

Florida Department of
Environmental Protection

Memorandum

TO: Trina L. Vielhauer, Chief BAR
FROM: A.A. Linero and Teresa Heron ^{T.H.}
DATE: February 13, 2008
SUBJECT: FP&L Turkey Point Title V Permit Revision DEP File No. 0250003-009-AV
Inclusion of Unit 5 (1,150 MW Combined Cycle Project)

Attached is the draft Title V Permit Revision for FP&L Turkey Point Power Plant. The purpose of the revision is to incorporate the requirements of the recently constructed Unit 5, a four-on-one gas-fueled combined cycle base load unit with a total capacity of 1,150 megawatts. The requirements were updated to reflect completion of requirements related to the construction and initial testing of the new unit.

We recommend your approval and signature of the attached cover letter and the Written Intent to Issue document.

AAL/th

Attachments



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blirstone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor
Jeff Kottkamp
Lt. Governor
Michael W. Sole
Secretary

February 15, 2008

Electronically Sent – Received Receipt Requested

ed_nunez@fpl.com

Mr. Heriberto O. Nuñez, Plant General Manager
Florida Power and Light (FP&L)
Turkey Point Fossil Plant
9700 Southwest 344th Street
Homestead, Florida 33035

Re: DRAFT Title V Permit Revision No. **0250003-009-AV**
FP&L Turkey Point Fossil Plant

Dear Mr. Nuñez:

On October 3, 2007, you submitted an application for a Title V Air Operation Permit Revision for the Turkey Point Fossil Plant, located at 9700 Southwest 344th Street, Homestead, Miami-Dade County. Enclosed are the following documents: "Statement of Basis", "DRAFT Title V Air Operation Permit Revision", "Written Notice of Intent to Issue Title V Air Operation Permit Revision", and "Public Notice of Intent to Issue Title V Air Operation Permit Revision."

The "Statement of Basis" summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue a DRAFT Permit Revision. The proposed "DRAFT Permit Revision" includes specific conditions that regulate the emissions units at this facility and incorporates those applicable to the recently constructed natural gas-fueled combined cycle (Unit 5).

The "Written Notice of Intent to Issue Title V Air Operation Permit Revision" provides important information regarding: the Permitting Authority's Intent to Issue a Title V Air Operation Permit Revision (DRAFT Permit Revision); the requirements for publishing a Public Notice of the Permitting Authority's intent to issue the DRAFT Permit Revision; the procedures for submitting comments on the DRAFT Permit Revision; the requirements for requesting a public meeting; and the requirements for filing a petition for an administrative hearing.

The "Public Notice of Intent to Issue Title V Air Operation Permit Revision" is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Teresa Heron, at 850-921-9529.

Sincerely,

Trina L. Vielhauer, Chief
Bureau of Air Regulation

TLV/aal/tmh

Enclosures

**WRITTEN NOTICE OF INTENT TO ISSUE
TITLE V AIR OPERATION PERMIT REVISION**

*In the Matter of an
Application for Permit by:*

Mr. Heriberto O. Nuñez, Plant General Manager
Florida Power and Light Company
Turkey Point Fossil Plant
9700 Southwest 344th Street
Homestead, Florida 33035

Title V Permit Revision
DRAFT Title V Project 0250003-009-AV
Incorporation of Air Construction Permit for Unit 5
Miami-Dade County

Applicant: The applicant for this project is Florida Power and Light (FP&L) Company, 700 Universe Boulevard, Juno Beach, Florida 33408. The applicant's responsible official is Mr. Heriberto O. Nuñez.

Facility Location: The applicant operates the Turkey Point Fossil Plant that is located approximately 9.5 miles east of Florida City at 9700 SW 344th Street, Homestead, Miami-Dade County.

Project: On October 3, 2007 FP&L applied to the Permitting Authority for a revision of the Turkey Point Fossil Plant Title V Air Operation Permit in order to incorporate the requirements applicable to the recently constructed natural gas-fueled combined cycle unit (Unit 5). Unit 5 has an electrical power generating capacity of 1,150 megawatts (MW). It consists of four 170 MW gas turbine-electrical generator sets, four heat recovery steam generators, a single 470 MW steam turbine-electrical generator, one storage tank, a mechanical draft cooling tower and two emergency diesel generators. Further details are provided in the application, the enclosed "Statement of Basis", and the DRAFT Title V Air Operation Permit Revision.

The Turkey Point Fossil Plant also includes two residual fuel oil and natural gas-fueled 440 MW fossil fuel steam electrical generators (Units 1 and 2) with low-nitrogen oxides burners and mechanical cyclone dust collectors. The fossil plant also includes certain small sources including five fuel oil-fired black start 2.75 MW diesel peaking generators supporting Units 1 and 2 and several unregulated or insignificant units.

Permitting Authority: Applications for Title V air operation permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to operate the facility. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination regarding this project. The Permitting Authority's physical address is: Bureau of Air Regulation at 111 S. Magnolia, Suite 4, Tallahassee, Florida 32301. The Permitting Authority's mailing address is: Bureau of Air Regulation, MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. The telephone number is 850/488-0114 and facsimile 850/921-9533.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the address indicated above for the Permitting Authority. The complete project file includes the DRAFT Permit, the Statement of Basis, the application and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the DRAFT Permit by visiting the following website: www.dep.state.fl.us/air/eproducts/ards/ and entering the Draft Title V Project No. given above. A copy of the complete project file is also available at the Miami-Dade County Department of Environmental Resource Management, Air Quality Management Division, 701 Northwest 1st Court, Suite 400, Miami, Florida 33136. Telephone: 305/372-6925. Fax: 305/372-6954.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue a permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a PROPOSED Permit and subsequent FINAL Permit in accordance with the conditions of the DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions.

**WRITTEN NOTICE OF INTENT TO ISSUE
TITLE V AIR OPERATION PERMIT REVISION**

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Title V Air Operation Permit" (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (7) days of publication. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form presented in Section 50.051, F.S., to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the DRAFT Permit for a period of thirty (30) days from the date of publication of this Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5 pm), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Florida Administrative Weekly (FAW) website at <http://faw.dos.state.fl.us> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the DRAFT Permit, the Permitting Authority will issue a Revised DRAFT Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Title V Air Operation Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Title V Air Operation Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) 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, F.A.C.

A petition that disputes the material facts on which the Permitting Authority'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 each 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 state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority'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, F.A.C.

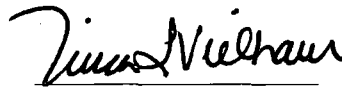
**WRITTEN NOTICE OF INTENT TO ISSUE
TITLE V AIR OPERATION PERMIT REVISION**

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Title V Air Operation Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Objections: Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's web site at: www.epa.gov/region4/air/permits/Florida.htm .

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this "Written Notice of Intent to Issue Air Permit" package (including the Public Notice, the Statement of Basis, and the DRAFT Permit) was sent by electronic mail (received receipt requested) before the close of business on 2/15/08 to the persons listed below:

John Hampp, FPL: john_hampp@fpl.com
Gary Andersen, FPL: gary_andersen@fpl.com
Michael Halpin, DEP Siting Office: Michael.Halpin@dep.state.fl.us
Lee Hoefert, DEP SED: Lee.Hoefert@dep.state.fl.us
H. Patrick Wong, Miami-Dade County DERM: wongp@miamidade.gov
Ken Kosky, P.E., Golder: kkosky@golder.com
Jim Little, EPA Region 4: little.james@epamail.epa.gov
Kathy Forney, EPA Region 4: forney.kathleen@epamail.epa.gov

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.


(Clerk) 2/15/08 (Date)

**PUBLIC NOTICE OF INTENT TO ISSUE
TITLE V AIR OPERATION PERMIT REVISION**

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

DRAFT Title V Permit Project No. **0250003-009-AV**
Florida Power and Light – Turkey Point Fossil Plant
Miami-Dade County

Applicant: The applicant for this project is Florida Power and Light (FP&L) Company, 700 Universe Boulevard, Juno Beach, Florida 33408. The applicant's responsible official is Mr. Heriberto O. Nuñez.

Facility Location: The applicant operates the Turkey Point Fossil Plant that is located approximately 9.5 miles east of Florida City at 9700 SW 344th Street, Homestead, Miami-Dade County.

Project: On October 3, 2007 FP&L applied to the Permitting Authority for a revision of the Turkey Point Fossil Plant Title V Air Operation Permit in order to incorporate the requirements applicable to the recently constructed natural gas-fueled combined cycle unit (Unit 5). Unit 5 has an electrical power generating capacity of 1,150 megawatts (MW). It consists of four 170 MW gas turbine-electrical generator sets, four heat recovery steam generators, a single 470 MW steam turbine-electrical generator, one storage tank, a mechanical draft cooling tower and two emergency diesel generators.

The Turkey Point Fossil Plant also includes two residual fuel oil and natural gas-fueled 440 MW fossil fuel steam electrical generators (Units 1 and 2) with low-nitrogen oxides burners and mechanical cyclone dust collectors. The fossil plant also includes certain small sources including five fuel oil-fired black start 2.75 MW diesel peaking generators supporting Units 1 and 2 and several unregulated or insignificant units.

This permitting action addresses only the operations at the Turkey Point Fossil Plant and does not include the Turkey Point Nuclear Plant licensed by the Nuclear Regulatory Commission (NRC).

Permitting Authority: Applications for processing Title V Air Operation permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to operate the facility in the manner requested. The Department of Environmental Protection, Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination regarding this project. The Permitting Authority's physical address is: Florida Department of Environmental Protection, Bureau of Air Regulation, 111 South Magnolia Drive, Suite 4, Tallahassee, Florida, 32301. The Permitting Authority's mailing address is: Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, Mail Station #5505. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Statement of Basis, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the DRAFT Permit by visiting the following website: www.dep.state.fl.us/air/eproducts/ards/ and entering the Draft Title V Permit Project No. given above. A copy of the complete project file is also available at the Dade County Department of Environmental Resource Management, Air Quality Management Division, 701 NW 1st Court, Suite 400, Miami, Florida 33136. Telephone: 305/372-6925. Fax: 305/372-6954.

Notice of Intent to Issue a Permit: The Permitting Authority gives notice of its intent to issue a permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a PROPOSED Permit and subsequent FINAL Permit in accordance with the conditions of the DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the DRAFT Permit for a period of thirty (30) days from the date of publication of this Public Notice. Written comments must be post-marked and all e-mail or facsimile comments must be received by the close of business (5 pm) on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the

**PUBLIC NOTICE OF INTENT TO ISSUE
TITLE V AIR OPERATION PERMIT REVISION**

Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Florida Administrative Weekly (FAW) website at <http://faw.dos.state.fl.us> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the DRAFT Permit, the Permitting Authority shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) 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, F.A.C.

A petition that disputes the material facts on which the Permitting Authority'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 rights will be affected by the agency determination; (c) A statement of how and when the 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 state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority'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, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of intent. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

Objections: In addition to the above right to petition, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at www.epa.gov/region4/air/permits/Florida.htm.

STATEMENT OF BASIS

Florida Power & Light
Turkey Point Fossil Plant
Facility ID No. 0250003
Miami-Dade County

Title V Air Operation Permit Revision
Revision to Title V Permit No. 0250003-005-AV
DRAFT Permit No. 0250003-009-AV

This Title V Air Operation Permit Revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, 62-212, 62-213, and 62-214, Florida Administrative Code (F.A.C.). This permitting action is for the incorporation of Air Construction Permit 0250003-006-AC, for a recently constructed 1,150 megawatts (MW) gas-fueled combined cycle unit (Unit 5) at the Florida Power & Light (FP&L) Turkey Point Fossil Plant. The above named permittee is hereby authorized to perform the work or operate the facility shown in the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The Turkey Point Fossil Plant consists of:

- Two residual fuel oil and natural gas-fueled 440 MW fossil fuel steam electrical generators (Units 1 and 2) with low-nitrogen oxides (low NO_x) burners and mechanical cyclone dust collectors;
- Five fuel oil-fired black start 2.75 MW diesel peaking generators supporting Units 1 and 2;
- The new natural gas-fueled 1,150 MW combined cycle Unit 5;
- One 4.2 million gallon distillate fuel oil tank that serves Unit 5;
- One 22 cell mechanical cooling tower that serves Unit 5;
- Two 2.25 MW Emergency Diesel Generators that serve Unit 5; and
- Unregulated and/or insignificant emissions units and activities.

The separate collocated Turkey Point Nuclear Plant (Units 3 and 4) is licensed by the Nuclear Regulatory Commission and includes several diesel-fueled emergency generators that are addressed in a separate Title V permit (DEP File No. 0250003-004-AV).

The current Turkey Point Fossil Plant Title V permit (DEP File No. 025003-005-AV) was issued on December 18, 2004 and will expire on December 31, 2008. Therefore, FP&L will submit another application to renew the Turkey Point Fossil Plant Title V permit this year.

Unit 5 consists of four General Electric Model PG7241FA gas turbine-electrical generator sets with a generating capacity of 170 MW for gas firing (180 MW oil firing) each. Exhaust from each gas turbine passes through a separate supplementary gas-fired heat recovery steam generator (HRSG). Steam from each HRSG is delivered to a single 470 MW steam turbine-electrical generator. Each gas turbine has a single stack that is equipped with continuous emissions monitoring systems (CEMS) to measure and record carbon monoxide (CO) and nitrogen oxides (NO_x) emissions as well as flue gas oxygen or carbon dioxide content. The total generating capacity of the combined cycle unit is approximately 1150 MW. Unit 5 also comprises an automated gas turbine control system, an inlet air filtration system, an evaporative inlet air-cooling system and associated support equipment.

Each gas turbine fires natural gas as the primary fuel and distillate fuel oil as a restricted alternate fuel. Emissions of CO, particulate matter (PM/PM₁₀) sulfuric acid mist (SAM), sulfur dioxide (SO₂) and volatile organic compounds (VOC) are controlled by the efficient combustion of natural gas and restricted firing of ultra low sulfur distillate fuel oil.

NO_x emissions are controlled by Dry Low-NO_x (DLN) combustion technology for gas firing and water injection for oil firing. A selective catalytic reduction (SCR) system further reduces NO_x emissions.

The facility has been assigned Department of Energy, Office of Regulatory Information Systems (ORIS) Code 621. The present status of allowances is given in Section IV, Acid Rain Part, of the permit.

Compliance Assurance Monitoring (CAM) does not apply to any of the emissions units at this facility. The two fossil fuel steam electrical generators are uncontrolled emissions units and Unit 5 is equipped with Acid Rain continuous emissions monitoring systems (CEMS) that are also used to demonstrate compliance with the nitrogen oxides (NO_x) limits.

Based on the Title V Air Operation Permit Renewal application received July 3, 2003 and the Title V Permit Revision application received on October 3, 2007, this Title V Source is a major source of hazardous air pollutants (HAPs).

Incorporation of Unit 5 - Air Construction Permit 0250003-006-AC

The conditions related to the Air Construction Permit 0250003-006-AC for Unit 5, the new fuel oil storage tank and the new mechanical cooling tower have been incorporated as Subsections D, E and F of this Draft Permit Revision. Information regarding Unit 5 is also included in Section 4 (Acid Rain Part) of the Draft Permit Revision.

Only minimal changes were made to the air construction permit when incorporating its terms into the Draft Title V Permit Revision. The changes primarily reflect the completion of construction and initial testing that has been completed.

Florida Power & Light
Turkey Point Fossil Plant
Facility ID No. 0250003
Miami-Dade County

Title V Air Operation Permit Revision
DRAFT Permit No. 0250003-009-AV

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Permitting Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/921-9533

Compliance Authority:

Miami-Dade County Department of Environmental Resources Management
Air Quality Management Division
701 NW 1st Street Court
Suite 400
Miami, Florida 33136

Telephone: 305/372-6925
Fax: 305/372-6954

Title V Air Operation Permit Revision
DRAFT Permit No. 0250003-009-AV

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Permittee:
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

DRAFT Permit No. 0250003-009-AV
Facility ID No. 0250003
SIC Nos. 49, 4911
Project: Title V Air Operation Permit Revision

The purpose of this permit is to incorporate the requirements applicable to the recently constructed natural gas-fueled combined cycle unit (Unit 5) into the Turkey Point Fossil Plant Title V Operation Permit. Unit 5 has an electrical power generating capacity of 1,150 megawatts (MW). This facility is located at 9.5 miles east of Florida City on SW 344 Street, Florida City, Dade County; UTM Coordinates: Zone 17, 567.2 km East and 2813.2 km North; Latitude: 25° 26' 09" North and Longitude: 80° 19' 52" West.

This Title V Air Operation Permit Revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to operate the Turkey Point Fossil Plant as described in the application in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendices (Facility-wide) I-1, SS-1, TV-6 and U-1
Appendices (Applicable to Unit 5) A, Da, GG, XS, and YYYY
TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96)
Figure 1 - SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSION AND
MONITORING SYSTEM REPORT (version dated 7/96)
Revised Acid Rain Part Application dated 8/19/05
Order of the Department's Secretary dated April 24, 1984
ASP Number 97-B-01

Revision Effective Date:
Effective Date: January 1, 2004
Renewal Application Due Date: July 5, 2008
Expiration Date: December 31, 2008

Joseph Kahn, Director
Division of Air Resource Management

JK/tlv/aal/tmh

Section I. Facility Information

Subsection A. Facility Description

The Turkey Point Fossil Plant consists of:

- Two residual fuel oil and natural gas-fueled 440 MW fossil fuel steam electrical generators (Units 1 and 2) with low-nitrogen oxides (low NO_x) burners and mechanical cyclone dust collectors;
- Five fuel oil-fired black start 2.75 MW diesel peaking generators supporting Units 1 and 2;
- One natural gas-fueled 1,150 MW combined cycle unit (Unit 5);
- One 4.2 million gallon distillate fuel oil tank that serves Unit 5;
- One 22 cell mechanical cooling tower that serves Unit 5;
- Two 2.25 MW emergency diesel generators that serve Unit 5; and
- Unregulated and/or insignificant emissions units and activities.

The separate collocated Turkey Point Nuclear Plant (Units 3 and 4) is licensed by the Nuclear Regulatory Commission and includes several diesel-fueled emergency generators that are addressed in a separate Title V permit (DEP File No. 0250003-004-AV).

Based on the Title V Air Operation Permit Revision application received October 3, 2007, this Title V Source is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID Nos. and Brief Description

| <u>E.U. ID No.</u> | <u>Brief Description</u> |
|--------------------|---|
| 001 | 440 MW Boiler (EPA ID # PTP1) |
| 002 | 440 MW Boiler (EPA ID # PTP2) |
| 003 | Five 2.75 MW Diesel Generators |
| 004 | Unregulated Emissions Units and Activities (See Appendix U-1.) |
| 005 | Unit 5A gas turbine (170 MW) with supplementary-fired heat recovery steam generator |
| 006 | Unit 5B gas turbine (170 MW) with supplementary-fired heat recovery steam generator |
| 007 | Unit 5C gas turbine (170 MW) with supplementary-fired heat recovery steam generator |
| 008 | Unit 5D gas turbine (170 MW) with supplementary-fired heat recovery steam generator |
| 009 | One distillate fuel oil storage tank for Unit 5 gas turbines |
| 010 | Mechanical draft cooling tower for Unit 5 |
| 011 | Two Emergency Diesel Generators |

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History/ID Number Changes

Statement of Basis

These documents and all related correspondence are on file with the permitting authority:

Initial Title V Permit 0250003-001-AV (fossil fuel plant). Effective date January 1, 1999

Title V Permit Renewal 0250003-005-AV (fossil fuel plant). Effective date January 1, 2004

Title V Permit Revision 0250003-009-AV (fossil fuel plant). Pending

Section II. Facility-wide Conditions

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS.
{Permitting note: APPENDIX TV-6, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}
2. **Not Federally Enforceable. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited.** The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]
3. **General Particulate Emission Limiting Standards. General Visible Emissions Standard.** Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. [Rule 62-296.320(4)(b)1. & 4., F.A.C.]
4. **Prevention of Accidental Releases (Section 112(r) of the Clean Air Act.**
 - a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) PMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions, or updates to submittals, should be sent to

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, Maryland 20703-1515
Telephone: 301/429-5018
 - b. The Permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule F.A.C. 62-213.440(2), F.A.C.
[40 CFR 68]
5. **Unregulated Emissions Units and/or Activities.** Appendix U-1, List of Unregulated Emissions Units and Activities, is a part of this permit. [Rule 62-213.440(1), F.A.C.]
6. **Insignificant Emissions Units and Activities.** Appendix I-1, List of Insignificant Emissions Units and Activities, is a part of this permit. [Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]
7. **General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions.** The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1)(a), F.A.C.]
8. **Not Federally Enforceable. Reasonable Precautions.** Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:
 - a. Paving of roads, parking areas and equipment yards;
 - b. Landscaping and planting vegetation;
 - c. Maintenance of paved areas;
 - d. Regular mowing of grass and care of vegetation;
 - e. Limiting access to plant property by unnecessary vehicles;
 - f. Bagged chemical products are stored in weather-tight buildings until they are used. Spills of powdered chemical products are cleaned up as soon as possible.

g. Vehicles are restricted to slow speeds on the plant site.

[Rule 62-296.320(4)(c)2., F.A.C.; Proposed by applicant in the initial Title V permit application received June 12, 1996]

9. Recording, Monitoring and Reporting. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one. [Rule 62-213.440. F.A.C.]
10. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. [Rules 62-213.440(3) and 62-213.900, F.A.C.]
- {Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}
11. Compliance Authority. The permittee shall submit all compliance, annual operating reports and other correspondence required of this permit to:

Miami-Dade County Department of Environmental Resources Management (DERM)
Air Quality Management Division
701 NW 1st Court
Suite 400
Miami, Florida 33136
Telephone: 305/372-6925
Fax: 305/372-6954

Note: if acceptable to the agency, applicable correspondence may be submitted by electronic mail.

12. EPA Compliance Authority: Unless otherwise directed, reports, data, notification, certifications, or other correspondence required to be sent to the United States Environmental Protection Agency should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides, & Toxics Management Division
Operating Permits Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155
Fax: 404/562-9163

Note: if acceptable to the agency, applicable correspondence may be submitted by electronic mail.

13. Certification by Responsible Official (R.O.). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, that statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

Section III. Emissions Units and Conditions

Subsection A.

This permit authorizes the operation of the following emissions units:

| <u>E.U. ID No.</u> | <u>Brief Description</u> |
|--------------------|-------------------------------|
| 001 | 440 MW Boiler (EPA ID # PTP1) |
| 002 | 440 MW Boiler (EPA ID # PTP2) |

Emissions units 001 and 002 consist of two Foster-Wheeler 400 MW Class (440 MW gross capacity) Steam Generating Units that burn a variable combination of natural gas, used oil from FP&L operations, No. 6 and No. 2 fuel oils, and propane. Power ratings are nominal and are not limiting of either unit. The height of each of the two stacks is 400 feet. Each unit is equipped with low excess air burners and UOP Air Correction Division multiple cyclones with reinjection. Visible emissions are monitored by a transmissometer in each stack. The units are subject to NOx RACT. Sulfur dioxide, carbon dioxide, nitrogen oxides, visible emissions, and gas flow rate are all continuously monitored. Unit 001 began commercial operation in April 1967; unit 002 in April 1968.

{Permitting note: The emissions units are regulated under Acid Rain-Phase II, Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input - Rule 62-296.405, F.A.C., and RACT Requirements for Major VOC- and NOx-Emitting Facilities - Rule 62-296.570, F.A.C. Compliance Assurance Monitoring (CAM) does not apply since these units are uncontrolled.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. For each emissions unit, the maximum heat input (mmBtu per Hour) shall not exceed 4,150 mmBtu per hour while firing natural gas, or 4,000 mmBtu per hour while firing fuel oil. If such a blend of fuels is fired, the heat input shall be prorated based on the percent heat input of each fuel. Power ratings are nominal and are not limiting of either unit. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.}

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.6. [Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operations – Fuels. The only fuels allowed to be burned are No. 2 fuel oil, No. 6 residual fuel oil, natural gas, propane, and on-specification used oil generated from FP&L operations. The used oil shall comply with the requirements given in specific condition A.22. Additionally, no more than 750,000 gallons shall be burned annually.

FP&L may inject additives such as magnesium oxide, magnesium hydroxide and related compounds into each boiler for the purposes of reducing build-up of particulate matter on the interior boiler surfaces, to facilitate proper heat transfer and other boiler operation, and to reduce the particulate matter required to be removed from boiler surfaces during soot blowing and other boiler cleaning operations. The rate of additive injection is not large, generally on the order of 1 gallon per approximately 2,500(±500) gallons of fuel oil (this is approximately 0.04% by volume). The permit requires that emission tests be conducted while injecting additives consistent with normal operating practices.

[Rule 62-4.160(2), 62-210.200, 62-213.440(1), F.A.C., AO13-238939, AO13-238932]

- A.4. Hours of Operation. The emissions units may operate continuously, i.e., 8,760 hours per year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging time(s) for Specific Conditions A.5.-A.10. are based on the specified averaging time of the applicable test method.}

- A.5. Visible Emissions. Visible emissions shall not exceed 40 percent opacity. Emissions units governed by this visible emissions standard shall compliance test for particulate matter and visible emissions annually.
[Rule 62-296.405(1)(a), F.A.C.; and, authorized by Order of the Department's Secretary dated April 24, 1984.]

- A.6. Visible Emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change. Additionally, visible emissions above 60 percent opacity shall be allowed for not more than four, six minute periods, during the 3-hour period of excess emissions.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.

[Rule 62-210.700(3), F.A.C.]

- A.7. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input, as measured by applicable compliance methods. [Rule 62-296.405(1)(b), F.A.C.]

- A.8. Particulate Matter - Soot Blowing and Load Change. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3 hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change. [Rule 62-210.700(3), F.A.C.]

- A.9. Sulfur Dioxide. Sulfur dioxide emissions shall not exceed 1.1 pounds per million Btu heat input, as measured by applicable compliance methods. Compliance shall be based on the total heat input from all liquid and gaseous fuels burned. The sulfur dioxide emission limitation shall apply at all times including startup, shutdown, and load change. See specific condition A.13. [Rules 62-213.440, F.A.C., and AO13-238939 and AO13-238932, Miami-Dade County Code Section 24-17]

- A.10. Nitrogen Oxides. NOx emissions from each boiler stack shall not exceed the following limits based on a 30-day rolling average:

| | <u>Natural Gas</u> | <u>Fuel Oil</u> |
|------------|--------------------|-----------------|
| lbs./mmBtu | 0.40 | 0.53 |
| lbs./hour | 1,610 | 2,041 |

These limits shall apply at all times except during periods of startup, shutdown, or malfunction as provided by Rule 62-210.700, F.A.C. Compliance shall be based on the use of a CEMS. See specific condition A.14. [Rule 62-296.570(4)(b)2, and (c), F.A.C.]

Monitoring and Testing Requirements

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.11. Visible Emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition A.12. [Rule 62-296.405(1)(e)1., F.A.C.]

A.12. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
 - a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.
 - b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

[Rule 62-297.401, F.A.C.]

A.13. Sulfur Dioxide. The permittee shall demonstrate compliance with the sulfur dioxide limit of specific condition A.9 of this permit by the following:

- a. Through the use of CEMS installed, operated, and maintained in accordance with the quality assurance requirements of 40 CFR 75, adopted and incorporated by reference in Rule 62-204.800 F.A.C. A relative accuracy test audit of the SO₂ CEMS shall be conducted at least annually. Compliance shall be demonstrated on a 3-hour rolling average.
- b. In the event the CEMS becomes temporarily inoperable or interrupted, the fuel oil sulfur content and the maximum fuel oil to natural gas firing ratio is limited to that which was last used to demonstrate compliance prior to the loss of the CEMS. Alternatively, the boilers may fire 100 percent fuel oil with a maximum sulfur content of 1.0 percent by weight, or less or 100 percent natural gas. See specific condition A.18.

[Rule 62-204.800, 62-213.440, 62-296.405(1)(c)3., F.A.C., AO13-238932, AO13-238939]

A.14. Nitrogen Oxides. The permittee shall operate, maintain, and calibrate a CEMS to determine compliance with the NO_x emission limits as specified above. Determination of compliance shall be in accordance with the testing, compliance, emission monitoring, reporting, recordkeeping, certification and quality assurance provisions of 40 CFR 75. [Rule 62-296.405(1)(f), F.A.C., AO13-238939, AO13-238932]

- A.15. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]
- A.16. Annual Emissions Compliance Testing for Visible Emissions. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
- only gaseous fuel(s); or
 - gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
 - only liquid fuel(s) for less than 400 hours per year.
- [Rule 62-297.310(7)(a)4., F.A.C.]
- A.17. Annual and Permit Renewal Compliance Testing. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:
- only gaseous fuel; or
 - gaseous fuel in combination with any amount of liquid fuel for less than 400 hours per year; or
 - only liquid fuel for less than 400 hours per year.
- [Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]
- A.18. Operating Conditions During Testing - PM and VE. Compliance testing during sootblowing and steady-state operation for particulate matter and visible emissions shall be conducted at least once annually, if liquid fuel is fired for more than 400 hours. A visible emissions test shall be conducted during one run of each particulate matter test. Testing shall be conducted as follows:
- When Burning Fuel Oil Up To 1% Sulfur. When only fuel oil containing less than or equal to 1% sulfur, by weight, is fired (or co-fired with natural gas) in an emissions unit, particulate matter and visible emissions tests during sootblowing and steady-state operation shall be performed on such emissions unit while firing solely fuel oil containing at least 90% of the average sulfur content of the fuel oils fired in the previous 12 month period, except that such test shall not be required to be performed during any year that testing is performed in accordance with specific condition A.18.b.
 - When Burning Fuel Oil Greater Than 1% Sulfur. When fuel oil containing greater than 1% sulfur, by weight, is co-fired with natural gas in an emissions unit, particulate matter and visible emissions tests during sootblowing and steady-state operation shall be performed as soon as practicable, but in no event more than 60 days after firing such fuel oil, while co-firing such oil with the appropriate proportion of natural gas required to maintain SO₂ emissions between 90 to 100% of the SO₂ emission limit (corresponding to 0.99 and 1.1 lb/mmBtu heat input). Following successful completion of such PM and VE testing, further PM and VE testing shall not be required during the next 12 months unless fuel oil is fired that contains greater than 0.20% sulfur above the percentage sulfur concentration fired during the most recent co-firing test. If fuel oil is co-fired containing greater than 0.20% sulfur above the percentage sulfur concentration fired during the most recent co-firing test, additional PM and VE tests shall be performed as described above as soon as practicable, but in no event more than 60 days after firing such higher sulfur fuel oil.
- [Rules 62-4.070(3), 62-213.440, 62-296.405(1)(c)3. and 62-297.310(7)(a)9., F.A.C.]

- A.19. Testing While Injecting Additives. The owner or operator shall conduct emission tests while injecting additives consistent with normal operating practices.
[Rule 62-213.440, F.A.C., applicant agreement with EPA on March 3, 1998]

Recordkeeping and Reporting Requirements

- A.20. Fuel Records and Sampling Protocol. The owner or operator shall create and maintain for each emission unit hourly records of the amount of each fuel fired, the ratio of fuel oil to natural gas if co-fired, and the heating value and sulfur content of each fuel fired. These records must be of sufficient detail to identify the testing requirements of specific condition A.18, and, when applicable, demonstrate compliance with the requirements of condition A.13, paragraph b, of this permit. Fuel oil heating value and sulfur content shall be determined by taking a daily sample of fuel fired, combining those samples into a monthly composite and analyzing a representative sample of the composite. Analysis for sulfur content shall be performed using one of ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, both ASTM D4057-88 and ASTM D129-95, or the latest edition(s). Comparison of the as-fired fuel oil sulfur content shall be made and recorded monthly upon receipt of each monthly composite analysis.
[Rules 62-4.070(3), 62-213.410, 62-213.440 and 62-296.405(1)(c)3., F.A.C.]
- A.21. COMS for Periodic Monitoring. The owner or operator is required to install continuous opacity monitoring systems (COMS) pursuant to 40 CFR Part 75. The owner or operator shall maintain and operate COMS and shall make and maintain records of opacity measured by the COMS, for purposes of periodic monitoring. [Rule 62-213.440, F.A.C., and applicant agreement with EPA on March 3, 1998]

Miscellaneous Conditions

- A.22. Used Oil. Burning of on-specification used oil is allowed by these emissions units in accordance with all other conditions of this permit and the following conditions:
- a. On-specification Used Oil Emissions Limitations: This emissions unit is permitted to burn on-specification used oil, which contains a PCB concentration of less than 50 ppm. On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 - Standards for the Management of Used Oil, listed below. "Off-specification" used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil.

| CONSTITUENT/PROPERTY | ALLOWABLE LEVEL |
|----------------------|-----------------------|
| Arsenic | 5 ppm maximum |
| Cadmium | 2 ppm maximum |
| Chromium | 10 ppm maximum |
| Lead | 100 ppm maximum |
| Total Halogens | 1000 ppm maximum |
| Flash point | 100 degrees F minimum |

- b. Quantity Limitation: This emissions unit is permitted to burn "on-specification" used oil that is generated by FP&L in the production and distribution of electricity, not to exceed 750,000 gallons during any consecutive 12 month period.
- c. PCB Limitation: Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.
- d. Operational Requirements: On-specification used oil with a PCB concentration of greater than or equal to 2, and less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of greater than or equal to 2 ppm shall not be burned during periods of startup or shutdown.

- e. Testing Requirements: The owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters: Arsenic, cadmium, chromium, lead, total halogens, flash point and PCBs. Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).
- f. Record Keeping Requirements: The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department:
 - (1) The gallons of on-specification used oil generated and burned each month. (This record shall be completed no later than the fifteenth day of the succeeding month.)
 - (2) The total gallons of on-specification used oil burned in the preceding consecutive 12-month period. (This record shall be completed no later than the fifteenth day of the succeeding month.)
 - (3) Results of the analyses required above.
- g. Reporting Requirements: The owner or operator shall submit to DERM, within thirty days of the end of each calendar quarter, the analytical results and the total amount of on-specification used oil generated and burned during the quarter. The owner or operator shall submit, with the Annual Operation Report form, the analytical results and the total amount of on-specification used oil burned during the previous calendar year.

[Rule 62-4.070(3) and 62-213.440, F.A.C., 40 CFR 279 and 40 CFR 761, unless otherwise noted.]

A.23. Additionally, all conditions of Subsection C. apply to these emissions units.

Section III. Emissions Units and Conditions

Subsection B.

This permit authorizes the operation of the following emissions units:

| <u>E.U. ID No.</u> | <u>Brief Description</u> |
|--------------------|--------------------------------|
| 003 | Five 2.75 MW Diesel Generators |

This emissions unit consists of five MKW Powersystems, Inc. Model EMD MP-45 "Black Start" emergency diesel generators. The generators support boilers 001 and 002 as "peaking units", and, in the event the facility loses primary power, they serve as a backup. These units fire No. 2 fuel oil. The emissions from the generators are limited by the fuel type. The units commenced operation in April, 1968.

{Permitting note: These units are regulated under Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NOx-Emitting Facilities Rule 62-297.570, F.A.C.}

Essential Potential to Emit (PTE) Parameters

- B.1. Permitted Capacity. The maximum heat input to each generator shall not exceed 24.89 mmBtu per hour. [Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE) and 62-296.405, F.A.C.]
{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.}
- B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.6.
- B.3. Methods of Operation - Fuels. The only fuel authorized to be burned in this unit is new No. 2 fuel oil. The sulfur content shall not exceed 0.5 percent by weight. [Rules 62-4.160(2), 62-210.200, and 62-213.440(1), F.A.C., and requested by applicant.]
- B.4. Hours of Operation. The generators may operate continuously, i.e., 8,760 hours per year. [Rule 62-210.200, F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging time(s) for Specific Conditions B.5. -B.6. are based on the specified averaging time of the applicable test method.}

- B.5. Visible Emissions. Visible emissions shall not exceed 20 percent opacity. [Rule 62-296.320(4)(b)1., F.A.C.]
- B.6. Nitrogen Oxides. NOx emissions shall not exceed 4.75 lb per million Btu heat input. These limits shall apply at all times except during periods of startup, shutdown, or malfunction as provided by Rule 62-210.700, F.A.C. [Rule 62-296.570(4)(b)7. and (c), F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

- B.7. Visible Emissions: The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.310(7)(a), F.A.C.]

- B.8. **NOx Emissions**: For units that are not equipped with a continuous emissions monitoring system (CEMS) for NOx, compliance with the emissions testing in accordance with applicable EPA Reference Methods from Rule 62-297.401, F.A.C., or other methods approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C., except as otherwise provided in Rule 62-296.570(4)(b), F.A.C. Annual emission testing shall be conducted during each federal fiscal year (October 1 - September 30). ***Annual compliance testing for NOx while firing oil is unnecessary for units operating less than 400 hours in the current federal fiscal year.*** [Rule 62-296.570(4)(a)3., F.A.C.]
- B.9. The test method for NOx shall be EPA Method 7 or 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rules 62-296.570(4)(a)3. and 62-297.401(7), F.A.C.]
- B.10. Additionally, all conditions of Subsection C. apply to this emissions unit.

Section III. Emissions Units and Conditions

Subsection C. Common Conditions

This subsection contains common applicable requirements to the emissions units described in Subsections A, B, D, E and F:

Excess Emissions

- C.1. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and 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(1), F.A.C.]
- C.2. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized. [Rule 62-210.700(2), F.A.C.]
- C.3. 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. [Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

C.4. Determination of Process Variables.

- (a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- (b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

- C.5. **Required Number of Test Runs.** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards. [Rule 62-297.310(1), F.A.C.]

- C.6. Operating Rate During Testing. Testing of emissions shall be conducted with each emissions unit operating at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.]
- C.7. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
- C.8. Applicable Test Procedures.
- (a) Required Sampling Time.
1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
 2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a. (Not applicable.)
 - b. (Not applicable.)
 - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
 3. Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
 4. Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
 5. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1. (See attachment).
 6. Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.
[Rule 62-297.310(4), F.A.C.]
- C.9. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit. [Rule 62-297.310(6), F.A.C.]

C.10. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

1. (Not applicable.)
 2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid fuel for more than 400 hours other than during startup.
 3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - a. Did not operate; or
 - b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
 4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - a. Visible emissions, if there is an applicable standard;
 - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c. Each NESHAP pollutant, if there is an applicable emission standard.
 5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours.
 6. (Not applicable.)
 7. (Not applicable.)
 8. (Not applicable.)
 9. (See Specific Condition C.14.)
 10. An annual compliance test conducted for visible emissions shall not be required for units exempted from permitting at Rule 62-210.300(3)(a), F.A.C., or units permitted under the General Permit provisions at Rule 62-210.300(4), F.A.C.
- (b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

- (c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7)(a)2., 3., 4., 5., 10., (b) & (c), F.A.C.; SIP approved]

Recordkeeping and Reporting Requirements

- C.11. In the case of excess emissions resulting from malfunctions, the permittee shall notify the Dade County Department of Environmental Resources Management in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Miami-Dade County Department of Environmental Resources Management. [Rule 62-210.700(6), F.A.C.]
- C.12. Submit to the Dade County Department of Environmental Resources Management a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the permittee of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years. [Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]
- C.13. Test Reports.
- (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department and Dade County Department of Environmental Resources Management on the results of each such test.
- (b) The required test report shall be filed with the Department and Dade County Department of Environmental Resources Management as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department and Dade County Environmental Resources Management to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
1. The type, location, and designation of the emissions unit tested.
 2. The facility at which the emissions unit is located.
 3. The owner or operator of the emissions unit.
 4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 8. The date, starting time and duration of each sampling run.

9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

- C.14. Test Notification. The owner or operator shall notify the Dade County Department of Environmental Resources Management, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-97.310(7)(a)9.,F.A.C.]
- C.15. Records Retention. All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
- C.16. Annual Operating Report. The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

Section III. Emissions Units and Conditions

Subsection D.

This permit authorizes the operation of the following emissions units:

| EU ID No. | Emission Unit Description |
|-----------|--|
| 005 | Unit 5A gas turbine with supplementary-fired heat recovery steam generator |
| 006 | Unit 5B gas turbine with supplementary-fired heat recovery steam generator |
| 007 | Unit 5C gas turbine with supplementary-fired heat recovery steam generator |
| 008 | Unit 5D gas turbine with supplementary-fired heat recovery steam generator |

Emissions Unit 5 consists of four (“4-on-1”) General Electric Model PG7241(FA) gas turbine-electrical generator set (Units 5A-5D) with a generating capacity of 170 MW for gas firing (180 MW oil firing) each. Exhaust from each gas turbine passes through a separate supplementary 495 MMBtu/hr gas fired heat recovery steam generator (HRSG). Steam from each HRSG is delivered to the 470 MW single steam turbine-electrical generator. Each gas turbine has a single stack that is equipped with continuous emissions monitoring systems (CEMS) to measure and record CO and NO_x emissions as well as flue gas oxygen or carbon dioxide content. The total generating capacity of the “4 on 1” combined cycle unit is approximately 1150 MW. This unit commenced operation in May, 2007.

Unit 5 also comprises an automated gas turbine control system, an inlet air filtration system, an evaporative inlet air-cooling system and associated support equipment. Additional equipment includes: a 22 cell cooling tower and a 4.2 million gallon fuel storage tank.

Each gas turbine fires natural gas as the primary fuel and distillate fuel oil as a restricted alternate fuel. Emissions of CO, PM/PM₁₀, SAM, SO₂ and VOC are controlled by the efficient combustion of natural gas and restricted firing of ultra low sulfur distillate fuel oil. NO_x emissions are controlled by Dry Low-NO_x (DLN) combustion technology for gas firing and water injection for oil firing. A selective catalytic reduction (SCR) system further reduces NO_x emissions.

{Permitting note: These emissions units are regulated under Acid Rain-Phase II, 40CFR60 - NSPS, Subparts Da, GG, and 40CFR63 - NESHAP, Subpart YYYYY and Rule 62-212.400, F.A.C. Continuous Compliance Assurance Monitoring (CAM) does not apply since Unit 5 is equipped with Acid Rain continuous emissions monitoring systems (CEMS) that are also used to demonstrate compliance with the nitrogen oxides (NO_x) limits.}

Applicable Standards and Regulations

- D.1. **BACT Determinations:** Determinations of the Best Available Control Technology (BACT) were made for carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM/PM₁₀), sulfuric acid mist (SAM), sulfur dioxide (SO₂) and volatile organic compounds (VOC). See Appendix BD of this permit for a summary of the final BACT determinations. [PSD-FL-338; Rule 62-212.400(BACT), F.A.C.]
- D.2. **NSPS Requirements:** The Department determines that compliance with the BACT emissions performance and monitoring requirements also assures compliance with the New Source Performance Standards for Subpart Da (duct burners) and Subpart GG (gas turbines) in 40 CFR 60. For completeness, the applicable requirements of Subparts Da and GG are included in Appendices Da and GG of this permit. [PSD-FL-338; Rule 62-204.800(8), F.A.C.]
- D.3. **NESHAP Requirements:** The combustion turbines are subject to 40 CFR 63, Subpart YYYYY, National Emissions Standard for Hazardous Air Pollutants for Stationary Combustion Gas Turbines. The project must comply with the Initial Notification requirements set forth in Sec. 63.6145 but need not comply with any other requirement of Subpart YYYYY until EPA takes final action to require compliance and publishes a document in the Federal Register. [PSD-FL-338; Rule 62-204.800(11), F.A.C.]

Equipment

D.4. Gas Turbines: The permittee is authorized to operate, tune, and maintain four General Electric Model PG7241FA gas turbine-electrical generator sets each with a generating capacity of 170 MW. Each gas turbine shall include the Speedtronic™ automated gas turbine control system and have dual-fuel capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air-cooling system. The gas turbines utilize “hot nozzle” DLN combustors, which require natural gas to be preheated to 290 °F before combustion to increase overall unit efficiency. This is accomplished by feedwater heat exchangers. [PSD-FL-338; Application; Design]

D.5. Gas Turbine NO_x Controls

- a. *DLN Combustion*: The permittee shall operate and maintain the General Electric DLN 2.6 combustion system (or better) to control NO_x emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned to achieve the permitted levels for CO and sufficiently low NO_x values to meet the NO_x limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer’s recommendations.
- b. *Water Injection*: The permittee shall operate, and maintain a water injection system to reduce NO_x emissions from each gas turbine when firing distillate fuel oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned to achieve the permitted levels for CO and sufficiently low NO_x values to meet the NO_x limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer’s recommendations.
- c. *Selective Catalytic Reduction (SCR) System*: The permittee shall operate, tune, and maintain an SCR system to control NO_x emissions from each gas turbine when firing either natural gas or distillate fuel oil. The SCR system consists of an ammonia (NH₃) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be operated to achieve the permitted levels for NO_x and NH₃ emissions.
- d. *Ammonia Storage*: In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

[PSD-FL-338; Rule 62-212.400(BACT), F.A.C.]

D.6. HRSGs: The permittee is authorized to operate, and maintain four new heat recovery steam generators (HRSGs) with separate HRSG exhaust stacks. Each HRSG shall be designed to recover heat energy from one of the four gas turbines (5A-5D) and deliver steam to the steam turbine electrical generator through a common manifold. Each HRSG may be equipped with supplemental gas-fired duct burners having a maximum heat input rate of 495 MMBtu per hour (LHV). The duct burners shall be designed in accordance with the following specifications: 0.04 lb CO/MMBtu and 0.08 lb NO_x/MMBtu. [PSD-FL-338]

Performance Restrictions

D.7. Permitted Capacity - Gas Turbines: The maximum heat input rate to each gas turbine is 1,608 MMBtu per hour when firing natural gas and 1,830 MMBtu per hour when firing distillate fuel oil (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide manufacturer’s performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [PSD-FL-338; Rule 62-210.243(PTE), F.A.C.]

- D.8. Permitted Capacity - HRSG Duct Burners: The total maximum heat input rate to the duct burners for each HRSG is 495 MMBtu per hour based on the lower heating value (LHV) of natural gas. Only natural gas shall be fired in the duct burners. [PSD-FL-338; Rule 62-210.200(PTE), F.A.C.]
- D.9. Methods of Operation: Subject to the restrictions and requirements of this permit, the gas turbines may operate under the following methods of operation.
- a. *Hours of Operation*: Subject to the operational restrictions of this permit, the gas turbines may operate throughout the year (8760 hours per year). Restrictions on individual methods of operation are specified below.
 - b. *Authorized Fuels*: Each gas turbine shall fire natural gas as the primary fuel, which shall contain no more than 2.0 grains of sulfur per 100 standard cubic feet of natural gas. As a restricted alternate fuel, each gas turbine may fire ultra low sulfur distillate fuel oil containing no more than 0.0015% sulfur by weight. Each gas turbine shall fire no more than 500 hours of fuel oil during any calendar year.
 - c. *Combined Cycle Operation*: Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a four-on-one combined cycle unit subject to the restrictions of this permit. In accordance with the specifications of the SCR and HRSG manufacturers, the SCR system shall be on line and functioning properly during combined cycle operation or when the HRSG is producing steam.
 - d. *Inlet Fogging*: In accordance with the manufacturer's recommendations and appropriate ambient conditions, the evaporative cooling system may be operated to reduce the compressor inlet air temperature and provide additional direct, shaft-driven electrical power. This method of operation is commonly referred to as "fogging."
 - e. *Duct Firing*: When firing natural gas, each HRSG system may fire natural gas in the duct burners to provide additional steam-generated electrical power. The total combined heat input rate to the duct burners (all four HRSGs) shall not exceed 5,702,400 MMBtu (LHV) during any consecutive 12 months.
 - f. *High Power Modes (Peaking and Power Augmentation)*: When firing natural gas and only while practicing duct firing, each gas turbine may operate in a high-temperature peaking mode to generate additional direct, shaft-driven electrical power to respond to peak demands. When firing natural gas and only while practicing duct firing, steam may be injected into each gas turbine expansion section to generate additional direct, shaft-driven electrical power to respond to peak demands. To qualify as "power augmentation," the combustion turbine must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the power augmentation mode, the operator shall log the date, time, and new mode of operation. The gas turbines shall not operate simultaneously in peaking and power augmentation modes. Total hours of power augmentation plus the total hours of peaking shall not exceed 400 hours per gas turbine during any consecutive 12 months.

[PSD-FL-338; Application; Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.]

Emissions Standards

D.10. Emissions Standards: Emissions from each gas turbine shall not exceed the following standards.

| Pollutant | Fuel | Method of Operation | Stack Test, 3-Run Average | | CEMS Block Average |
|----------------------------------|---------|-------------------------|--|--------------------|----------------------------|
| | | | ppmvd @ 15% O ₂ | lb/hr ^B | ppmvd @ 15% O ₂ |
| CO ^a | Oil | Combustion Turbine (CT) | 8.0 | 37.8 | 8.0, 24-hr |
| | Gas | CT, Normal | 4.1 | 16.3 | |
| | | CT & Duct Burner (DB) | 7.6 | 38.3 | |
| | | CT & DB & PK | NA | NA | |
| | | CT & DB & PA | NA | NA | 14.0, 24-hr |
| | Oil/Gas | All Modes | NA | NA | 6, 12-month |
| NO _x ^b | Oil | CT | 8.0 | 62.1 | 8.0, 24-hr |
| | Gas | CT, Normal | 2.0 | 13.0 | 2.0, 24-hr |
| | | CT & DB | 2.0 | 18.8 | |
| | | CT & DB & (PA or PK) | NA | NA | |
| PM/PM ₁₀ ^c | Oil/Gas | All Modes | Fuel Specifications Visible emissions shall not exceed 10% opacity for each 6-minute block average. | | |
| SAM/SO ₂ ^d | Oil/Gas | All Modes | 2 gr S/100 SCF of gas, 0.0015% sulfur fuel oil | | |
| VOC ^e | Oil | CT | 2.8 | 7.5 | NA |
| | Gas | CT, normal | 1.3 | 2.9 | |
| | | CT & DB | 1.9 | 5.0 | |
| Ammonia ^f | Oil/Gas | CT, All Modes | 5 | NA | NA |

- a. Continuous compliance with the continuous 24-hour and 12 month CO standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 10 tests associated with the certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and basic duct burner mode. Compliance with the 24-hour CO CEMS standards shall be determined separately for the Duct Burner/Power Augmentation mode and all other modes based on the hours of operation for each mode. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}*
- b. Continuous compliance with the NO_x standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 7E or Method 20 tests associated with demonstration of compliance with 40 CFR 60, Subpart GG or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and duct burner modes during the time of those tests. NO_x mass emission rates are defined as oxides of nitrogen expressed as NO₂. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}*

- c. The sulfur fuel specifications established in Condition No. D.9 of this subsection combined with the efficient combustion design and operation of each gas turbine represents (BACT) for PM/PM₁₀ emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard and Section 24.41.1 of the Miami-Dade County Code shall be demonstrated by conducting tests in accordance with EPA Method 9.
- d. The fuel sulfur specifications effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent BACT for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the requirements in Condition No. D.25 of this subsection. Compliance with the SO₂ BACT also insures compliance with Section 24.41.3 of the Miami-Dade County Code.
- e. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as methane.
- f. Each SCR system shall be designed and operated for ammonia slip limit of no more than 5 ppmvd corrected to 15% oxygen based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027.
- g. The mass emission rate standards are based on a turbine inlet condition of 59° F and may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

{Permitting Notes: "DB" means duct burning. "PA" means power augmentation. "PK" means peaking, "SCR" means selective catalytic reduction. "NA" means not applicable. The mass emission rate standards are based on a turbine inlet condition of 59° F and may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.}

[PSD-FL-338; Rule 62-212.400(BACT), F.A.C.]

- D.11. Combined Cycle Operation With Steam Dumped to Condenser: If the steam-electrical turbine generator is off line, the permittee is authorized to operate the gas turbine/HRSG systems by dumping steam to the condenser. This is not considered a separate mode of operation with respect to emission limits. When operating in this manner, each unit shall comply with the respective standards given in Condition D.10 of this subsection for each mode of operation indicated therein. [PSD-FL-338; Application]
- D.12. Duct Burners: The duct burners are also subject to the provisions of Subpart Da of the New Source Performance Standards in 40 CFR 60, which are summarized in Appendix Da.

{Permitting Note: The BACT limits applicable during duct firing are much more stringent than the standards of NSPS Subpart Da for duct burners. Therefore compliance with the BACT limits insures compliance with the emission limitations in Subpart Da.} [PSD-FL-338; Subpart Da, 40 CFR 60]

Excess Emissions

- D.13. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [PSD-FL-338; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]
- D.14. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [PSD-FL-338; Rule 62-210.700(4), F.A.C.]

- D.15. Alternate Visible Emissions Standard: Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [PSD-FL-338; Rule 62-212.400(BACT), F.A.C.]
- D.16. Excess Emissions Allowed: As specified in this condition, excess emissions resulting from startup, shutdown, 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 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 fuel switching excess emissions shall not exceed 2 hours in any 24-hour period.
 - e. 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. [PSD-FL-338; Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.]

- D.17. DLN Tuning: CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [PSD-FL-338; Design; Rule 62-4.070(3), F.A.C.]

Emissions Performance Testing

- D.18. Test Methods: Any required tests shall be performed in accordance with the following reference methods.

| Method | Description of Method and Comments |
|---------|---|
| CTM-027 | Procedure for Collection and Analysis of Ammonia in Stationary Source {Notes: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.} |

Method CTM-027 is published on EPA’s Technology Transfer Network Web Site at www.epa.gov/ttn/emc/ctm.html.

The other following methods are described in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [PSD-FL-338; Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

| Method | Description of Method and Comments |
|--------|---|
| 7E | Determination of Nitrogen Oxide Emissions from Stationary Sources |
| 9 | Visual Determination of the Opacity of Emissions from Stationary Sources |
| 10 | Determination of Carbon Monoxide Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train.} |
| 18 | Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.} |
| 20 | Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines |
| 25A | Determination of Volatile Organic Concentrations |

D.19. Continuous Compliance: The permittee shall demonstrate continuous compliance with the 24-hour CO and NO_x emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any Relative Accuracy Test Assessments (RATA) on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may be used to demonstrate compliance with the CO and NO_x mass rate emissions standards. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of particulate matter and volatile organic compounds. The Department also reserves the right to use data from the continuous monitoring record and from annual RATA tests to determine compliance with the short term CO and NO_x limits for each method of operation given in Condition No. D.10 above.
 [PSD-FL-338; Rule 62-212.400 (BACT), F.A.C.]

D.20. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period.

The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, DLN combustors, etc.

{Permitting Note: After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing if CO limits are exceeded or for the reasons stated in Rule 62-297.310(7)(b), F.A.C., Special Compliance Tests.}

[PSD-FL-338; Rules 62-212.400 (BACT), 62-297.310(7)(a)4, 62-297.310(7)(b), and 62-297.310(7)(a)1, F.A.C., and 40 CFR 60.8]

Continuous Monitoring Requirements

- D.21. **CEM Systems:** The permittee shall calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_x from the combined cycle gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Each monitoring system shall be calibrated and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.
- a. **CO Monitors.** The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.
 - b. **NO_x Monitors.** Each NO_x monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_x monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. In addition to the requirements of Appendix A of 40 CFR 75, the NO_x monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.
 - c. **Diluent Monitors.** The oxygen (O₂) or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NO_x are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.
 - d. **1-Hour Block Averages.** Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with the permit standards for oil firing. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_x as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332.

- e. *24-hour Block Averages:* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. *{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NO_x emissions depending on the use of alternate methods of operation}.*
[Rule 62-212.400(BACT), F.A.C.]
- f. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and DLN tuning. CEMS emissions data recorded during some of these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Condition Nos. D.16 and D.17 of this subsection. All periods of data excluded shall be consecutive for each such episode. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.
- g. *Availability.* Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly permit excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Department's Compliance Authority.

[NSPS Subparts Da and GG; Rule 62-297.520, F.A.C.; 40 CFR 60.7(a)(5) and 40 CFR 60.13; 40 CFR Part 51, Appendix P; 40 CFR 60, Appendix B - Performance Specifications; 40 CFR 60, Appendix F - Quality Assurance Procedures; and Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

- D.22. Ammonia Monitoring Requirements: In accordance with the manufacturer's specifications, the permittee shall calibrate, operate and maintain an ammonia flow meter to measure and record the ammonia injection rate to the SCR system by the time of the initial compliance tests. The permittee shall document and periodically update the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NO_x emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO_x monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate and, as applicable for fuel oil firing, the water-to-fuel ratio, that are consistent with the documented flow rate for the combustion turbine load condition. [PSD-FL-338; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

Records and Reports

- D.23. Monitoring of Capacity: The permittee shall monitor and record the operating rate of each gas turbine and HRSG duct burner system on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). Such monitoring shall be made using a monitoring component of the CEM system required above, or by monitoring daily rates of consumption and heat content of each allowable fuel in accordance with the provisions of 40 CFR 75 Appendix D. [PSD-FL-338; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

D.24. Monthly Operations Summary: By the fifth calendar day of each month, the permittee shall record the following for each fuel in a written or electronic log for each gas turbine for the previous month of operation: fuel consumption, hours of operation, hours of power augmentation, hours of peaking, hours of duct firing, and the updated 12-month rolling totals for each. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. The fuel consumption shall be monitored in accordance with the provisions of 40 CFR 75 Appendix D. [PSD-FL-338; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

D.25. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

- a. Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D4468-85, D5504-01, D6228-98 and D6667-01, D3246-81 or more recent versions.
- b. Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, or D4294-90. More recent versions of these methods may be used. For each subsequent fuel delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [PSD-FL-338; Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

D.26. Malfunction Notification: Within one working day of a malfunction that causes emissions in excess of a standard (subject to the specified averaging periods), the permittee shall notify the Compliance Authority. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Compliance Authority, the permittee shall submit written quarterly reports summarizing the malfunctions. [PSD-FL-338; Rule 62-210.700, F.A.C.]

D.27. Quarterly Excess Emission Report: Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO and NO_x emissions in excess of the permit standards (BACT, SIP, NSPS) following the NSPS format provided in Appendix XS of this permit.

For purposes of reporting emissions in excess of NSPS Subpart GG, excess emissions from the gas turbine are defined as: any operating hour in which the CEMS 4-hr rolling average NO_x concentration exceeds the NSPS NO_x emission standard identified in Appendix GG; and any monitoring period during which the sulfur content of the fuel being fired in the gas turbine exceeds the NSPS standard identified in Appendix GG. For purposes of reporting emissions in excess of NSPS Subpart Da, excess emissions from duct firing are defined as: NO_x or PM emissions in excess of the NSPS standards except during periods of startup, shutdown, or malfunction; and SO₂ emissions in excess of the NSPS standards except during startup or shutdown.

Such information shall be summarized for all exceedances including startups, shutdowns, malfunctions, and major tuning sessions. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.

[PSD-FL-338; Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; and 40 CFR 60.7, and 60.334(j)(1)]

D.28. Semiannual NSPS Excess Emissions Report: The submittal of the Quarterly Excess Emission Reports shall constitute compliance with the requirements of 40 CFR 60.7(d) for the submittal of Semiannual Excess Emissions Report. [PSD-FL-338]

D.29. Appendices. The following Appendices are attached as part of this permit:

- Appendix A. NSPS Subpart A, Identification of General Provisions
- Appendix Da. NSPS Subpart Da Requirements for Duct Burners
- Appendix GG. NSPS Subpart GG Requirements for Gas Turbines
- Appendix YYYY. NESHAP Requirements for Gas Turbines from 40 CFR 63, Subpart YYYY
- Appendix XS. Semiannual NSPS Excess Emissions Report

[PSD-FL-338]

Section III. Emissions Units and Conditions

Subsection E.

This permit authorizes the operation of the following emissions unit:

| ID | Emission Unit Description |
|-----|--|
| 009 | One distillate fuel oil storage tank for Unit 5 gas turbines (approximately 4.2 million gallons) |

This emissions unit consists of one 4.2 million gallon fuel oil tank that serves Unit 5. This unit commenced operation in May, 2007.

{Permitting note: This unit is regulated under Rule 62-04.070 (3), and Rule 62-212.400, F.A.C.}

NSPS Applicability

E.1. NSPS Subpart Kb Applicability: The distillate fuel oil tanks are 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. [PSD-FL-338; 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.]

Equipment Specifications

E.2. Equipment: The permittee is authorized to 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. [PSD-FL-338; Applicant Request; Rule 62-210.200(PTE), F.A.C.]

Emissions and Performance Requirements

E.3. Hours of Operation: The hours of operation are not restricted (8760 hours per year). [PSD-FL-338; Applicant Request; Rule 62-210.200(PTE), F.A.C.]

Notification, Reporting and Records

E.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. [PSD-FL-338; Rule 62-204.800(7)(b)16, 62-04-70(3) F.A.C.; 40 CFR 60.116b(a) and (b)]

E.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 ultra low sulfur fuel oil(s) stored in the tanks. [PSD-FL-338; 62-4.070(3) F.A.C.]

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

Section III. Emissions Units and Conditions

Subsection F.

This permit authorizes the operation of the following emissions unit:

| ID | Emission Unit Description |
|-----|--|
| 010 | One 22 cell mechanical draft cooling tower |

This emissions unit consists of one 22 cell mechanical draft cooling tower that serves Unit 5. This unit commenced operation in May, 2007.

{Permitting note: This unit is regulated under Rule 62-04.070 (3) and Rule 62-212.400, F.A.C.}

Equipment

F.1 Cooling Tower: The permittee is authorized to operate one new 22-cell mechanical draft cooling tower with the following nominal design characteristics: a circulating water flow rate of 306,000 gpm; design hot/cold water temperatures of 105° F/87° F; a design air flow rate of 1,500,000 per cell; a liquid-to-gas air flow ratio of 1.045; and drift eliminators. The permittee shall submit the final design details within 60 days of selecting the vendor. [PSD-FL-338; Application; Design]

Emissions and Performance Requirements

F.2 Drift Rate: The specified drift rate shall not exceed 0.0005 percent of the circulating water flow rate. *{Permitting Note: This work practice standard is established as BACT for PM/PM₁₀ emissions from the cooling tower. Based on this design criteria, potential emissions are expected to be less than 100 tons of PM per year and less than 5 tons of PM₁₀ per year. Actual emissions are expected to be lower than these rates.}* [PSD-FL-338; Rule 62-212.400(BACT), F.A.C.]

Section III. Emissions Units and Conditions

Subsection G.

This permit authorizes the operation of the following emissions unit:

| E.U. ID No. | Brief Description |
|-------------|---------------------------------|
| -011 | Two Emergency Diesel Generators |

This Emergency Diesel Generator system comprises two identical 3210 horsepower (HP) Caterpillar engines. The nameplate rating is 2.25 MW each. The unit system will burn less than 32,000 gallons of fuel per year and will allow black start and shutdown capabilities. This unit system serves Emissions Units 005, 006, 007 and 008. Emissions are uncontrolled.

NESHAP Applicability

This emissions unit is subject to applicable provisions of 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) adopted in Rule 62-204.800(11) F.A.C.

Each unit is classified as an Emergency Generator according to 40 CFR 63.6675:

Emergency stationary RICE means any stationary RICE that operates in an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance. Emergency stationary RICE may also operate an additional 50 hours per year in non-emergency situations.

The following requirements conditions apply to the emissions unit listed above:

- G.1. Notification Requirements: In accordance with 40 CFR 63.6590 (b) this Emergency Generator System is subject to the notification requirements of this Subpart. [PSD-FL-338; Rule 62-204.800(11) F.A.C and 40 CFR 63.6590 (b)]
- G.2. Recordkeeping Requirement for Applicability Determinations: In accordance with 40 CFR 63.10 (b)(3) the owner or operator must keep a record of this applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source subject to the relevant standards, whichever comes first. [PSD-FL-338; Rule 62-204.800(11) F.A.C and 40 CFR 63.10 (b) (3)]
- G.3. Hours of Operation: Each emergency generator is allowed to operate no more than 500 hours per year in accordance with Rule 62-210.200 (116) F.A.C. [PSD-FL-338; Rule 62-210.200(116) F.A.C]

Section IV. Acid Rain Part

Turkey Point Fossil Plant -- Facility ID No. 0250003
Operated by: Florida Power and Light Company
ORIS code: 621

The emissions units listed below are regulated under Acid Rain Part, Phase II.

| <u>E.U. ID No.</u> | <u>Description</u> |
|--------------------|---|
| 001 | 440 MW Boiler (EPA ID # PTP1) |
| 002 | 440 MW Boiler (EPA ID # PTP2) |
| 005 | Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # TPCT 5A) |
| 006 | Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # TPCT 5B) |
| 007 | Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # TPCT 5C) |
| 008 | Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # TPCT 5D) |

A.1. The Acid Rain Part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these acid rain units must comply with the standard requirements and special provisions set forth in the application listed below:

- a. DEP Form No. 62-210.900(1)(a), dated 06/16/03.
 [Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO₂) allowance allocations requirements for each Acid Rain unit:

| E.U. ID No. | EPA ID No. | Basis | Year | | | | |
|-------------|------------|--|-------|-------|-------|-------|-------|
| | | | 2004 | 2005 | 2006 | 2007 | 2008 |
| 001 | PTP 1 | SO ₂ allowances, under Table 2 of 40 CFR 73 | 5868* | 5868* | 5868* | 5868* | 5868* |
| 002 | PTP 2 | SO ₂ allowances, under Table 2 of 40 CFR 73 | 5911* | 5911* | 5911* | 5911* | 5911* |
| 005 | TPCT 5A | To be determined by EPA | NA | NA | NA | 0 | 0 |
| 006 | TPCT 5B | To be determined by EPA | NA | NA | NA | 0 | 0 |
| 007 | TPCT 5C | To be determined by EPA | NA | NA | NA | 0 | 0 |
| 008 | TPCT 5D | To be determined by EPA | NA | NA | NA | 0 | 0 |

* The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 of 40 CFR 73. Units TPCT 5A, 5B, 5C and 5D commenced operation in May 2007.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.

b. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.

c. Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c)1., 2. & 3., F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62-214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, Fast-Track Revisions of Acid Rain Parts. [Rule 62-214.370(4), and Rule 62-213.413, F.A.C.]

A.5. Comments, notes, and justifications: None

APPENDIX A

NSPS SUBPART A, IDENTIFICATION OF GENERAL PROVISIONS

Emissions units subject to a New Source Performance Standard of 40 CFR 60 are also subject to the applicable requirements of Subpart A, the General Provisions, including:

- § 60.1 Applicability.
- § 60.2 Definitions.
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- § 60.8 Performance Tests.
- § 60.9 Availability of information.
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- § 60.11 Compliance with Standards and Maintenance Requirements.
- § 60.12 Circumvention.
- § 60.13 Monitoring Requirements.
- § 60.14 Modification.
- § 60.15 Reconstruction.
- § 60.16 Priority List.
- § 60.17 Incorporations by Reference.
- § 60.18 General Control Device Requirements.
- § 60.19 General Notification and Reporting Requirements.

Individual subparts may exempt specific equipment or processes from some or all of these requirements. The general provisions may be provided in full upon request.

APPENDIX Da

NSPS SUBPART Da REQUIREMENTS FOR DUCT BURNERS

The HRSG duct burners are part of the Unit 5 gas turbine/HRSG systems, which are regulated as Emissions Units 005, 006, 007, and 008.

§ 60.40a Applicability and Designation of Affected Facility.

The HRSG duct burner systems are part of an electric utility steam generating unit that is capable of combusting more than 250 MMBtu per hour heat input of fossil fuel for which construction or modification is commenced after September 18, 1978. Therefore, the requirements of NSPS Subpart Da apply to the HRSG duct burners systems. Only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. Emissions from the gas turbines are subject to the requirements of NSPS Subpart GG. The HRSG duct burner systems are also subject to the applicable requirements of the General Provisions in Subpart A.

§ 60.41a Definitions.

“Duct burner” means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

“Electric utility combined cycle gas turbine” means any combined cycle gas turbine used for electric generation that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam distribution system that is constructed for the purpose of providing steam to a steam electric generator that would produce electrical power for sale is also considered in determining the electrical energy output capacity of the affected facility.

“Electric utility steam generating unit” means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

“Fossil fuel” means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

“Gross output” means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical output plus one half the useful thermal output (i.e., steam delivered to an industrial process).

“Potential electrical output capacity” is defined as 33 percent of the maximum design heat input capacity of the steam generating unit (e.g., a steam generating unit with a 100-MW (340 million Btu/hr) fossil-fuel heat input capacity would have a 33-MW potential electrical output capacity). For electric utility combined cycle gas turbines the potential electrical output capacity is determined on the basis of the fossil-fuel firing capacity of the steam generator exclusive of the heat input and electrical power contribution by the gas turbine.

“Steam generating unit” means any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam (including fossil-fuel-fired steam generators associated with combined cycle gas turbines; nuclear steam generators are not included).

§ 60.42a Standard for Particulate Matter.

§ 60.42a(a)(1) establishes a particulate matter limit of 0.03 lb/MMBtu heat input from the combustion of gaseous fuel and an opacity limit of 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Natural gas is the primary fuel for the gas turbines with very low sulfur distillate oil as a backup fuel. Natural gas is the exclusive fuel for the duct burner systems. As the worst case, the maximum PM/PM₁₀ emissions are expected to be less than 0.01 lb/MMBtu heat input from firing distillate oil in the gas turbine and natural gas in the duct burners. The stack opacity is limited by permit to 10% or less. Therefore, the Department determines that compliance with the conditions of the PSD permit ensure compliance with the requirements of NSPS Subpart Da.

APPENDIX Da

NSPS SUBPART Da REQUIREMENTS FOR DUCT BURNERS

§ 60.43a Standard for Sulfur Dioxide.

In accordance with § 60.43a(b)(2), sulfur dioxide emissions shall not exceed 0.20 lb/MMBtu heat input from the combustion of gaseous fuel for uncontrolled sources. Natural gas is the primary fuel for the gas turbines with very low sulfur distillate oil ($\leq 0.05\%$ sulfur by weight) as a backup fuel. Natural gas is the exclusive fuel for the duct burner systems. As the worst case, the maximum SO_2 emissions are expected to be less than 0.05 lb/MMBtu heat input from firing distillate oil in the gas turbine and natural gas in the duct burners. Therefore, the Department determines that compliance with the conditions of the PSD permit ensure compliance with the requirements of NSPS Subpart Da.

§ 60.44a Standard for Nitrogen Oxides.

In accordance with § 60.44a(d)(1), nitrogen oxides (expressed as NO_2) from a gas turbine/HRSG system with duct burners shall not exceed 1.6 pounds per megawatt-hour gross energy output. The permittee shall demonstrate compliance with this requirement based upon an initial test. Thereafter, compliance with the BACT standards of the PSD permit will demonstrate compliance with the NSPS Subpart Da limit. After investigation, if there is good reason to believe that this standard is being violated, the Department may require subsequent compliance testing in accordance with Rule 62-297.310(7)(b), F.A.C.

§ 60.46a Compliance Provisions.

The HRSG duct burner systems are restricted to the exclusive firing of natural gas. The maximum expected emissions of particulate matter and sulfur dioxide are much lower than the limits established by this subpart. Therefore, no testing is required to demonstrate compliance with the standards specified in § 60.42a (particulate matter) and § 60.43a (sulfur dioxide). Compliance with the opacity limit of 10% established in the PSD permit ensures compliance with the NSPS opacity standard.

In accordance with § 60.46a(k)(1), compliance with the nitrogen oxides (NO_x) standard specified in § 60.44a(d)(1) for duct burners used in combined cycle systems shall be determined as follows:

$$E = [(C_{sg} \times Q_{sg}) - (C_{te} \times Q_{te})] / (O_{sg} \times h) \quad (\text{Equation 1})$$

Where:

- E = Emission rate of NO_x from the duct burner, ng/J (lb/Mwh) gross output
- C_{sg} = Average hourly concentration of NO_x exiting the steam generating unit, ng/dscm (lb/dscf)
- C_{te} = Average hourly concentration of NO_x in the turbine exhaust upstream from duct burner, ng/dscm (lb/dscf)
- Q_{sg} = Average hourly volumetric flow rate of exhaust gas from steam generating unit, dscm/hr (dscf/hr)
- Q_{te} = Average hourly volumetric flow rate of exhaust gas from combustion turbine, dscm/hr (dscf/hr)
- O_{sg} = Average hourly gross energy output from steam generating unit, J (Mwh)
- h = Average hourly fraction of the total heat input to the steam generating unit derived from the combustion of fuel in the affected duct burner

Method 7E of Appendix A of Part 60 shall be used to determine the NO_x concentrations (C_{sg} and C_{te}). Method 2, 2F or 2G of Appendix A of Part 60, as appropriate, shall be used to determine the volumetric flow rates (Q_{sg} and Q_{te}) of the exhaust gases. The volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

The owner or operator shall develop, demonstrate, and provide information satisfactory to the Administrator to determine the average hourly gross energy output from the steam generating unit, and the average hourly percentage of the total heat input to the steam generating unit derived from the combustion of fuel in the affected duct burner.

Compliance with the emissions limits under § 60.44a(d)(1) is determined by the three-run average (nominal 1-hour runs) for the initial performance tests. Thereafter, compliance with the NO_x limits established in the PSD permit shall demonstrate compliance with NO_x limit specified in NSPS Subpart Da.

In accordance with § 60.46a(k)(3), when an affected duct burner steam generating unit utilizes a common steam turbine with one or more affected duct burner steam generating units, the owner or operator shall either:

APPENDIX Da

NSPS SUBPART Da REQUIREMENTS FOR DUCT BURNERS

Determine compliance with the applicable NO_x emissions limits by measuring the emissions combined with the emissions from the other units utilizing the common steam turbine; or

Develop, demonstrate, and provide information satisfactory to the Administrator on methods for apportioning the combined gross energy output from the steam turbine for each of the affected duct burners. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions regulated under Part 60.

§ 60.47a Emission Monitoring.

In accordance with § 60.47a(o), the owner or operator of a duct burner, as described in § 60.41a, which is subject to the NO_x standards of § 60.44a(a)(1) or (d)(1) is not required to install or operate a continuous emissions monitoring system to measure NO_x emissions; a wattmeter to measure gross electrical output; meters to measure steam flow, temperature, and pressure; and a continuous flow monitoring system to measure the flow of exhaust gases discharged to the atmosphere.

§ 60.48a Compliance Determination Procedures and Methods.

In accordance with § 60.48a (d)(1), EPA Method 19 shall be used to determine the NO_x emission rate when demonstrating compliance with the NO_x standard specified in § 60.44a. In accordance with § 60.48a(f), electric utility combined cycle gas turbines are performance tested for particulate matter, sulfur dioxide, and nitrogen oxides using the procedures of Method 19. The sulfur dioxide and nitrogen oxides emission rates from the gas turbine used in Method 19 calculations are determined when the gas turbine is performance tested under subpart GG. The potential uncontrolled particulate matter emission rate from a gas turbine is defined as 17 ng/J (0.04 lb/million Btu) heat input.

§ 60.49a Reporting requirements.

Compliance with reporting requirements of the PSD permit ensure compliance with the requirements of NSPS Subpart Da.

APPENDIX GG

NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

The Unit 5 gas turbines are regulated as Emissions Units 005, 006, 007, and 008.

§ 60.330 Applicability and Designation of Affected Facility.

Each Unit 5 gas turbine has a heat input at peak load equal to or greater than 10 MMBtu per hour (LHV) and will commence construction after October 3, 1977. Therefore, the gas turbines are subject to NSPS Subpart GG.

§ 60.331 Definitions.

The following applicable terms are defined by this subpart:

- (a) Stationary gas turbine means any simple cycle gas turbine, regenerative cycle gas turbine or any gas turbine portion of a combined cycle steam/electric generating system that is not self propelled. It may, however, be mounted on a vehicle for portability.
- (b) Simple cycle gas turbine means any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam.
- (d) Combined cycle gas turbine means any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam.
- (g) ISO standard day conditions mean 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.
- (h) Efficiency means the gas turbine manufacturer's rated heat rate at peak load in terms of heat input per unit of power output based on the lower heating value of the fuel.
- (i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.
- (j) Base load means the load level at which a gas turbine is normally operated.
- (q) Electric utility stationary gas turbine means any stationary gas turbine constructed for the purpose of supplying more than one-third of its potential electric output capacity to any utility power distribution system for sale.

§ 60.332 Standard for Nitrogen Oxides.

In accordance with § 60.332(a)(1) and (b), emissions of nitrogen oxides (NO_x) from electric utility stationary gas turbines with a heat input at peak load greater than 100 MMBtu Btu per hour (LHV) shall not exceed the following standard.

$$\text{STD} = 0.0075 \frac{(14.4)}{Y} + F$$

Where:

STD = Allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NO_x emission allowance for fuel-bound nitrogen as de-fined in paragraph (a)(3) of this section.

§ 60.332(a)(3) defines an allowable NO_x contribution based on the fuel bound nitrogen content, F. However, natural gas and distillate oil contain negligible concentrations of fuel bound nitrogen. Therefore, "F" shall be assumed to be 0. Based on the manufacturer's data and compressor inlet conditions of 59° F and 60% relative humidity, the heat rate for gas firing is 9250 Btu/KW-h at peak load and for oil firing is 9960 Btu/KW-h at peak load. This results in "Y" values of 9.8 for gas firing and 10.5 for oil firing. The equivalent NSPS NO_x emission standards are 110/103 ppmvd at 15% oxygen for gas/oil firing. Compliance with the NO_x standards of the PSD permit ensure compliance with the applicable NSPS standards. The permittee shall make the correction when required by the Department or Administrator.

APPENDIX GG

NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

§ 60.333 Standard for Sulfur Dioxide

In accordance with § 60.333(b), fuel fired in the gas turbines shall contain no more than 0.8% sulfur by weight. The conditions of the PSD permit limit allowable fuels to natural gas (≤ 2.0 grains of sulfur per 100 standard cubic feet of natural gas) and distillate oil ($\leq 0.05\%$ sulfur by weight). These conditions ensure compliance with the NSPS standard for sulfur dioxide.

§ 60.334 Monitoring of Operations.

The PSD permit requires keeping monthly records of the fuel sulfur content of natural gas. For distillate oil, the PSD permit requires initial fuel sulfur sampling and then keeping records of the fuel sulfur content based on vendor information "as supplied" for each subsequent shipment. Appropriate test methods are also specified in the PSD permit. These requirements constitute a custom fuel monitoring schedule that ensures compliance with the NSPS requirements for monitoring the nitrogen and sulfur contents of the fuels. The requirement to monitor the nitrogen contents of these fuels is waived due to negligible concentrations and the PSD conditions that require compliance with the NO_x standards to be demonstrated by CEMS. The CEMS shall be installed, operated, and maintained in accordance with the requirements of the PSD permit.

For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are: any 1-hour period of NO_x emissions greater than the NSPS standard; and any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% sulfur by weight (for sulfur dioxide emissions). The permittee shall submit a semiannual report of emissions in excess of the NSPS standards.

§ 60.335 Test Methods and Procedures.

In accordance with § 60.335(c), compliance with the nitrogen oxides standards in § 60.332 shall be determined by computing the nitrogen oxides emission rate (NO_x) for each run using the following equation:

$$\text{NO}_x = (\text{NO}_{x0}) (\text{Pr}/\text{Po})^{0.5} e^{19(\text{Ho}-0.00633)} (288^\circ\text{K}/\text{Ta})^{1.53}$$

Where:

- NO_x = Emission rate of NO_x at 15 percent O_2 and ISO standard ambient conditions, volume percent
- NO_{x0} = Observed NO_x concentration, ppm by volume
- Pr = Reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg
- Po = Observed combustor inlet absolute pressure at test, mm Hg
- Ho = Observed humidity of ambient air, g H_2O /g air
- e = Transcendental constant, 2.718
- Ta = Ambient temperature, $^\circ\text{K}$

Tests for nitrogen oxides emissions shall be conducted in accordance with the schedule and methods specified in the PSD permit. The permittee is allowed to conduct initial performance tests at a single load because a NO_x monitor shall be used to demonstrate compliance with the specified NO_x limits. The permittee is allowed to make the initial compliance demonstration for NO_x emissions using certified CEMS data, provided that compliance is based on a minimum of three test runs representing a total of at least three hours of data, and that the CEMS be calibrated in accordance with the procedure in section 6.2.3 of Method 20 following each run. Alternatively, initial compliance may be demonstrated using data collected during the initial relative accuracy test audit (RATA) performed on the NO_x monitor. The permittee is not required to have the NO_x monitor continuously correct NO_x emissions concentrations to ISO conditions. However, the permittee shall make the correction when required by the Department or Administrator.

The permittee shall use the methods specified in the PSD permit to demonstrate compliance with the fuel sulfur specification, which will ensure compliance with the NSPS standard.

APPENDIX XS

SEMIANNUAL NSPS EXCESS EMISSIONS REPORT

FIGURE 1. SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE

[Note: This form is referenced in 40 CFR 60.7, Subpart A-General Provisions]

Pollutant (Circle One): SO₂ NO_x TRS H₂S CO Opacity

Reporting period dates: From _____ to _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer: _____

Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period ¹: _____

| Emission data summary ¹ | CMS performance summary ¹ |
|---|---|
| 1. Duration of excess emissions in reporting period due to: | 1. CMS downtime in reporting period due to: |
| a. Startup/shutdown | a. Monitor equipment malfunctions |
| b. Control equipment problems | b. Non-Monitor equipment malfunctions |
| c. Process problems | c. Quality assurance calibration |
| d. Other known causes | d. Other known causes |
| e. Unknown causes | e. Unknown causes |
| 2. Total duration of excess emissions | 2. Total CMS Downtime |
| 3. Total duration of excess emissions x (100) / [Total source operating time] | 3. [Total CMS Downtime] x (100) / [Total source operating time] |
| % | % |

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 CFR 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since the last in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

Name: _____

Signature: _____ Date: _____

Title: _____

SECTION IV. APPENDIX YYYY
NESHAP REQUIREMENTS FOR GAS TURBINES

Applicability of NESHAP Subpart YYYY

The Turkey Point plant is an existing major source of hazardous air pollutant emissions. As such, the new combustion turbines are subject to NESHAP Subpart YYYY, which became final on March 5, 2004. According to the final rule, each unit is considered a "new lean premix gas-fired stationary combustion turbine". Therefore, each new combustion turbine is subject to an emissions standard for formaldehyde of no more than 91 parts per billion by volume, dry (ppbvd @ 15% O₂). Compliance must be demonstrated by initial and annual performance tests. In addition, acceptable operating parameters must be specified that show continuous compliance with the standard. These operating parameters must be continuously monitored that ensure continuous compliance.

According to General Electric, the GE 7FA gas turbine achieves less than 25 ppbvd at 15% oxygen. FP&L proposed to meet the limit proposed in YYYY of 91 ppbvd based on the performance of the GE 7FA unit. The very low CO and VOC emissions characteristics of the GE 7FA combustion turbines as well as the Dry Low NO_x combustion technology employed by these units ensure that formaldehyde emissions will be at the lowest end of the spectrum.

Staying of the Rule

On August 18, 2004, EPA stayed the effectiveness of 40 CFR 63, Subpart YYYY for lean premix gas turbines such as those proposed for the Turkey Point Project. Following is the change in 40 CFR 63 that stays effectiveness:

§ 63.6095(d) Stay of standards for gas-fired subcategories.

If you start up a new or reconstructed stationary combustion turbine that is a lean premix gas-fired stationary combustion turbine or diffusion flame gas-fired stationary combustion turbine as defined by this subpart, you must comply with the Initial Notification requirements set forth in Sec. 63.6145 but need not comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the Federal Register.

Requirements

The applicable requirements in Subpart YYYY at the time this permit was issued (February 2005) were:

§ 63.6145 What notifications must I submit and when?

- (a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), 63.8(f)(4), and 63.9(b) and (h) that apply to you by the dates specified.
- (b) As specified in § 63.9(b)(2), if you start up your new or reconstructed stationary combustion turbine before March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after March 5, 2004.
- (c) As specified in § 63.9(b), if you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.
- (d) If you are required to submit an Initial Notification but are otherwise not affected by the emission limitation requirements of this subpart, in accordance with § 63.6090(b), your notification must include the information in § 63.9(b)(2)(i) through (v) and a statement that your new or reconstructed stationary combustion turbine has no additional emission limitation requirements and must explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary combustion turbine).
- (e) If you are required to conduct an initial performance test, you must submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in § 63.7(b)(1).
- (f) If you are required to comply with the emission limitation for formaldehyde, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

[Rules 62-4.070(3) and 62-204.800, F.A.C.; Subparts A and YYYY in 40 CFR 63]

Appendix I-1, List of Insignificant Emissions Units and Activities

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and Activities

1. Internal combustion engines in boats, aircraft and vehicles used for transportation of passengers or freight.
2. Cold storage refrigeration equipment, except for any such equipment located at a Title V source using an ozone-depleting substance regulated under 40 CFR Part 82.
3. Vacuum pumps in laboratory operations.
4. Equipment used for steam cleaning.
5. Belt or drum sanders having a total sanding surface of five square feet or less and other equipment used exclusively on wood or plastics or their products having a density of 20 pounds per cubic foot or more.
6. Equipment used exclusively for space heating, other than boilers.
7. Laboratory equipment used exclusively for chemical or physical analyses.
8. Brazing, soldering or welding equipment.
9. One or more emergency generators located within a single facility provided:
 - a. None of the emergency generators is subject to the Federal Acid Rain Program; and
 - b. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.
10. One or more heating units and general purpose internal combustion engines located within a single facility provided:
 - a. a. None of the heating units or general purpose internal combustion engines is subject to the Federal Acid Rain Program; and
 - b. Total fuel consumption by all such heating units and general purpose internal combustion engines within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.
11. Fire and safety equipment.
12. Surface coating operations within a single facility if the total quantity of coatings containing greater than 5.0 percent VOCs, by volume, used is 6.0 gallons per day or less, averaged monthly, provided:
 - a. Such operations are not subject to a volatile organic compound Reasonably Available Control Technology (RACT) requirement of Chapter 62-296, F.A.C.; and
 - b. The amount of coatings used shall include any solvents and thinners used in the process including those used for cleanup.
13. Surface coating operations utilizing only coatings containing 5.0 percent or less VOCs, by volume.
14. Degreasing units using heavier-than-air vapors exclusively, except any such unit using or emitting any substance classified as a hazardous air pollutant.

Appendix I-1, List of Insignificant Emissions Units and Activities

Steam and Air Systems:

- Steam Drum 3" Relief Valves
- Steam Drum " Valves to Vent
- Main Steam 2 ½" Relief Valves with Silencer
- Main Steam Stop Valve Vents
- Main Steam 1" Free Blow and Vent
- Reheat Outlet Header 2" Vents
- Reheat Outlet Header 6" relief Valves
- Hot Reheat 2" Vents
- Cold Reheat at Inlet Header 6" Relief Valves
- Blowdown Tank 16" Silencer Tank
- Main Steam 6" Relief Valve at Desuperheater
- After Condenser ½" Vent from Drainer
- After Condenser 2" Vents
- Hogging Ejector 10 Exhaust Head with Silencer
- Moisture Separator 10" Exhaust Head with Silencer
- Moisture Separator 1" Vent
- Vacuum Tanks 2A, B, C, & D 4" Vents
- Steam Relief Valves at Steam Seal Regulator
- Boiler Blowdown Heat Exchanger 1" Vent
- Boiler Feed Condensate, Heater Drains
- Condensate Storage Tank Vent
- Condensate Recovery Tank Vents
- Condensate Recovery Cooler – ¾" Vent
- Condensate Recovery Flash Tank – 8" Relief Valve
- Vent Condenser ½" Vent
- After Condenser ½" Vent
- Inter-Condenser ½" Vent
- Boiler Feeder Pumps 1" Vent

Boiler Feed Condensate, Heater Drains

- Boiler Feeder Pumps Relief Valves
- Extraction Heater 3" & 4" Relief Valves
- Gland Steam Condenser Air Ejector
- Extraction Heaters ¾" & 1" Vents
- Hydrazine Storage Tank
- Ammonia Storage Tank
- Phosphate Storage Tank

Service Water, Cooling Water, and Fire Protection

- Water Storage Tank (500,000 Gal.) 6" Vent
- Closed C.W. Heat Exchanger A&B 1" Vent
- F.D. Fan Hydraulic Coupling A & B ¾" Vent
- H2 Coolers A, B, C, & D ½" Vent
- Boiler Feed Pump Hydrogen Coupling Coolers ¾" Vent
- Cooling Water Surge Tank 8" Vent
- Closed Cooling Water System Units A and B ¾"
- Boiler Feed Pump seal Piping Cooler Vents

Fuel Oil, Lube Oil, and Lube Oil Purification

- Fuel Oil Storage Tanks (256,000 BBL.) 6" Vents

Appendix I-1, List of Insignificant Emissions Units and Activities

- Fuel Oil Metering Tanks (12,000 BBL) 6" Vents
- Fuel Oil Storage Tanks (256,000 BBL.) Draw-off Sump
- Blowback Tank at Metering Tank 1" Relief Valve
- Blowback Tank at Metering 2" Valve
- Blowback Tank at Fuel Oil Burner Pumps – 1" Relief Valves
- Blowback Tank at Fuel Oil Burner Pumps – 2" Valves
- Fuel Oil Lines 1: Relief Valves
- Fuel Oil Lines ¾" Valves
- Blowback Tanks at Each Level of Burners – 2" Vent
- Blowback Tanks at Each Level of Burners- 1" Relief Valve
- Fuel Oil Burner Booster Pump Vents
- 8" Fuel Oil Line at Heaters Vents
- Station Air at all Blowback Tanks 2"Vent
- Generator Loop Seal Tank Exhaust Head- 4"
- Oil Mist Eliminator 6" Vent
- Lube Oil Coolers ½" Vent
- Lube Oil Conditioner Filter Vent
- Lube Oil Piping High Point Filter Vent
- Magnesium Hydroxide Tank (Fuel Additive)

Lime Slurry, Caustic Wash, Nitrogen Purge Instrument Air

- Nitrogen Release Valve
- High Pressure Heater Nitrogen Vents
- Steam Drum Nitrogen Vent
- Secondary S.H. Outlet Nitrogen Vent
- Primary S.H. Outlet Nitrogen Vent
- Instrument Air Receiver Relief Valves
- Instrument Air After Cooler Relief Valves
- Station Air After Cooler Relief Valves
- Station Air Receiver Relief Valves
- Slurry Mixing Tank
- Slurry Service Tank
- Soda Ash Service Tank
- Soda Ash Mixing Tank

Miscellaneous Buildings HVAC

- Stores Building
- Control Building
- Service Building
- North Gate Guard House
- Switchyard Buildings
- CEM Building
- Switchgear Room
- Water Treatment/Lab
- Elevators
- Administration Building

Appendix I-1, List of Insignificant Emissions Units and Activities

Sanitary Vents/Stacks

- Control Building
- Recreation Building
- Service Building
- Administration Building
- Port-a-Johns
- Sheet Metal Shop
- Chemical Lab
- Chemical Storage Building
- Switchyard Control Building
- Battery Room
- Paint and Lube Oil Building
- Dry Storage Building
- Electrical Building
- Warehouses
- Boiler Feed Pump Building
- Chlorination Building
- I&C Building
- Weld Shop

Kitchen Vent/Exhaust Systems

- Control Room
- Administration Building
- Recreation Pavilion

CEM Equipment

- Monitoring Gases

Gas Bottle Storage

- Nitrogen, CO₂, Hydrogen, Oxygen, Acetylene, Argon
- Oily Waste Water Sumps
- Filling Station 2000 Gallon Diesel Fuel Tank 2" Vent
- 2000 Gallon Unleaded Fuel Tank 2" Vent

Hazardous Waste Storage Area

- Sealed Drums and Containers
- Natural Gas Gas Metering Station
- Ignition Gas (Liquid Propane)
- Propane Storage Tank

Water Treatment

- Chemical Storage Area
- Waste Water Treatment
- Storm Water Sumps
- Oil/Water Separator Tank Vent
- Waste Neutralization Basin
- Storm Water Basin
- Ash Disposal System

Appendix I-1, List of Insignificant Emissions Units and Activities

Miscellaneous Activities

- Home Heating and comfort Heating with a gross maximum heat output of less than one million BTU/hour
- Internal combustion engines in boats, aircraft and vehicles used for transportation of passengers or freight
- Vacuum Pumps used in laboratory operations
- Equipment used for Steam Cleaning
- Belt or drum sanders having a total sanding surface of five square feet or less and other equipment used exclusively on wood or plastics of their products having a density of 20 pounds per cubic foot or more
- Equipment used exclusively for space heating, other than boilers
- Laboratory equipment used exclusively for chemical and physical analysis
- Brazing, soldering or welding equipment
- Laundry Dryers, extractors, or tumblers for fabrics cleaned with only water solutions of bleach or detergents
- Fire and Safety Equipment
- Surface Coating facilities in ozone attainment areas (provided that 6.0 gallons of coatings per day are applied)
- Degreasing units using heavier than air vapors exclusively, except any such unit using or emitting any substance classified as a hazardous air pollutant.
- Plant Grounds Maintenance

Routine Maintenance/Repair Activities

- Non-Halogenated Solvent Cleaning Operations
- Use of Spray Cans or solvents for routine maintenance activities
- Internal Combustion Engines which Drive Compressors, Generators, Water Pumps or Other Auxiliary Equipment
- Transformers, Switches, and Switchgear, Processing and Venting
- Electrically Heated Equipment Used for Heat Treating, Tracing, Drying, Soaking, Case Hardening, or Surface Conditioning
- Air Compressors and Centrifuges Used for Compressing Air
- Storage of Products in Sealed Containers
- Painting of Plant Equipment

Miscellaneous Mobile Vehicle Operation

- Cars, Light Trucks, Heavy Duty Trucks, Back Hoes, Tractors, Forklifts, Cranes, Etc.

Miscellaneous Mobile Equipment Operation

- Compressors, Chain Saws, Small Generators, (<100KW) Welding Machines, Electric Saws and Drills, Etc.

15. Evaporation of chemical cleaning wastes generated from boiler cleaning operations of Fossil Steam Units 1 or 2.

Appendix U-1, List of Unregulated Emissions Units and Activities

Florida Power & Light

DRAFT Permit No. 0250003-009-AV

Turkey Point Fossil Plant

Unregulated Emissions Units and Activities. An emissions unit which emits no “emissions-limited pollutant” and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The following emissions units and activities are neither “regulated emissions units” nor “insignificant emissions units”:

| <u>E.U. ID No.</u> | <u>Brief Description of Emissions Units and/or Activity</u> |
|--------------------|---|
| 004 | 20,000 gallon No. 2 fuel oil tank |
| | 25,000 gallon No. 2 fuel oil tank |
| | 2,000 gallon unleaded gasoline tank |
| | 2,000 gallon vehicular diesel tank |
| | 11,256,000 gallon No. 5 & 6 fuel oil tank, installed 07/67 |
| | 11,256,000 gallon No. 5 & 6 fuel oil tank, installed 07/68 |
| | 504,000 gallon No. 5 & 6 fuel oil tank, installed 07/68 |
| | 504,000 gallon No. 5 & 6 fuel oil tank, installed 07/68 |
| | 1,500 gallon mineral acid tank, installed 04/95 |
| | Hydrazine tank |
| | Ammonia tank |
| | Phosphate tank |
| | Off-loading of Fuel from Tankers |
| | Propane Storage Tank |
| | Sandblast Shed |
| | Unleaded gasoline dispensing facility with a monthly gasoline throughput of less than 20,000 gallons. |

Friday, Barbara

To: ed_nunez@fpl.com; 'john.hampp@fpl.com'; gary_andersen@fpl.com; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'

Cc: Heron, Teresa

Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Attachments: APPENDUnit5.pdf; 0250003009DraftH-1.pdf; 0250003009DraftI-1.pdf; 0250003009DraftPermiRevision.pdf; 0250003009DraftSOB.pdf; 0250003009DraftU-1.pdf; 0250003009NoticeofIntent.pdf

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

2/15/2008

Friday, Barbara

From: System Administrator
To: Heron, Teresa
Sent: Friday, February 15, 2008 12:28 PM
Subject: Delivered:DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was delivered to the following recipient(s):

Heron, Teresa on 2/15/2008 12:28 PM

Friday, Barbara

From: System Administrator
To: Hoefert, Lee
Sent: Friday, February 15, 2008 12:28 PM
Subject: Delivered:DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was delivered to the following recipient(s):

Hoefert, Lee on 2/15/2008 12:28 PM

Friday, Barbara

From: System Administrator
To: Halpin, Mike
Sent: Friday, February 15, 2008 12:28 PM
Subject: Delivered:DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was delivered to the following recipient(s):

Halpin, Mike on 2/15/2008 12:28 PM

Friday, Barbara

From: Exchange Administrator
Sent: Friday, February 15, 2008 12:28 PM
To: Friday, Barbara
Subject: Delivery Status Notification (Relay)

Attachments: ATT29066.txt; DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant



ATT29066.txt (286 B)
DRAFT Title V Permit Revision ...

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

wongp@miamidade.gov

Friday, Barbara

From: Exchange Administrator
Sent: Friday, February 15, 2008 12:28 PM
To: Friday, Barbara
Subject: Delivery Status Notification (Relay)

Attachments: ATT29100.txt; DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant



ATT29100.txt (442 B) DRAFT Title V Permit Revision ...

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

ed_nunez@fpl.com
john.hampp@fpl.com
gary_andersen@fpl.com

Friday, Barbara

From: Mail Delivery System [MAILER-DAEMON@mseive01.rtp.epa.gov]
Sent: Friday, February 15, 2008 12:28 PM
To: Friday, Barbara
Subject: Successful Mail Delivery Report

Attachments: Delivery report; Message Headers



Delivery report.txt
(483 B)



Message
Headers.txt (2 KB)

This is the mail system at host mseive01.rtp.epa.gov.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<Little.James@epamail.epa.gov>: delivery via 127.0.0.1[127.0.0.1]:10025: 250
OK, sent 47B5CB9D_21463_84617_3

Friday, Barbara

From: Mail Delivery System [MAILER-DAEMON@sophos.golder.com]
Sent: Friday, February 15, 2008 12:28 PM
To: Friday, Barbara
Subject: Successful Mail Delivery Report

Attachments: Delivery report; Message Headers



Delivery report.txt
(457 B)



Message
Headers.txt (2 KB)

This is the mail system at host sophos.golder.com.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<KKosky@Golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent
47B5CB9B_26441_108_2

Friday, Barbara

From: Hoefert, Lee
To: Friday, Barbara
Sent: Friday, February 15, 2008 12:35 PM
Subject: Read: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was read on 2/15/2008 12:35 PM.

Friday, Barbara

From: Hoefert, Lee
Sent: Friday, February 15, 2008 12:56 PM
To: Friday, Barbara
Subject: RE: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Lee C. Hoefert, P.E.
Air Program Administrator
Florida Department of Environmental Protection
Southeast District
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
561-681-6626(Phone), 561-681-6790(Fax)

More than 3,000 retail pharmacies in Florida are now a part of the Florida Discount Drug Card program. See www.FloridaDiscountDrugCard.com for more info or call toll-free, 1-866-341-8894.

From: Friday, Barbara
Sent: Friday, February 15, 2008 12:28 PM
To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

2/18/2008

Friday, Barbara

From: Ed_Nunez@fpl.com

Sent: Friday, February 15, 2008 12:59 PM

To: Friday, Barbara

Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Return Receipt

Your DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
document:
was Ed Nunez/PGD/FPL
received by:
at: 02/15/2008 12:58:38 PM

Friday, Barbara

From: Ed_Nunez@fpl.com

Sent: Friday, February 15, 2008 1:00 PM

To: Friday, Barbara

Subject: Re: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Dear Ms. Friday,

I received the subject documents.

Regards,

Heriberto (Ed) Nuñez, P.E.

Power Generation Division-FPL
Turkey Point and Cutler Power Plants
Office: (305) 242-3822
Cell: (305) 775-0294
email: ed_nunez@fpl.com

2/18/2008

Friday, Barbara

From: Halpin, Mike
To: Friday, Barbara
Sent: Friday, February 15, 2008 2:38 PM
Subject: Read: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was read on 2/15/2008 2:38 PM.

Friday, Barbara

From: Heron, Teresa
To: Friday, Barbara
Sent: Monday, February 18, 2008 8:42 AM
Subject: Read: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: 'ed_nunez@fpl.com'; 'john.hampp@fpl.com'; 'gary_andersen@fpl.com'; Halpin, Mike; Hoefert, Lee; 'wongp@miamidade.gov'; 'KKosky@Golder.com'; 'Little.James@epamail.epa.gov'
Cc: Heron, Teresa
Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
Sent: 2/15/2008 12:28 PM

was read on 2/18/2008 8:42 AM.

Friday, Barbara

From: Wong, Patrick (DERM) [WongP@miamidade.gov]
To: undisclosed-recipients
Sent: Tuesday, February 19, 2008 10:05 AM
Subject: Read: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Your message

To: WongP@miamidade.gov
Subject:

was read on 2/19/2008 10:05 AM.

Friday, Barbara

From: John_Hampp@fpl.com

Sent: Tuesday, February 19, 2008 10:32 AM

To: Friday, Barbara

Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Return Receipt

Your DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
document:
was John Hampp/GC/FPL
received by:
at: 02/19/2008 10:32:22 AM

Friday, Barbara

From: John_Hampp@fpl.com

Sent: Tuesday, February 19, 2008 10:33 AM

To: Friday, Barbara

Subject: Re: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

I have received the email delivery of the draft permit

Friday, Barbara

From: Gary_Andersen@fpl.com

Sent: Friday, February 22, 2008 9:27 AM

To: Friday, Barbara

Subject: DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant

Return Receipt

Your DRAFT Title V Permit Revision No.: 0250003-009-AV - FP&L - Turkey Point Fossil Plant
document:
was Gary Andersen/PGD/FPL
received by:
at: 02/22/2008 09:26:32 AM