



Florida Department of Environmental Protection

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2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

February 6, 2007

Electronically Sent -- Received Receipt Requested

Mr. H. O. Nunez, Plant General Manager
Turkey Point Power Plant
Florida Power & Light Company
9700 SW 344th Street
Homestead, Florida 33035

Re: DEP File No. 0250003-007-AC
Air Construction Permit Modification -- Unit 5 Combined Cycle

Dear Mr. Nunez:

The Florida Department of Environmental Protection ("the Department") has reviewed your application to make some minor modifications to previously issued Air Construction Permit No. 0250003-006-AC that authorized the construction of Unit 5 at the existing FPL Turkey Point Power Plant, a "4-on-1" combined cycle unit with an electrical generating capacity of approximately 1150 MW. That project includes four 170 MW gas turbine-electrical generators sets, four heat recovery steam generators, a single 470 MW steam turbine-electrical generator, a mechanical draft cooling tower, and a distillate fuel oil storage tank. The existing facility is located east of Homestead and Florida City and next to Biscayne Bay in Miami-Dade County, Florida. This Air Construction Permit Modification (0250003-007-AC) revises the language of certain specific conditions of the previously issued permit. Specifically, this permit modification provides consistency with recently issued air construction permits for similar facilities by:

1. Allowing additional cold start and fuel switching hours of excess emissions for the combined cycle unit; and
2. Clarifying the non-applicability of the federal NSPS standards to the new storage tank. There are no air pollution emissions increases associated with this permit modification.

The current Air Construction Permit for Unit No. 5 has not yet expired. Therefore, the changes requested are addressed as an Air Construction Permit Modification.

MODIFICATIONS OF AIR CONSTRUCTION PERMIT NO. 0250003-006-AC

Certain specific conditions in Air Construction Permit No. 0250003-006-AC are hereby modified as shown below.

Double-underline denotes additions and ~~strikethrough~~ indicates deletions.

Specific Condition 15. in Section III.A. is modified as follows:

15. Excess Emissions Allowed: As specified in this condition, excess emissions resulting from startup, shutdown, ~~oil to gas~~ fuel switches and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail. For each gas turbine/HRSG system, excess emissions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the following specific cases.
 - a. For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six eight hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.

{Permitting Note: During a cold startup of the steam turbine system, each gas turbine/HRSG system is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}

- b. For shutdown of the combined cycle operation, excess emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.
- c. For cold startup of a gas turbine/HRSG system, excess emissions shall not exceed four hours in any 24-hour period. "Cold startup of a gas turbine/HRSG system" is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 psig for at least a one-hour period.
- d. For ~~oil-to-gas~~ fuel switching, excess emissions shall not exceed ~~1 hour~~ 2 hours in any 24-hour period.

Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of the gas turbines.

[Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.]

Section III.B. is modified as follows:

NSPS APPLICABILITY

1. NSPS Subpart Kb Applicability: The distillate fuel oil tank is not subject to Subpart Kb, which applies to any storage tank with a capacity greater than or equal to 10,300 gallons (40 cubic meters) that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. Tanks with a capacity greater than or equal to 40,000 gallons (151 cubic meters) storing a liquid with a maximum true vapor pressure less than 3.5 kPa are exempt from the General Provisions (40 CFR 60, Subpart A) and from the provisions of NSPS Subpart Kb, except for the record keeping requirements specified below. [40 CFR 60.110b(a) and (c); Rule 62-204.800(7)(b), F.A.C.; and Section 24.41.6, Miami-Dade County Code.]

The listed emission unit shall comply with 40 CFR 60, Subpart Kb, only to the extent that the regulations apply to the emission unit and its operation.

EQUIPMENT SPECIFICATIONS

2. Equipment: The permittee is authorized to install, operate, and maintain one, 4.3 million gallon distillate fuel oil storage tank designed to provide ultra low sulfur fuel oil to the Unit 5 gas turbines.
[Applicant Request and Rule 62-210.200(PTE), F.A.C.]

EMISSIONS AND PERFORMANCE REQUIREMENTS

3. Hours of Operation: The hours of operation are not restricted (8760 hours per year).
[Applicant Request and Rule 62-210.200(PTE), F.A.C.]

NOTIFICATION, REPORTING AND RECORDS

4. Oil Tank Records: The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of distillate fuel oil for each storage tank for use in the Annual Operating Report.
[Rule 62-204.800(7)(b)16, F.A.C. and 40 CFR 60.116b(a) and (b)]
5. Fuel Oil Records: The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. The maximum true vapor pressure shall be less than 3.5 kPa. Compliance with this condition may be demonstrated by using the information from the respective MSDS for the low or ultra low sulfur fuel oil stored in the tank. [Rule 62-4.070(3), F.A.C.]

{Permitting Note: An evaluation of several Material Safety Data Sheets (MSDS) by the Department demonstrated that the vapor pressure is much less than 3.5 kPa for low sulfur fuel oil and for ultra low sulfur fuel oil.}

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing 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, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Joseph Kahn, Director
Division of Air Resource Management

JK/tlv/aal/tbc

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this PERMIT MODIFICATION was sent electronically (with Received Receipt) before the close of business on 2/12/07 to the person(s) listed below:

H. O. Nunez, Plant General Manager, FPL: ed_nunez@fpl.com

John C. Hampp, Principal Specialist, FPL: john_hampp@fpl.com

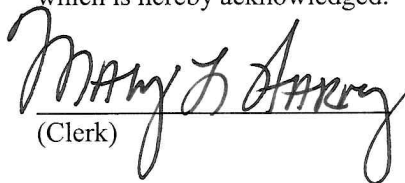
H. Patrick Wong, Miami-Dade DERM: wongp@miamidade.gov

Darrel Graziani, Southeast District Office: darrel.graziani@dep.state.fl.us

James Little, EPA Region 4: little.james@epa.gov

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.

 2/12/07
(Clerk) (Date)