

# Florida Department of Environmental Protection

## Memorandum

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TO: Trina Vielhauer, Chief  
Bureau of Air Regulation

FROM: Jonathan Holtom, Title V Section *JH.*

DATE: March 2, 2009

SUBJECT: 2<sup>nd</sup> Revised Draft Air Permit No. 0250003-008-AC  
Florida Power & Light Company, Turkey Point Fossil Plant  
BART Project

Attached for your review are the following items:

- Cover letter;
- Revised Written Notice of Intent to Issue Permit;
- Revised Public Notice of Intent to Issue Permit;
- Revised Technical Evaluation and Preliminary Determination;
- Revised Draft Permit with Appendices; and
- PE Certification.

The 2<sup>nd</sup> revised draft permit makes minor changes to the previous revised draft permit based on our meetings and agreements. The permit authorizes the replacement of the multi-cyclones on Units 1 and 2 as part of FPL's proposal to comply with the BART requirements, and it replaces the revised draft permit that was issued on October 17, 2008 (which replaced the draft permit that was issued on May 21, 2008). The permit also requires a reduction in the fuel oil sulfur content from 1% to 0.7%, by weight, and a reduction in the particulate matter emission rate from 0.1 lb/MMBtu to 0.07 lb/MMBtu. The proposed work will be conducted at the Turkey Point Fossil Plant, which is located in Miami-Dade County, Florida. The Technical Evaluation and Preliminary Determination provides a detailed description of the project and the rationale for issuance. The P.E. certification briefly summarizes the proposed project. I recommend your approval of the attached revised draft permit.

Attachments

PROFESSIONAL ENGINEER CERTIFICATION STATEMENT

PERMITTEE

Florida Power & Light Company  
9700 SW 344 Street  
Homestead, Florida 33035

Air Permit No. 0250003-008-AC  
Facility ID No. 0250003  
Turkey Point Fossil Plant  
BART Project  
Miami-Dade County, Florida

Authorized Representative:  
Rudy Sanchez, Plant Manager

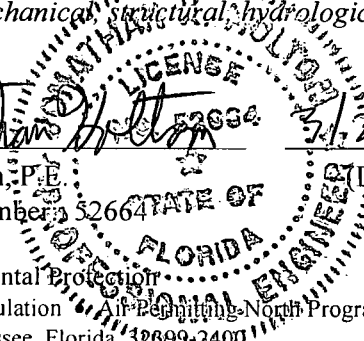
PROJECT DESCRIPTION

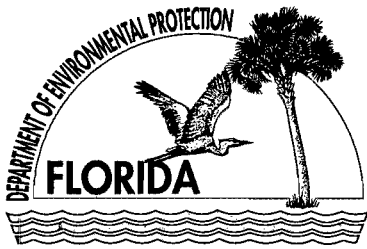
**Project:** On February 28, 2008, Florida Power & Light Company submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the existing Turkey Point Fossil Plant. The purpose of the BART regulation is to improve visibility in the Class I areas, which include six national parks and federal wildlife areas in and around Florida. The BART provisions apply to emissions units built between 1962 and 1977 at one of the 26 specified industrial categories that have the potential to emit more than 250 tons per year of visibility-impairing pollutants, which only includes particulate matter for electric utilities subject to the Clean Air Interstate Rule (CAIR). Many of these units have not previously been subject to pollution control requirements under the Clean Air Act.

The BART regulation requires a control technology review to establish a BART standard, which is an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by a BART-eligible source. The emission limitation must be established, on a case-by case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. In addition, an air dispersion modeling analysis is conducted to evaluate the visibility impacts.

For the existing Turkey Point Fossil Plant, the BART-eligible units are oil and gas-fired Units 1 and 2. The Department of Environmental Protection (Department) reviewed the application and establishes BART emissions standards in the draft air construction permit for particulate matter as 0.07 lb/MMBtu, for sulfur dioxide as 0.77 lb/MMBtu, and for visible emissions as 20% opacity, 12-month rolling average. To meet these BART standards, the applicant has proposed to replace the existing multi-cyclones with new state-of-the-art multi-cyclones and to reduce the sulfur content in the fuel oil to 0.7% sulfur, by weight. Even though the BART regulations only require reductions in particulate matter for electric utilities subject to CAIR, Florida Power & Light has proposed to reduce their sulfur dioxide emissions in order to gain an eight to nine times greater improvement in modeled visibility impacts than what could be achieved solely through a reduction in particulate matter emissions, at about one third of the cost of installing a new, high-efficiency electrostatic precipitator. The Department has agreed with this approach because of the greater visibility improvement and the reduced cost.

*I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).*

  
*Jonathan Holtom*  
Jonathan Holtom, P.E. (Date)  
Registration Number 52664



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

March 6, 2009

Rudy Sanchez, Plant Manager  
Florida Power & Light Company (FPL)  
9700 SW 344 Street  
Homestead, Florida 33035

Re: Air Construction Permit No. 0250003-008-AC  
Florida Power & Light Company, Turkey Point Fossil Plant  
BART Project

Dear Mr. Sanchez:

On February 28, 2008, FPL submitted a revised application requesting changes for Units 1 and 2 in order to comply with the Best Available Retrofit Technology (BART) requirements for the Turkey Point Fossil Plant, which is located in Miami-Dade County at 9700 SW 344 Street, Homestead, Florida. A draft permit was issued in response to this request on May 21, 2008 and a revised draft was issued on October 17, 2008. Following a meeting on February 9<sup>th</sup> between representatives for FPL and the Department, you submitted additional proposed language to resolve the outstanding issues. Based on these comments and agreements that were made during our meeting, the revised draft permit that was issued on October 17, 2008 is hereby rescinded and replaced by the enclosed revised draft permit. Enclosed are the following documents:

- Revised Technical Evaluation and Preliminary Determination;
- Revised Draft Permit and Appendices;
- Revised Written Notice of Intent to Issue Air Permit; and
- Revised Public Notice of Intent to Issue Air Permit.

The Public Notice of Intent to Issue Air Permit 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. In order to meet the State's SIP submittal requirements, this Public Notice of Intent to Issue Air Permit must be published as soon as possible. If you have any questions, please contact the Project Engineer, Jonathan Holtom, P.E., at 850/921-9531.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

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**WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT**

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*In the Matter of an*

*Application for Air Permit by:*

Florida Power & Light Company  
9700 SW 344 Street  
Homestead, Florida 33035

Air Permit No. 0250003-008-AC  
Facility ID No. 0250003  
Turkey Point Fossil Plant  
BART Project  
Miami-Dade County, Florida

*Authorized Representative:*

Rudy Sanchez, Plant Manager

**Facility Location:** Florida Power & Light Company operates the Turkey Point Fossil Plant, which is located at 9700 SW 344 Street, Homestead in Miami-Dade County, Florida.

**Project:** This permit is being issued to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the eligible units at the facility identified above. For the existing Turkey Point Fossil Plant, the BART-eligible units are oil and gas-fired Units 1 and 2. The Department of Environmental Protection (Department) reviewed the application and establishes BART emissions standards for particulate matter, sulfur dioxide and visible emissions in the draft air construction permit. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 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 perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. 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 Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

**Notice of Intent to Issue Permit:** The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. This Notice of Intent and enclosed revised draft permit replace the Notice of Intent and draft permit that were issued on October 17, 2008. The applicant has provided reasonable assurance that operation of the proposed equipment 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, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**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 Air 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

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

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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) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. 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 30 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 30-day period. If written comments received result in a significant change to the draft permit, the Permitting Authority shall revise the 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 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air 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 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 (in a proceeding initiated by another party) 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 when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (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 the 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 Written Notice of Intent to Issue Air 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

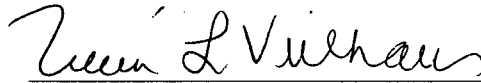
**WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT**

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become a party to the proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

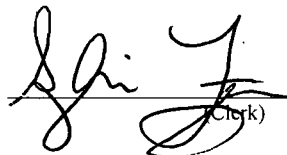
**CERTIFICATE OF SERVICE**

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 Technical Evaluation and Preliminary Determination, and the Draft Permit), or a link to these documents available electronically on a publicly accessible server, was sent by electronic mail with received receipt requested before the close of business on 3/6/09 to the persons listed below.

Mr. Rudy Sanchez, Plant Manager, FPL ([rudy.sanchez@fpl.com](mailto:rudy.sanchez@fpl.com))  
Mr. Kevin Washington, FPL ([kevin.washington@fpl.com](mailto:kevin.washington@fpl.com))  
Mr. Kennard F. Kosky, P.E., Golder Associates Inc. ([kkosky@golder.com](mailto:kkosky@golder.com))  
Mr. Lennon Anderson, DEP Southeast District ([lennon.anderson@dep.state.fl.us](mailto:lennon.anderson@dep.state.fl.us))  
Ms. Mallika Muthia, DERM ([muthim@miamidade.gov](mailto:muthim@miamidade.gov))  
Ms. Katy Forney, EPA Region 4 ([forney.kathleen@epamail.epa.gov](mailto:forney.kathleen@epamail.epa.gov))  
Ms. Ana Oquendo, EPA Region 4 ([oquendo.ana@epamail.epa.gov](mailto:oquendo.ana@epamail.epa.gov))  
Ms. Sylvia Livingston, DEP ([sylvia.livingston@dep.state.fl.us](mailto:sylvia.livingston@dep.state.fl.us)) (for posting with U.S. EPA, Region 4)  
Ms. Victoria Gibson, DEP ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us)) (for reading file)

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

3/6/09  
(Date)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection  
Division of Air Resource Management, Bureau of Air Regulation  
Draft Air Permit No. 0250003-008-AC  
Florida Power & Light Company, Turkey Point Fossil Plant  
Miami-Dade County, Florida

**Applicant:** The applicant for this project is Florida Power & Light Company (FPL). The applicant's authorized representative and mailing address is: Rudy Sanchez, Plant Manager, Florida Power & Light Company, Turkey Point Fossil Plant, 9700 SW 344 Street, Homestead, Florida, 33035.

**Facility Location:** Florida Power & Light Company operates the existing Turkey Point Fossil Plant, which is located in Miami-Dade County at 9700 SW 344 Street in Homestead, Florida.

**Project:** On February 28, 2008, Florida Power & Light Company submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the existing Turkey Point Fossil Plant. The purpose of the BART regulation is to improve visibility in the Class I areas, which include six national parks and federal wildlife areas in and around Florida. The BART provisions apply to emissions units built between 1962 and 1977 at one of the 26 specified industrial categories that have the potential to emit more than 250 tons per year of visibility-impairing pollutants, which only includes particulate matter for electric utilities subject to the Clean Air Interstate Rule (CAIR). Many of these units have not previously been subject to pollution control requirements under the Clean Air Act.

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**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 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 perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

(Public Notice to be Published in the Newspaper)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

**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 Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site:

<http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

**Notice of Intent to Issue Air Permit:** The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment 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, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice 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 30 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 30-day period. If written comments received result in a significant change to the draft permit, the Permitting Authority shall revise the 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 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 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 (in a proceeding initiated by another party) 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 when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (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 the 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

(Public Notice to be Published in the Newspaper)



## **PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT**

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 to Issue Air 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 for this proceeding.

**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Draft Permit No. 0250003-008-AC  
Best Available Retrofit Technology (BART)  
Turkey Point Fossil Plant  
Miami-Dade County, Florida

**APPLICANT**

Florida Power & Light Company (FPL)  
9700 SW 344 Street  
Homestead, Florida 33035

**PERMITTING AUTHORITY**

Title V Section  
Bureau of Air Regulation  
Division of Air Resource Management  
Florida Department of Environmental Protection



May 22, 2008  
Revised October 16, 2008  
Revised March 2, 2009

**1. GENERAL PROJECT INFORMATION**

**Facility Description and Location**

The applicant, Florida Power & Light Company, operates an existing oil and gas-fired power plant, which consists of two residual fuel oil and natural gas-fueled 440 MW fossil fuel steam electrical generators (Units 1 and 2), five fuel oil-fired black start 2.75 MW diesel peaking generators supporting Units 1 and 2, a natural gas-fueled 1,150 MW combined cycle unit (Unit 5), and associated equipment. The Standard Industrial Classification (SIC) code for this type of plant is SIC No. 4911. The facility is located at 9700 SW 344 Street, in Homestead, Miami-Dade County. The UTM coordinates are Zone 17, 567.4 km East and 2,813.5 km North.

**Regulatory Categories**

This project is subject to the applicable environmental laws in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection (Department) to establish rules regarding air quality in the Florida Administrative Code (F.A.C.). The facility is classified according to the following major regulatory categories.

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source pursuant to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates BART-eligible units subject to Rule 62-296.340, F.A.C.

**Project Description**

Florida Power & Light Company submitted an application to satisfy the requirements of Rule 62-296.340 (BART), F.A.C., which addresses the following BART-eligible emissions units.

ID No.	Description
-001	Fossil Fuel Steam Generator Unit 1
-002	Fossil Fuel Steam Generator Unit 2

This Technical Evaluation and Preliminary Determination details the project, provides the top-down BART analysis, and identifies the preliminary BART determinations.

**Processing Schedule**

- 1/31/07 Department received the BART application for an air pollution construction permit.
- 2/26/07 Department requested additional information.
- 5/7/07 Department received additional information. Application remained incomplete.
- 5/16/07 Department sent letter granting additional time to respond.
- 6/6/07 Department requested additional information.
- 7/6/07 Department received additional information; application remained incomplete.
- 8/3/07 Department requested additional information.
- 9/13/07 Department received additional information; application remained incomplete.
- 10/13/07 Department requested additional information.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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- 12/3/07 Department received waiver of permit processing clock.
- 1/31/08 Department received additional information and extension of processing clock waiver.
- 2/28/08 Department received revised application for a BART permit, application deemed complete.
- 5/23/08 Draft permit issued, Public Notice never published.
- 10/17/08 Prior draft permit withdrawn and revised draft permit issued.
- 11/4/08 Meeting at DEP with FPL.
- 11/14/08 Additional information received.
- 2/9/09 Meeting at DEP with FPL.
- 2/13/09 Additional information received.
- 3/2/09 Prior revised draft permit withdrawn and new revised draft permit issued.

## 2. APPLICABLE BART REGULATIONS

### Regulatory Authority

This project is subject to the applicable regulatory requirements in the following Chapters of the F.A.C.: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and Best available Control Technology (BACT)); 62-296 (Emission Limiting Standards); and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures). It is also subject to the applicable provisions in Title 40 of the Code of Federal Regulations (CFR) as adopted in Chapter 62-204 and 62-296, F.A.C.

Specifically, this project is subject to Rule 62-296.340 (BART), F.A.C. for determining and applying the Best Available Retrofit Technology for each BART-eligible source as defined in 40 CFR 51.301. The Department previously identified all BART-eligible sources through a series of notifications, workshops, and rule making efforts. The state rule implements the federal provisions of Appendix Y in 40 CFR Part 51, "Guidelines for BART Determinations under the Regional Haze Rule".

### Affected Pollutants

In accordance with Appendix Y in 40 CFR 51, the affected visibility-impairing pollutants include the following: nitrogen oxides, particulate matter, and sulfur dioxide. For electric utilities subject to CAIR, only particulate matter is subject to BART review. With respect to particulate emissions, Rule 62-210.200, F.A.C. defines PM as, "... all finely divided solid or liquid material, other than uncombined water, emitted to the atmosphere as measured by applicable reference methods, or an equivalent or alternative method ..." Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers is defined as PM<sub>10</sub> and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers is defined as PM<sub>2.5</sub>. Emissions of PM, PM<sub>10</sub> and PM<sub>2.5</sub> are all regulated pollutants. For the existing emissions units and air pollution control equipment, the control strategy specified in the BART determinations directly reduces PM emissions, which serves as a surrogate to also reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions.

### BART Definition

Pursuant to 40 CFR 51.301, *Best Available Retrofit Technology (BART)* means, "... an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by ... [a BART-eligible source]. The emission limitation must be established, on a case-by case basis, taking into consideration the technology available, the costs of compliance,

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.” In accordance with Rule 62-296.340(3), F.A.C., the Department shall determine BART for each affected source in an air construction permit.

### **BART Analysis Procedure**

There are five basic steps in the case-by-case BART analysis:

- Step 1. Identify all available retrofit control technologies. A comprehensive list of available technologies for analysis must be identified that includes the most stringent option and a reasonable set of available options. It is not necessary to list all permutations of available control levels that exist for a given technology. The list is complete if it includes the maximum level of control each technology is capable of achieving.
- Step 2. Eliminate technically infeasible options. Control technologies are technically feasible if either (1) they have been installed and operated successfully for the type of source under review under similar conditions, or (2) the technology could be applied to the source under review. “Availability” and “applicability” are two key concepts in determining whether a technology could be applied. A technology is considered “available” if the source owner may obtain it through commercial channels, or it is otherwise available within the common sense meaning of the term. An available technology is “applicable” if it can reasonably be installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.
- Step 3. Evaluate control effectiveness of remaining control technologies. There are two key issues in this process, including (1) expressing the degree of control in consistent terms to ensure an “apples-to-apples” comparison of emissions performance levels among options, and (2) giving appropriate treatment and consideration of control techniques that can operate over a wide range of emission performance levels.
- Step 4. Evaluate the impacts and document the results. The evaluation will consider the costs of compliance, energy impacts, non-air quality environmental impacts, and remaining useful life.
- Step 5. Evaluate visibility impacts. Use CALPUFF or other appropriate dispersion model to determine the visibility improvement expected at a Class I area from the potential BART control technology applied to the source. Note that if the most stringent BART control option available is selected, it is not necessary to conduct an air quality modeling analysis for the purpose of determining its visibility impacts.

BART Determination: In making a final BART determination, the following will be considered: (1) technically feasible options; (2) the average and incremental costs of each option; (3) the energy and non-air quality environmental impacts of each option; (4) the remaining useful life; and (5) the modeled visibility impacts. A justification for selecting a technology as the “best” level of control must be provided and include an explanation of these factors that led to the BART determination. When a BART determination is made for two regulated pollutants on the same source, if the result is two different BART technologies that do not work well together, it may be reasonable to substitute a different technology or combination of technologies.

### **3. UNITS 1 AND 2 – BART DETERMINATION**

This section provides the control technology review and BART determination for the following emissions units.

<b>ID No.</b>	<b>Emission Unit Description</b>
-001	Unit 1 is a 4,000 MMBtu/hr fuel oil-fired boiler (4,150 MMBtu/hr when firing natural gas).
-002	Unit 2 is a 4,000 MMBtu/hr fuel oil-fired boiler (4,150 MMBtu/hr when firing natural gas).

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### PM Control Technology Review

Particulate matter is emitted from the stacks of Units 1 and 2 as a result of the firing of fuel oil and natural gas to generate electricity. Each unit is equipped with low excess air burners and Universal Oil Products (UOP) Air Correction Division multi-cyclones with reinjection. The multi-cyclones consist of two tubular mechanical dust collectors with 695 tubes per collector.

Step 1. Identify all available retrofit control technologies.

The available retrofit control technologies for these boilers include the following:

- Add wet scrubbers following the existing multi-cyclones.
- Add electrostatic precipitators (ESP) following the existing multi-cyclones.
- Add baghouses following the existing multi-cyclones.
- Replace the existing multi-cyclones with new state-of-the-art multi-cyclones.

Step 2. Eliminate technically infeasible options.

Baghouses and ESP are generally recognized as the top controls with removal efficiencies greater than 99%. Although feasible, wet scrubbers have not demonstrated equivalent levels of control for PM. Also, baghouses do not appear to be a good choice either, since tests conducted by FPL at the Sanford plant found that particles generated from the combustion of oil-based fuels caused considerable plugging of bags in pilot scale tests.

Step 3. Evaluate control effectiveness of remaining control technologies.

Based on information submitted by the applicant, which includes proposals provided by air pollution control device vendors, the effectiveness of the potential control techniques and available options are as follows:

Units 1 & 2: 4,000 MMBtu/hour each:

Control Technology Options	Continuously Achievable Emission Rate	Emissions From Both Units tons/year	Potential Reduction tons/year	Percent Reduction*
Existing Multi-cyclones	0.1 lb/MMBtu	1,795 *	0	0
New ESP	0.03 lb/MMBtu	539	1,257	70%
Multi-cyclone upgrade	0.070 lb/MMBtu	1,257	539	30%

\* Baseline / Historical Maximum

Step 4. Evaluate the impacts of the remaining technologies and document the results.

Based on information submitted by the applicant (assuming a 20-year useful life and 7% annual interest rate), the following is a summary of the expected costs associated with the proposed control options:

Control Options	Unit 1		Unit 2	
	Annualized Cost	\$/ton Removed	Annualized Cost	\$/ton Removed
New ESP (0.030 lb/MMBtu)	\$6,676,195	10,623	\$6,676,195	10,623
Multi-cyclone upgrade & Reduced Fuel sulfur %	\$961,552	3,568	\$961,552	3,568

It should be noted that the estimated cost does not include any changes in construction associated with the close proximity of the nuclear units (i.e., Turkey Point Units 3 and 4). According to the applicant:

- the location of the ESP construction for Units 1 and 2 would increase security requirements and potentially require approval from the Nuclear Regulatory Commission.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- the energy required to operate two ESPs would be about 4,370 MW-hr per year for both units, or about 0.13 percent of gross generation.
- ash collected by the ESP would require landfilling if it could not be recycled.
- it is estimated that 1,257 tons of ash would be generated from the ESPs requiring about 50 truck trips per year to remove it from the site.
- FPL has no plans to shut down either unit in the near future. However, Units 1 and 2 are typically operated as cycling units rather than base-loaded units.

### Step 5. Evaluate visibility impacts.

The CALPUFF modeling system (CALPUFF Version 5.756) was used to predict the maximum visibility impairment at the only PSD Class I area within 300 kilometers (km) of Florida Power and Light Turkey Point Power Plant. The nearest PSD Class I area is the Everglades National Park (ENP), which is located approximately 21 km from the facility. The CALPUFF modeling analysis followed the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) common protocol, Version 3.2. The Department provided the applicant with 4 km “CALPUFF-ready” CALMET meteorological data. Class I receptor locations were obtained from the National Park Service (NPS) and a Lambert Conformal Conic (LCC) coordinate system was used.

Maximum visibility impacts are based on the predicted 24-hour visibility impairment values for 2001 to 2003, the 8<sup>th</sup> highest (98<sup>th</sup> percentile) for each year. These values are compared with a threshold of 0.5 deciview (dv). A dv is a standard visibility index. The Interagency Monitoring of Protected Visual Environments (IMPROVE) states that the dv scale is linear to humanly-perceived changes in visual air quality. For example, a dv near zero is considered a “pristine” atmosphere. Deciviews increase with visibility impairment.

Turkey Point has two BART-eligible sources for particulate matter. These sources are Units 1 and 2, which are oil and gas-fired conventional steam 400 megawatt (MW) units. The visibility impact from the existing two units is greater than 0.5 dv therefore, the two units contribute to visibility impairment at the ENP and a BART determination is required.

The initial BART determination analysis predicted visibility improvement with the addition of ESP’s to both Units 1 and 2. Initial emission rates were determined from stack test data and AP-42 emission factors to reflect the maximum 24-hour average normal operation. Emissions were speciated into six particulate species with regards to specific size categories and modeled. Results of this initial modeling predicted a visibility improvement of 0.1 dv.

Subsequent modeling followed as part of a revised BART determination analysis. This analysis does not include ESP’s as BART and the initial modeling results with ESP’s are not comparable with this subsequent modeling due to differences in initial emission rates, although the emissions were speciated in the same matter.

The subsequent BART determination analysis predicted visibility improvement based on particulate matter and percent sulfur fuel content. Base case emission rates for this modeling analysis were based on an emission rate of 0.1 lb/MMBtu with a sulfur fuel content of 1% or the allowable emission rates for Units 1 and 2. The base case was then compared to the proposed BART determination of 0.07 lb PM/MMBtu and a sulfur content of 0.7 percent. Further, modeling was done to show further reductions of particular matter with a fuel additive program (0.05 lb/MMBtu). The results of these analyses are shown in the table below.

Control Technology	PM Emission Rate	Sulfur Fuel Content	8 <sup>th</sup> highest impairment (2001)	8 <sup>th</sup> highest impairment (2002)	8 <sup>th</sup> highest impairment (2003)
Existing Base Case	0.1 lb/MMBtu	1%	2.2 dv	1.8 dv	1.9 dv
Multi-Cyclones	0.7 lb/MMBtu	0.7%	1.6 dv	1.3 dv	1.4 dv

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Fuel Additive Program	0.5 lb/MMBtu	0.7%	1.3 dv	1.1 dv	1.2 dv
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The results predict a 29 and 41 percent visibility benefit for the proposed sulfur reduction and PM reductions of 0.7 and 0.5 lb/MMBtu respectively.

### **Preliminary PM BART Determination**

The purpose of the BART regulations is to reduce regional haze by requiring air pollution emitting facilities to reduce the amount of visibility-impairing pollutants that are emitted. For many sources, this will require the installation of new control devices. Other sources may be able to reduce emissions by upgrading existing pollution control equipment. For comparison, units subject to the revisions to NSPS Subpart Da, for units constructed, reconstructed or modified after February 28, 2005, must meet a PM standard of 0.015 lb/MMBtu. The BART analysis for the Turkey Point project shows that a guarantee to meet an emissions standard of 0.015 lb/MMBtu appears to be quite difficult to receive from the ESP vendors. The guarantee for this project was only for 0.03 lb/MMBtu and that was at a cost of over \$10,000 per ton of PM removed. In addition, that only provides a visibility improvement of 0.1 dv.

Based on the high cost for such a small improvement in visibility, the company claims it is economically inappropriate to add an ESP to Units 1 and 2. As an alternative emission reduction strategy, the company has proposed the use of low sulfur (0.7 percent) residual oil (current limit is for 1% sulfur oil) and a reduction in the PM limit from the current allowable emission rate of 0.1 lb/MMBtu down to 0.07 lb/MMBtu, which is achievable with the installation of new state-of-the-art multi-cyclones. At a comparative cost of less than \$3,600/ton of PM removed, this option is considered economically appropriate and will produce a larger visibility improvement of 0.6 dv (i.e., 29 percent reduction in visibility impacts from base case). The company is also proposing to research the viability of implementing a fuel additive program with the goal of further reducing PM emissions down to 0.05 lb/MMBtu, which could provide an additional 0.27 dv visibility improvement (i.e., 41 percent reduction in visibility impacts from base case) when combined with the 30% decrease in fuel sulfur.

The addition of ESPs for these units would appear to be the logical choice to satisfy the BART requirements for emissions of PM. However, considering the large cost per ton of PM removed and the very small improvement in modeled visibility impacts, it is reasonable to consider FPL's proposed alternative. Reducing the amount of sulfur in the fuel by 30%, in addition to the possibility of an eventual 50% reduction in the allowable PM emissions rate, leads to a much greater improvement in modeled visibility impacts at about a third of the cost. The Department believes that this is a reasonable alternative that better serves the overall intent of the BART regulations. However, it should be noted that this proposal to provide sulfur reductions now instead of spending more money to control PM emissions to an even lower rate, will in no way effect the Department's ability to address further sulfur reductions and/or SO<sub>2</sub> controls during the implementation of the Reasonable Progress Control Technology (RPCT) requirements contained in Rule 62-296.341, F.A.C. The RPCT rule requires that a proposal and air construction permit application be submitted to the Department by January 31, 2012.

To satisfy the requirements of BART, the draft permit includes the following primary requirements:

- As soon as practicable, but not later than December 31, 2013, the permittee shall replace the existing multi-cyclones on Units 1 and 2 with new state-of-the-art multi-cyclones.
- The permittee shall conduct a study of fuel additives designed to reduce the formation of PM and/or improve the collection efficiency of the PM emissions in the multi-cyclones. Included with this study is the authorization to inject different types of fuel additives and to perform stack tests to demonstrate the results. Not later than December 31, 2010, the permittee shall submit a report to the Permitting Authority describing the potential benefits of each of the different fuel additives tested and making a



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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recommendation as to which additives should be used, (if any), in order to reduce PM emissions to the applicant proposed limit of 0.05 lb/MMBtu. .

- As soon as practicable, but not later than December 31, 2013, the sulfur content of the fuel oil fired in Units 1 and 2 shall not exceed 0.7%, by weight. SO<sub>2</sub> emissions from Units 1 and 2 shall not exceed 0.77 lb/MMBtu on a 3-hour rolling average.
- As soon as practicable, but not later than December 31, 2013, the PM emissions from Units 1 and 2 shall not exceed 0.07 lb/MMBtu (3-hour average). Based on the results of the fuel additive tests and the information contained in the report, the Applicant will make a recommendation as to which additive(s) shall be used (if any) in order to reduce the PM emissions to the goal of 0.05 lb/MMBtu.
- As soon as practicable, but not later than December 31, 2013, the PM emissions from Units 1 and 2 due to soot blowing and load change operations shall not exceed an average of 0.2 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.
- As soon as practicable, but not later than December 31, 2013, the visible emissions (VE) from Units 1 and 2 shall not exceed 20% opacity, based on a 12-month rolling average of all valid 6-minute opacity readings as recorded by the COMS. Authorized excess emissions during periods of malfunction shall be excluded. In calculating the 12-month rolling opacity average, the permittee may exclude up to one percent of the total number of 6-minute averages over the relevant 12-month period.
- During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the permittee shall conduct tests on Units 1 and 2 to demonstrate compliance with the BART standards for particulate matter and sulfur dioxide. Initial compliance tests for PM and sulfur dioxide shall be conducted during federal fiscal year 2012/2013 and a test report demonstrating compliance with the new BART standards shall be submitted before October 1, 2013. Emissions of SO<sub>2</sub> shall be determined continuously with data from the existing continuous emissions monitoring systems (CEMS). Information obtained during the annual CEMS Relative Accuracy Test Audit (RATA) may be used to satisfy the testing requirements for SO<sub>2</sub>. Compliance with the 20% rolling 12-month average opacity limit shall be calculated and recorded on site by the 15<sup>th</sup> of each month, based on the arithmetic average of all 6-minute readings documented by the COMS during the previous 12 calendar months, excluding allowable periods of documented excess emissions as the result of a malfunction. If necessary to demonstrate compliance with the 20% average, up to 1% of the total number of 6-minute averages over the previous 12-month period may also be excluded. A summary of these calculations shall be provided with the semi-annual monitoring reports, which are required by the Title V permit.
- As an alternative to the new BART SO<sub>2</sub> and PM limits, not later than 12/31/2011, FPL may submit an application requesting to either: repower Units 1 and 2 with natural gas-fired combustion turbines, burn only natural gas in units 1 and 2 and meet a PM emissions limit of 0.05 lb/MMBtu, or permanently shut down Units 1 and 2.
- In the event that CAIR is vacated by the Jral courts, the Department reserves the right to require the submission of a BART application for SO<sub>2</sub> and NO<sub>x</sub> within 60 days of notification by the Department. Nothing herein shall constitute a BART determination for SO<sub>2</sub> or NO<sub>x</sub> nor affect the Department's obligations to address Reasonable Further Progress at this facility.
- Unless otherwise specified by this permit, the permittee shall continue to comply with all specific conditions of the current Title V air operation permit.
- Provide proper notifications and stack test reports.

**4. PRELIMINARY DETERMINATION**

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations regarding BART as conditioned by the draft permit. This determination is based on a technical review of the complete application, all available information, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. This determination is a case-by-case determination based solely on the facts and circumstances relating to this application and is not a precedent for any other project. Jonathan Holtom, P.E., is the project engineer responsible for reviewing the application and drafting the permit. Deborah Nelson is the project meteorologist responsible for reviewing the modeling analysis for visibility.

# REVISED DRAFT PERMIT

## PERMITTEE

Florida Power & Light Company  
9700 SW 344 Street  
Homestead, Florida 33035

Air Permit No. 0250003-008-AC Expiration Date: 07/01/2014 Turkey Point Fossil Plant BART Project
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*Authorized Representative:*  
Rudy Sanchez, Plant Manager

## PLANT AND LOCATION

Florida Power & Light Company (FPL) operates the Turkey Point Fossil Plant, which is located at 9700 SW 344 Street, Homestead, Miami-Dade County, Florida. The UTM coordinates are Zone 17, 567.4 km East and 2,813.5 km North. The facility is an existing oil and natural gas-fired power plant, which is identified by Standard Industrial Classification code No. 4911.

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). Specifically, this project is subject to Rule 62-296.340, F.A.C., which requires a determination of the Best Available Retrofit Technology (BART) for each BART-eligible source as defined in 40 CFR 51.301. The state rule implements the federal provisions of Appendix Y in 40 CFR Part 51, "Guidelines for BART Determinations Under the Regional Haze Rule". The affected visibility-impairing pollutants include only particulate matter (PM) for electric utilities subject to CAIR. Pursuant to Rule 62-296.340, F.A.C., the permittee shall install or modify the air pollution control equipment to achieve the specified BART standards.

## EFFECTIVE DATE

Unless otherwise specified by this permit, the BART-eligible sources shall demonstrate compliance with the conditions of this permit no later than December 31, 2013. [Rule 62-296.340(3)(b)2, F.A.C.]

Executed in Tallahassee, Florida

(DRAFT)

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Joseph Kahn, Director  
Division of Air Resource Management

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(Date)

## SECTION 1. GENERAL INFORMATION

### FACILITY DESCRIPTION

FPL operates the existing Turkey Point Fossil Plant, which 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<sub>x</sub>) 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).

### FACILITY REGULATORY CLASSIFICATIONS

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the Acid Rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source pursuant to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates BART-eligible units subject to Rule 62-296.340 (BART), F.A.C.

### BART-ELIGIBLE EMISSIONS UNITS

This permitting action affects the following BART-eligible emissions units at the plant.

EU No.	Emission Unit Description
-001	Fossil Fuel Steam Generator Unit 1
-002	Fossil Fuel Steam Generator Unit 2

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Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Units Specific Conditions

Section 4. Appendices

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Standard Testing Requirements

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Florida Department of Environmental Protection. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to Miami-Dade County Department of Environmental Resources Management (DERM), Air Quality Management Division. The mailing address and phone number for DERM is: 701 Northwest 1<sup>st</sup> Court, Suite 400, Miami, Florida 33136-0926, telephone: 305/372-6925, Fax: 305/372-6954.
3. Appendices: The following Appendices are attached as an enforceable part of this permit: Appendix A (Citation Formats), Appendix B (General Conditions), and Appendix C (Standard Testing Requirements).
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to the applicable provisions of: Chapter 403, Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, Florida Administrative Code (F.A.C.); and the applicable parts and subparts of Title 40, Code of Federal Regulations (CFR). Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit revision **on or before April 1, 2014**. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Bureau of Air Regulation with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]
6. 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 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
7. 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 May 1<sup>st</sup> of 2009 and April 1<sup>st</sup> of each year, thereafter. [Rule 62-210.370(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### Emissions Units 1 and 2 (EU-001 & -002)

This subsection addresses the following affected emissions units.

ID No.	Emissions Unit Description
-001 and -002	<p><i>Description:</i> Two Foster-Wheeler 400 MW Class (440 MW gross capacity) Steam Generating Units.</p> <p><i>Fuels:</i> The fuels allowed to be burned in these units are a variable combination of: natural gas, used oil from FPL operations, No. 6 and No. 2 fuel oils, and propane.</p> <p><i>Capacity Limits:</i> 4,150 MMBtu/hr for gaseous fuels, 4,000 MMBtu/hr for liquid fuels.</p> <p><i>Controls:</i> Emissions of particulate matter are controlled from each unit by multi-cyclones with fly ash reinjection. Emissions of NO<sub>x</sub> are controlled with the use of low-NO<sub>x</sub> burners.</p> <p><i>Monitors:</i> Continuous opacity monitor systems (COMS) are used to measure opacity in conformance with 40 CFR Part 75. Nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) continuous emissions monitoring systems (CEMS) are used to demonstrate compliance with the existing NO<sub>x</sub> and SO<sub>2</sub> emissions limits</p> <p><i>Unit 1 Stack Parameters:</i> Exhaust gas exits at 287° F and 1,241,257.5 acfm through an 18.1-foot diameter stack that is 400 feet tall.</p> <p><i>Unit 2 Stack Parameters:</i> Exhaust gas exits at 287° F and 1,241,257.5 acfm through an 18.1-foot diameter stack that is 400 feet tall.</p>

Pursuant to Rule 62-296.340 (BART), F.A.C., the following standards represent the Best Available Retrofit Technology. These standards apply to each BART-eligible unit and are in addition to, and supplement, all other applicable standards.

#### CONTROL EQUIPMENT

- 1. Particulate Controls:** As soon as practicable, but not later than December 31, 2013, the permittee shall replace the existing multi-cyclones on these units with new state-of-the-art multi-cyclones. [Rule 62-296.340 (BART), F.A.C. and Application No. 0250003-008-AC]
- 2. Circumvention:** The permittee shall not circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]
- 3. Fuel Additives:** The permittee shall conduct a study of fuel additives designed to reduce the formation of PM and/or improve the collection efficiency of the PM emissions in the multi-cyclones. Included with this study is the authorization to inject different types of fuel additives and to perform stack tests to demonstrate the results. [Application No. 0250003-008-AC]

#### BART EMISSIONS STANDARDS

- 4. Fuel Oil Sulfur and Sulfur Dioxide Standard:** As soon as practicable, but not later than December 31, 2013, the sulfur content of the fuel fired in Units 1 and 2 shall not exceed 0.7%, by weight. Upon reduction of the sulfur content of the fuel oil, SO<sub>2</sub> emissions from Units 1 and 2 shall not exceed 0.77 lb/MMBtu, on a 3-hour rolling average. The sulfur dioxide emission limitation shall apply at all times including startup, shutdown, and load change. Compliance shall be demonstrated through the use of the existing continuous emissions monitoring systems (CEMS). [Rule 62-296.340 (BART), F.A.C. and Application No. 0250003-008-AC]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### Emissions Units 1 and 2 (EU-001 & -002)

5. Particulate Matter Emissions Standard: As soon as practicable, but not later than December 31, 2013, the PM emissions from Units 1 and 2 shall not exceed 0.07 lb/MMBtu of heat input on a 3-hour average, as determined by EPA Method 5 or 17. Based on the results of the fuel additive tests and upon agreement from the applicant, this limit may be further reduced to 0.05 lb/MMBtu. [Rule 62-296.340 (BART), F.A.C. and Application No. 0250003-008-AC]
6. Particulate Matter - Soot Blowing and Load Change: As soon as practicable, but not later than December 31, 2013, particulate matter emissions shall not exceed an average of 0.2 pound per million Btu of heat input, as determined by EPA Method 5 or 17, 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) & (5), F.A.C.]
7. Opacity Standard: As soon as practicable, but not later than December 31, 2013, the visible emissions (VE) from Units 1 and 2 shall not exceed 20% opacity, based on a 12-month rolling average of all valid 6-minute opacity readings as recorded by the COMS. Excess emissions during periods of malfunction shall be excluded. In calculating the 12-month rolling opacity average, the permittee may exclude up to one percent of the total number of 6-minute averages over the relevant 12-month period. [Rules 62-4.070(3), 62-296.340 (BART) and 62-296.405(1)(a), F.A.C.]

#### MONITORING REQUIREMENTS

8. Continuous Emissions Monitoring Systems: Compliance with the new emissions limits for SO<sub>2</sub> and VE shall be demonstrated through the use of the existing acid rain required SO<sub>2</sub> CEMS and COMS. [Rules 62-296.340 (BART) and 62-4.070(3), F.A.C.]

#### EMISSIONS PERFORMANCE TESTING

9. Testing Requirements: In addition to the following conditions, these emissions units are also subject to the requirements contained in the attached Appendix C. Standard Testing Requirements. [Rules 62-296.320 and 62-297.310, F.A.C.]
10. Test Methods: The following reference methods (or more recent versions) shall be used to conduct any required emissions tests.

Method	Description of Method and Comments
1 - 4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5 or 17	Determination of PM Emissions from Stationary Sources
19	Determination of SO <sub>2</sub> Removal Efficiency and PM, SO <sub>2</sub> , and NO <sub>x</sub> Emission Rates

EPA Methods 1, 2, 3, 3A, 4 and 19 shall be used as necessary to support the other test methods. The above methods are described in 40 CFR 60, Appendix A, which is adopted by reference in Rule 62-204.800, F.A.C. No other methods shall be used without prior written approval from the Permitting Authority. [Rules 62-204.800 and 62-297.100, F.A.C.; and 40 CFR 60, Appendix A]

11. Standard Testing Requirements: All required emissions tests shall be conducted in accordance with the requirements specified in Appendix C (Standard Testing Requirements) of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; and 40 CFR 60, Appendix A]
12. Compliance Demonstrations: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the permittee shall conduct tests on Units 1 and 2 to demonstrate compliance with the BART standards for particulate matter and sulfur dioxide. Initial compliance tests for PM shall be conducted during federal fiscal year 2012/2013 and a test report demonstrating compliance with the new BART standards shall be submitted

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### Emissions Units 1 and 2 (EU-001 & -002)

before October 1, 2013. Emissions of SO<sub>2</sub> shall be determined continuously with data from the existing continuous emissions monitoring systems (CEMS). Information obtained during the annual CEMS Relative Accuracy Test Audit (RATA) may be used to satisfy the testing requirements for SO<sub>2</sub>. Compliance with the 20% rolling 12-month average opacity limit shall be calculated and recorded on site by the 15<sup>th</sup> of each month, based on the arithmetic average of all 6-minute readings documented by the COMS during the previous 12 calendar months, excluding allowable periods of documented excess emissions as the result of a malfunction. If necessary to demonstrate compliance with the 20% average, up to 1% of the total number of 6-minute averages over the previous 12-month period may also be excluded. A summary of these calculations shall be provided with the semi-annual monitoring reports, which are required by the Title V permit. [Rules 62-204.800, 62-296.340(3)(b)2 and 62-297.310(7)(a)4, F.A.C.; and 40 CFR 60, Appendix A, Method 9]

### NOTIFICATIONS, RECORDS, REPORTS AND APPLICATIONS

13. Fuel Additives Test Report: Not later than December 31, 2010, the permittee shall submit a report to the Permitting Authority describing the potential benefits, the resulting emissions increases and decreases, and the manufacturer's safety data sheets (MSDS) for each of the different additives tested. Based on the information contained in the report, the Applicant will make a recommendation as to which additive(s) shall be used (if any) in order to reduce the PM emissions to the goal of 0.05 lb/MMBtu. [Application No. 0250003-008-AC]
14. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
15. BART Alternative Permit Application: As an alternative to the SO<sub>2</sub> and PM limits in conditions 4 and 5, above, not later than 12/31/2011, FPL may submit an application requesting to either: repower Units 1 and 2 with natural gas-fired combustion turbines, burn only natural gas in units 1 and 2 and meet a PM emissions limit of 0.05 lb/MMBtu, or permanently shut down Units 1 and 2. [Rule 62-296.340, F.A.C.]
16. Reasonable Progress Control Technology (RPCT): Nothing in this permit shall affect the Department's obligations to address Reasonable Further Progress at this facility. [Rule 62-296.341, F.A.C.]
17. BART Permit Application for SO<sub>2</sub> and NO<sub>x</sub>: In the event that CAIR is vacated by the Federal courts, the Department reserves the right to require the submission of a BART application for SO<sub>2</sub> and NO<sub>x</sub>. [Rule 62-296.340, F.A.C.]



**SECTION 4. APPENDICES (DRAFT)**

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**CONTENTS**

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Standard Testing Requirements

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**SECTION 4. APPENDIX A (DRAFT)**

**CITATION FORMATS**

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The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.

**REFERENCES TO PREVIOUS PERMITTING ACTIONS**

**Old Permit Numbers**

*Example:* Permit No. AC50-123456 or Air Permit No. AO50-123456

*Where:* “AC” identifies the permit as an Air Construction Permit  
“AO” identifies the permit as an Air Operation Permit  
“123456” identifies the specific permit project number

**New Permit Numbers**

*Example:* Permit Nos. 099-2222-001-AC, 099-2222-001-AO, or 099-2222-001-AV

*Where:* “099” represents the specific county ID number in which the project is located  
“2222” represents the specific facility ID number  
“001” identifies the specific permit project  
“AC” identifies the permit as an air construction permit  
“AO” identifies the permit as a minor source air operation permit  
“AV” identifies the permit as a Title V Major Source Air Operation Permit

**PSD Permit Numbers**

*Example:* Permit No. PSD-FL-317

*Where:* “PSD” means issued pursuant to the Prevention of Significant Deterioration of Air Quality  
“FL” means that the permit was issued by the State of Florida  
“317” identifies the specific permit project

**RULE CITATION FORMATS**

**Florida Administrative Code (F.A.C.)**

*Example:* [Rule 62-213.205, F.A.C.]

*Means:* Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

**Code of Federal Regulations (CFR)**

*Example:* [40 CFR 60.7]

*Means:* Title 40, Part 60, Section 7

**SECTION 4. APPENDIX B (DRAFT)**

**GENERAL CONDITIONS**

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy and records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

**SECTION 4. APPENDIX B (DRAFT)**

**GENERAL CONDITIONS**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - a. Determination of Best Available Control Technology (Not Applicable);
  - b. Determination of Prevention of Significant Deterioration (Not Applicable); and
  - c. Compliance with New Source Performance Standards (Not Applicable).
14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SECTION 4. APPENDIX C (DRAFT)**  
**STANDARD TESTING REQUIREMENTS**

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Unless otherwise specified by permit, all emissions units that require testing are subject to the following conditions as applicable.

1. 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 two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
2. Operating Rate During Testing: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operating at permitted capacity as defined below. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the 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.
  - a. *Combustion Turbines*. (Reserved)
  - b. *All Other Sources*. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit.[Rule 62-297.310(2), F.A.C.]
3. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
4. 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) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation

**SECTION 4. APPENDIX C (DRAFT)**  
**STANDARD TESTING REQUIREMENTS**

shall be equal to the duration of the batch cycle or operation completion time.

- b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
- 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.
- b. *Minimum Sample Volume.* Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
- c. *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.
- d. *Calibration of Sampling Equipment.* Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
- e. *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.

TABLE 297.310-1 CALIBRATION SCHEDULE			
Item	Minimum Frequency	Reference Instrument	Tolerance
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	± 2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	± 1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	± 0.001" mean of at least three readings; maximum deviation between readings, 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

[Rule 62-297.310(4), F.A.C.]

**SECTION 4. APPENDIX C (DRAFT)**  
**STANDARD TESTING REQUIREMENTS**

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5. 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.]

6. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

- a. *Permanent Test Facilities.* The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.
- b. *Temporary Test Facilities.* The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.
- c. *Sampling Ports.*
  - 1) All sampling ports shall have a minimum inside diameter of 3 inches.
  - 2) The ports shall be capable of being sealed when not in use.
  - 3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
  - 4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
  - 5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

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**STANDARD TESTING REQUIREMENTS**

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d. *Work Platforms.*

- 1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
- 2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
- 3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
- 4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. *Access to Work Platform.*

- 1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
- 2) Walkways over free-fall areas shall be equipped with safety rails and toeboards.

f. *Electrical Power.*

- 1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
- 2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. *Sampling Equipment Support.*

- 1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
  - a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
  - b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
  - c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
- 2) A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.
- 3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.



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**STANDARD TESTING REQUIREMENTS**

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7. 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) The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
  - 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 and/or solid 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 sub-subparagraph 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 and/or solid 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 and/or solid fuel, other than during startup, for a total of more than 400 hours.
  - 6) For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
  - 7) For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
  - 8) Any combustion turbine that does not operate for more than 400 hours per year shall conduct a

**SECTION 4. APPENDIX C (DRAFT)**  
**STANDARD TESTING REQUIREMENTS**

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visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.

- 9) The owner or operator shall notify the Department, 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.
  - 10) An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.
- 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 shall 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.

8. 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 on the results of each such test.
- b. The required test report shall be filed with the Department 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 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.

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**STANDARD TESTING REQUIREMENTS**

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- 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.

[Rule 62-297.310(8), F.A.C.]

9. Stack: The terms stack and duct are used interchangeably in this rule. [Rule 62-297.310(9), F.A.C.]

## Livingston, Sylvia

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**From:** Livingston, Sylvia  
**Sent:** Friday, March 06, 2009 4:16 PM  
**To:** 'rudy.sanchez@fpl.com'  
**Cc:** 'kevin.washington@fpl.com'; 'kkosky@golder.com'; Anderson, Lennon; 'muthim@miamidade.gov'; 'forney.kathleen@epamail.epa.gov'; 'oquendo.ana@epamail.epa.gov'; Gibson, Victoria; Moore, Ronni; Holtom, Jonathan; Walker, Elizabeth (AIR)  
**Subject:** FPL - TURKEY POINT POWER PLANT; 0250003-008-AC  
**Attachments:** 0250003-008-AC\_Intent.pdf

Dear Sir/ Madam:

Attached is the official **Revised Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

*Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).*

**Click on the following link to access the permit project documents:**

[http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/0250003.008.AC.R\\_pdf.zip](http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0250003.008.AC.R_pdf.zip)

**Owner/Company Name:** FLORIDA POWER and LIGHT (PTF)

**Facility Name:** TURKEY POINT POWER PLANT

**Project Number:** 0250003-008-AC

**Permit Status:** REV DRAFT

**Permit Activity:** CONSTRUCTION

**Facility County:** MIAMI-DADE

**Processor:** Jonathan Holtom

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. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation

Sylvia Livingston  
Bureau of Air Regulation  
Division of Air Resource Management (DARM)  
850/921-9506  
[sylvia.livingston@dep.state.fl.us](mailto:sylvia.livingston@dep.state.fl.us)

## Livingston, Sylvia

---

**From:** Sanchez, Rudy [Rudy.Sanchez@fpl.com]  
**Sent:** Monday, March 09, 2009 3:44 PM  
**To:** Livingston, Sylvia  
**Cc:** Washington, Kevin; Wilkinson, Sheila M; cunninghamp@hgslaw.com  
**Subject:** RE: FPL - TURKEY POINT POWER PLANT; 0250003-008-AC

I can view the documents...thank you.

---

**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Friday, March 06, 2009 4:16 PM  
**To:** Sanchez, Rudy  
**Cc:** Washington, Kevin; kkosky@golder.com; Anderson, Lennon; muthim@miamidade.gov; forney.kathleen@epamail.epa.gov; oquendo.ana@epamail.epa.gov; Gibson, Victoria; Moore, Ronni; Holtom, Jonathan; Walker, Elizabeth (AIR)  
**Subject:** FPL - TURKEY POINT POWER PLANT; 0250003-008-AC

Dear Sir/ Madam:

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[http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/0250003.008.AC.R\\_pdf.zip](http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0250003.008.AC.R_pdf.zip)

**Owner/Company Name:** FLORIDA POWER and LIGHT (PTF)  
**Facility Name:** TURKEY POINT POWER PLANT  
**Project Number:** 0250003-008-AC  
**Permit Status:** REV DRAFT  
**Permit Activity:** CONSTRUCTION  
**Facility County:** MIAMI-DADE  
**Processor:** Jonathan Holtom

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Sylvia Livingston