Department has reasonable assurance, that:

- The excess emission of CO and VOC may be unavoidable. The data that has already been collected for CT Unit 4A has resulted in Florida Power & Light developing best operational practice guidelines to follow during FSNL conditions to limit excess emissions. These operational practices may not be able to limit the emissions sufficiently to prevent excess emissions for a period less than 2 hours.
- Any excess emissions which are due (or are due in part) to poor maintenance, poor operation, or any other reasonably avoidable equipment process failure are not allowed.
- The ten hour period of extended startup for FSNL is necessary.

Therefore in accordance with F.A.C. Rule 62-210.700(1), excess emisisions for CO and VOC during startup for CT Unit 4B will be allowed for up to 10 hours during the Full Speed No Load (FSNL) startup operation which is scheduled to occur on or about March 1997. This authorization is contingent on the following: (1) best operational practices to minimize emissions are adhered

to and (2) the duration of the excess emissions is minimized. Please note that this authorization cannot allow the violation of any ambient air quality standards; therefore, the Department shall be provided with reasonable assurance that the excess emissions from FSNL operations did not contribute to a violation of CO and Ozone ambient limits within 45 days of the completion of the FSNL operation. Also note that Annual Operation Reports for this facility should include the emissions resulting from FSNL operation.