

Florida Department of
Environmental Protection

Memorandum

TO: *JH* Jeff Koerner
THROUGH: *JH* Jonathan Holton
FROM: Robert Wong
DATE: October 12, 2011
SUBJECT: Draft Air Permit No.1270009-022-AC (PSD-FL-270E)
FPL Sanford Power Plant Units 4 and 5
Combustion Turbine Improvements

This project is subject to minor source preconstruction review. Attached for your review are the following items:

- Written Notice of Intent to Issue Air Permit;
- Public Notice of Intent to Issue Air Permit;
- Technical Evaluation and Preliminary Determination;
- Draft Permit; and
- P.E. Certification.

The Draft Permit authorizes replacement of certain components of Units 4 and 5 combustion turbines with updated versions. The project will result in a small increase in actual (though not permitted) heat input as well as in power output and efficiency. There may or may not be a small increase in the short-term NO_x mass emission rate, which will be determined after the upgrade.

A final NSPS applicability analysis will be included in the subsequent Title V Operation Permit application. The PSD and BACT requirements in Rule 62-212.400, F.A.C. do not apply to this project.

The planned issuance date (10/12/2011) will be day 43 following receipt of the application.

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

Florida Power & Light Company (FPL)
700 Universe Boulevard
Juno Beach, Florida 33408

Air Permit No. PSD-FL-270E
Project No. 1270009-022-AC
Sanford Power Plant Units 4 and 5
Combustion Turbine Improvements

PROJECT DESCRIPTION

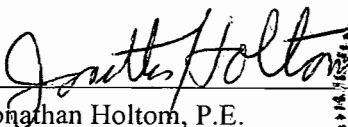
FPL proposes to improve eight combustion turbine-electric generators (CT) associated with Units 4 and 5 during an otherwise routine maintenance outage. The changes will increase the efficiency and power output of the CT by replacing certain hot gas path components in the GE Model 7FA.03 CT with those of the newer GE Model 7FA.04 CT. Specifically, the improvements include the installation of improved combustion liners and flow sleeves to increase firing temperature. New control software will also be installed.

Any increases in annual emissions will be less than the respective significant emission rates established in Rule 62-210.200, Florida Administrative Code (F.A.C.). A review for the Prevention of Significant Deterioration (PSD) and new Best Available Control Technology (BACT) determination were not required pursuant to Rule 62-212.400, F.A.C.

There will be no changes to the emission limits or heat input rates established in Units 4 and 5 repowering permit in 1999. Units 4 and 5 use inherently clean fuels and are subject to nitrogen oxides (NO_x) concentration limits of 9.0 and 42 parts per million by volume, dry at 15% oxygen when firing natural gas and backup distillate fuel oil, respectively.

There may or may not be a small increase in short-term mass emission rates of NO_x, which will be determined by comparing emissions before and after the project in accordance with 40 Code of Federal Regulation, Part 60 (40 CFR 60), Appendix C – Determination of Emission Rate Change. If short-term mass emission rate increases occur, then Units 4 and 5 will be subject to the requirements of 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines. The emission limits given therein are similar to those already applicable to Units 4 and 5.

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 any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).


Jonathan Holtom, P.E.
Registration Number 52664



Scearce, Lynn

From: Washington, Kevin [Kevin.Washington@fpl.com]
Sent: Wednesday, October 12, 2011 4:03 PM
To: Scearce, Lynn
Subject: RE: 1270009-022-AC-PSD-FL-270E, Sanford Power Plant, Draft Permit

Lynn,

I'm able to access the documents.

Thanks,

Kevin

From: Scearce, Lynn [mailto:Lynn.Scearce@dep.state.fl.us]
Sent: Wednesday, October 12, 2011 3:35 PM
To: Smith, Jeff
Cc: Washington, Kevin; Welch, Willie; Shine, Caroline; abrams.heather@epa.gov; Friday, Barbara; Scearce, Lynn; Holtom, Jonathan; Wong, Robert; Arif, Syed
Subject: 1270009-022-AC-PSD-FL-270E, Sanford Power Plant, Draft Permit

Dear Mr. Smith:

Attached is the official **Notice of Draft Permit** 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).

Owner/Company Name: FLORIDA POWER and LIGHT (PSN)
Facility Name: SANFORD POWER PLANT
Project Number: 1270009-022-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: VOLUSIA

Click on the following link to access the permit project documents:
http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1270009.022.AC.D_pdf.zip

The Office of Permitting and Compliance 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/emission/apds/default.asp>.

Permit project documents 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, Office of Permitting and Compliance.

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

Regards,

Lynn Searce

Office of Permitting and Compliance (OPC)

Division of Air Resources Management

850-717-9025

Please take a few minutes to share your comments on the service you received from the department by clicking on this link [DEP Customer Survey](#).



Florida Department of Environmental Protection

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

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Electronic Mail – Received Receipt Requested

Mr. Jeff Smith, Plant General Manager
Florida Power & Light Company (FPL)
700 Universe Blvd.
Juno Beach, Florida 33408

Re: Air Construction Permit No. 1270009-022-AC (PSD-FL-270E)
FPL Sanford Power Plant Units 4 and 5
Combustion Turbine Improvements


Dear Mr. Smith:

On August 29 2011, you submitted an application requesting authorization to improve the performance of the four General Electric (GE) Model 7FA.03 combustion turbine-electrical generators (CT) associated with Units 4 and 5 at the FPL Sanford Plant. The project involves the replacement of certain standard components on the four GE Model 7FA.03 CT with more advanced parts that are characteristic of the newer CT known as the GE Model 7FA.04. This facility is located in Volusia County at 950 South Highway 17-92, DeBary, Florida. Enclosed are the following documents:

- The Technical Evaluation and Preliminary Determination summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue a draft permit.
- The proposed draft permit includes the specific conditions that regulate the emissions units covered by the proposed project.
- The Written Notice of Intent to Issue Air Permit provides important information regarding: the Permitting Authority's intent to issue an air permit for the proposed project; the requirements for publishing a Public Notice of the Permitting Authority's intent to issue an air permit; the procedures for submitting comments on the draft permit; the process for filing a petition for an administrative hearing; and the availability of mediation.
- 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 and the proof of publication must be provided to the Department within seven days of the date of publication.

If you have any questions, please contact Robert Wong at 850-717-9036.

Sincerely,

for 
Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

10/12/11
Date

Enclosures

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

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

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

Authorized Representative:

Mr. Jeff Smith, Plant General Manager

Permit No. 1270009-022-AC (PSD-FL-270E)
Sanford Power Plant Units 4 and 5
Combustion Turbine Improvements
Volusia County, Florida

Facility Location: Florida Power & Light Company (FPL) operates the existing Sanford Power Plant, located in Volusia County at 950 South Highway 17-92, DeBary, Florida.

Project: The applicant proposes to improve eight combustion turbine-electric generators (CT) associated with Units 4 and 5 during an otherwise routine maintenance outage. The changes will increase the efficiency and power output of the CT by replacing certain hot gas path components in the General Electric (GE) Model 7FA.03 CT with those of the newer GE Model 7FA.04 CT. Specifically, the improvements include the installation of new hot gas path components such as combustion liners and flow sleeves to increase firing temperature. 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 Office of Permitting and Compliance in the Division of Air Resource Management 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 850/717-9000.

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. 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 proposed 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 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

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed draft permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be postmarked by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 14-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 become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Executed in Tallahassee, Florida.

for 
Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

10/12/11
Date

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) was sent by electronic mail with received receipt requested before the close of business on 10-12-11 to the persons listed below.

- Mr. Jeff Smith, FPL: jeff_smith@fpl.com
- Mr. Kevin Washington, FPL: kevin.washington@fpl.com
- Mr. Willie Welch, FPL: willie_welch@fpl.com
- Mr. Kennard Kosky, P.E., Golder Associates: ken_kosky@golder.com
- Mr. Caroline Shine, DEP Central District: caroline.shine@dep.state.fl.us
- Ms. Heather Abrams, EPA Region 4: abrams.heather@epa.gov
- Ms. Lynn Searce, DEP OPC Reading File: lynn.searce@dep.state.fl.us

Clerk Stamp

FILED 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)

October 12, 2011
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Office of Permitting and Compliance
Permit No. 1270009-022-AC (PSD-FL-270E)
Florida Power & Light Company
Sanford Power Plant Units 4 and 5
Volusia County, Florida

Applicant: The applicant for this project is Florida Power & Light Company (FPL). The applicant's authorized representative and mailing address are: Mr. Jeff Smith, Sanford Plant General Manager, FPL, 700 Universe Boulevard, Juno Beach, Florida 33408.

Facility Location: FPL operates the existing Sanford Power Plant, which is located in Volusia County at 950 South Highway 17-92, DeBary, Florida.

Project: Units 4 and 5 are nominal 1,000 megawatt (MW) natural gas-fueled combined cycle units. Each unit includes four General Electric (GE) Model 7FA.03 combustion turbine-electric generators (CT), four unfired heat recovery steam generators (HRSG) and a single steam turbine-electric generator. The applicant proposes to improve the eight CT associated with Units 4 and 5 during an otherwise routine maintenance outage. The changes will increase the efficiency and power output of the CT by replacing certain hot gas path components in the GE Model 7FA.03 CT with those of the newer GE Model 7FA.04 CT. Specifically, the improvements include the installation of improved combustion liners and flow sleeves to increase firing temperature. Details of the project are provided in the application and the Technical Evaluation and Preliminary Determination available at the web link indicated further below.

The project will result in an increase in theoretical fuel heat input by 32 million Btu (mmBtu/hr) per CT. However, there will be no increase in the permitted design fuel heat input of 1,776 mmBtu/hr per CT, higher heating value (HHV), at compressor inlet conditions of 59 degrees Fahrenheit (°F) when burning natural gas and 1,930 mmBtu/hr (HHV, 59 °F) when burning backup fuel oil. Any increases in annual emissions will be less than the respective significant emission rates established in Rule 62-210.200, Florida Administrative Code (F.A.C.). A review for the Prevention of Significant Deterioration (PSD) and a new Best Available Control Technology (BACT) determination were not required pursuant to Rule 62-212.400, F.A.C.

There will be no changes in the permitted emission limits for Units 4 and 5. These units use inherently clean fuels and are subject to nitrogen oxides (NO_x) concentration limits of 9 and 42 parts per million by volume, dry (ppmvd) at 15% oxygen when firing natural gas and backup fuel oil, respectively. The NO_x emissions are controlled by Dry Low-NO_x combustion technology or wet injection. The original permit for repowered Units 4 and 5 also established stringent limits for emissions of carbon monoxide, particulate matter, volatile organic compounds and sulfuric acid mist.

There may or may not be a small increase in short-term mass emission rates of NO_x, which will be determined by comparing emissions before and after the project in accordance with 40 Code of Federal Regulation, Part 60 (40 CFR 60), Appendix C – Determination of Emission Rate Change. If short-term mass emission rate increases occur, then Units 4 and 5 will be subject to the requirements of 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines. The emission limits given in Subpart KKKK are equal to or less stringent than those already applicable to Units 4 and 5 (which will remain in effect). Subpart KKKK limits NO_x emissions to 15 and 42 ppmvd @ 15% O₂ for natural gas and fuel oil firing, respectively, during combined-cycle operation.

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 Office of Permitting and Compliance in the Division of Air Resource Management 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 850/717-9000.

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

(Public Notice to be Published in the Newspaper)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

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 by entering 1270009-022-AC in the permit number panel at the following web site: <http://appprod.dep.state.fl.us/air/emission/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 proposed 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 proposed draft permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be postmarked by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 14-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 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.

(Public Notice to be Published in the Newspaper)



**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

APPLICANT

Florida Power and Light Company
700 Universe Boulevard.
Juno Beach, Florida 33408

Sanford Power Plant

PROJECT

Project No. 1270009-022-AC (PSD-FL-270E)
Application for Minor Source Air Construction Permit

Units 4 and 5 Combustion Turbine Improvements

Volusia County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
Power Plant Group
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

October 12, 2011

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources – Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Chapters 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

The Florida Power & Light Company (FPL) Sanford Power Plant is an existing stationary source, which is categorized under Standard Industrial Classification Code No. 4911. The existing Sanford Power Plant is located in Volusia County at 950 South Highway 17-92, DeBary, Florida in Florida. The UTM coordinates of the existing facility are Zone 17, 468.1 km East, and 3190.86 km North.

The facility consists of one conventional residual fuel oil-fired unit (Unit 3), two natural gas and distillate-fired combined cycle units (Units 4 and 5) and ancillary equipment.

Figures 1 and 2 are photographs of the FPL Sanford Power Plant, which is located near the St. John’s River where it discharges into Lake Monroe. Unit 3 is indicated by the red and white stack.

Units 4 and 5 are also indicated in the photograph. A large cooling pond indicated in Figure 2 is used in lieu of cooling towers.

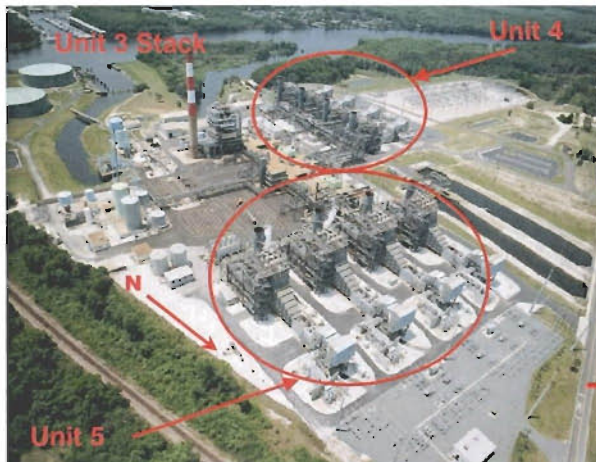


Figure 1. Aerial View of FPL Sanford Plant



Figure 2. Satellite View of Sanford Plant Environs

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility (i.e. Entire Sanford Power Plant) Regulatory Categories

- Per the facility Title V operation permit, the facility is not 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 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Description of Units 4 and 5

The project involves Units 4 and 5, each of which is a nominal 1,000 megawatts (MW) combined cycle unit consisting of: four nominal 170 MW General Electric (GE) Model 7FA.03¹ combustion turbine-electric generators (CT) turbines; four unfired heat recovery steam generators (HRSG); four 125-foot stacks; and a steam turbine-electric generator (STG). Units 4 and 5 also include automated control systems, inlet air filtration systems, evaporative inlet air cooling systems and associated support equipment. Units 4 and 5 were permitted as repowered combined cycle units in 1999 in accordance with the PSD rules and a best available control technology (BACT) determination was conducted for volatile organic compounds (VOC). Units 4 and 5 started up as repowered combined cycle units in 2003.

Emissions of carbon monoxide (CO), particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), and VOC are minimized by efficient combustion of inherently clean fuels and Dry Low NO_x (DLN) technology (Units 4 and 5) when firing natural gas or wet injection when firing backup distillate fuel oil (Unit 5 only).

Project Description

The left hand side of Figure 3 is a factory picture of an earlier version of the GE CT similar to the prime movers located within Units 4 and 5. The right hand side of the figure is a cutaway diagram of a more recent version showing the 14-stage compressor, the 14 combustor cans oriented along the circumference of the mid-section and the three-stage rotor (expansion) section.

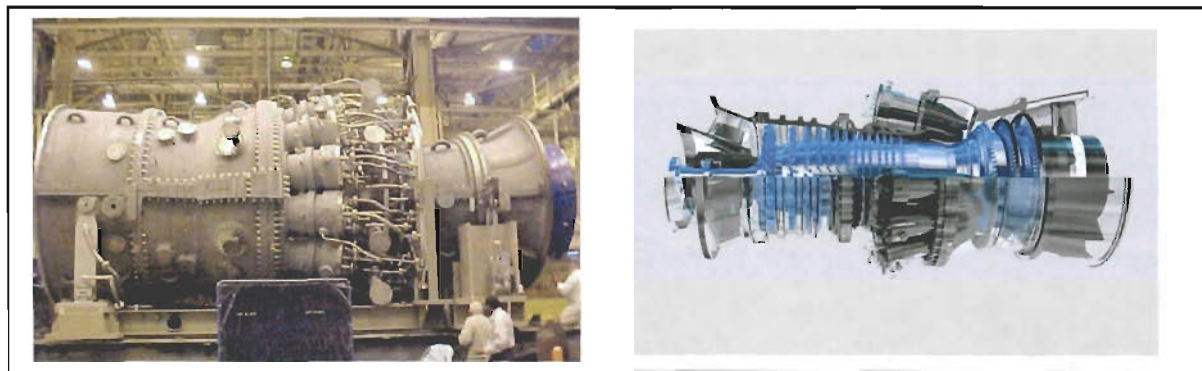


Figure 3. Factory Photo of an earlier GE 7FA and Internal View of a more recent GE 7FA.

FPL proposes to upgrade the eight CT during an otherwise routine maintenance outage. The changes will increase the efficiency and power output of each CT by replacing new hot gas path components with those characteristic of the more recent GE Model 7FA.04 CT to increase firing temperature. The components include combustion liners and flow sleeves. New control software will be installed.

¹ GE Model 7FA.03 was previously known as GE Model PG7241FA.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Below are photos from a similar project of a CT undergoing similar modifications. The left hand side of Figure 4 is a photo of the combustion section and the three-stage rotor (expansion) section with the upper casings removed and combustors removed.



Figure 4. Internal Photo of GE 7FA with Combustors Removed. Details of Rotor Section.

The photo on the right hand side of the figure shows further details of the hot gas path. The hot combustion gases pass from left to right through the 1st stage nozzle and then the 1st stage blades and buckets, 2nd stage nozzle and blades and finally the 3rd stage nozzle and blades. The blades, seen as the three vertical rings in the picture, are attached to the rotor and spin as the gas expands, thus providing thrust to drive the compressor section and an attached direct-drive electrical generator.

The nozzles, of which only one per stage is visible (others removed) are stationary and fixed to the casing. The proposed project will change the materials, internal cooling passages, and sealing of some of these these components.

The photo on the left hand side of Figure 5 shows 14 liners (per CT), each of which is installed immediately downstream of the six fuel nozzles located within each combustor. These channel the hot gas to the rotor section. The photo on the right hand side of the figure shows 14 flow sleeves (one per liner). These direct compressor discharge air around the liners to keep them cool. The liner and flow sleeve combination will be modified to reduce resistance to air flow and improve efficiency.



Figure 5. Replacement Combustor Liners and Flow Sleeves (14 Sets/CT) Planned for Units 4 and 5.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The project will result in theoretical fuel heat input increases of 32 and 35 million Btu per hour (mmBtu/hr) per CT when firing natural gas (Units 4 and 5) and distillate fuel oil (Unit 5 only), respectively. This will not require an increase in the permitted design fuel heat input rates of 1,776 and 1,930 mmBtu/hr/CT when firing natural gas and distillate fuel oil, respectively, referenced to the higher heating value (HHV) and a compressor air inlet temperature of 59 degrees Fahrenheit (°F).

As discussed further below, any increases in annual emissions will be less than the respective significant emission rates (SER) established in Rule 62-210.200(Definitions), Florida Administrative Code (F.A.C.). A review for the Prevention of Significant Deterioration (PSD) and a new Best Available Control Technology (BACT) determination were not required pursuant to Rule 62-212.400, F.A.C.

There will be no change in the previous BACT determination for VOC conducted for Units 4 and 5 in 1999 or in the emission limits for CO, PM/PM₁₀, SO₂ or NO_x that insured that the PSD rules were not triggered for the latter pollutants. The low emission levels are achieved through a combination of inherently clean fuels and good combustion processes; in particular Dry Low NO_x (DLN-2.6) combustion technology. Units 4 and 5 are subject to a NO_x concentration limits of 9 parts per million by volume, dry at 15 percent (%) oxygen (ppmvd) when firing natural gas. Unit 5 is also subject to a NO_x concentration limit of 42 ppmvd achieved by wet injection firing backup distillate fuel oil.

Processing Schedule

August 29, 2011 Received the application for a minor source air pollution construction permit.

October 12, 2011 Distributed Intent to Issue Air Permit

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will equal or exceed the PSD major stationary source thresholds. A facility is considered a "major stationary source" with respect to PSD if it emits or has the potential to emit:

- 250 TPY or more of any regulated air pollutant; or
- 100 TPY or more of any regulated air pollutant and the facility belongs to one of 28 PSD-major facility categories listed at Rule 62-210.200 (Definitions), F.A.C., including fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input.

The rules cited are available at the following links: [Link to 62-210, F.A.C.](#) and [Link to 62-212, F.A.C.](#)

PSD pollutants include: CO; NO_x; SO₂; PM; PM₁₀; VOC; lead (Pb); Fluorides (F); sulfuric acid mist (SAM); total reduced sulfur (TRS), including hydrogen sulfide (H₂S); and mercury (Hg).

For major stationary sources, PSD applicability is based on the previously mentioned SER as defined in Rule 62-210.200 (Definitions), F.A.C. Emissions of PSD pollutants from the project exceeding these SER are considered "significant" and BACT must be employed to minimize emissions of each PSD pollutant.

Refer to Table 1. Although a facility may be "major" for only one PSD pollutant, a project must include BACT controls for any PSD, emissions of which pollutant equal or exceed the corresponding SER.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Table 1. List of SER by PSD-Pollutant. ^{1,4,5}

<u>Pollutant</u>	<u>SER (TPY)</u>	<u>Pollutant</u>	<u>SER (TPY)</u>
CO	100	NO _x	40
PM/PM ₁₀ ²	25/15	Ozone (VOC) ³	40
Ozone (NO _x) ³	40	SAM	7
SO ₂	40	F	3
Pb	0.6	TRS	10
H ₂ S	10	Hg	0.1

1. Excluding those defined exclusively for municipal waste combustors and municipal solid waste landfills.
 2. PM with a diameter less than 2.5 micrometers (PM_{2.5}) is also a PSD pollutant, but an SER has not yet been defined in the Department's rules.
 3. Ozone (O₃) is regulated by its precursors (VOC and NO_x).
 4. There is a federal SER of 75,000 TPY for Greenhouse Gases (GHG) as carbon dioxide (CO₂) equivalent (CO₂e) that has not been incorporated into Department rules.
 5. SER also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m³, 24-hour average.

PSD Applicability for Project

The PSD requirements of Rule 62-212.400(4) through (12), F.A.C., apply to the construction of any new major stationary source or the major modification of any existing major stationary source. A significant emissions increase of a PSD pollutant (and thus a major modification) will occur if the difference (or the sum of the differences if more than one emissions unit is involved) between the **projected actual emissions** and the **baseline actual emissions** equals or exceeds the SER for that pollutant.

[Rule 62-212.400(2)(a)1., F.A.C.]

For any existing electric utility steam generating unit, “baseline actual emissions” means the average rate, in TPY, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department. [Rule 62-210.200 (Definitions), F.A.C.]

“Projected actual emissions” means the maximum annual rate, in TPY, at which an existing emissions unit is projected to emit a PSD pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that PSD pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source. [Rule 62-210.200 (Definitions), F.A.C.]

There are a number of additional considerations within the cited rules when making the described comparison of projected actual emissions to baseline actual emissions. One of the key considerations is that in making the calculation of projected actual emissions, the Department shall exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project including any increased utilization due to product demand growth.

The applicant conducted the described analysis, which is documented in the report attached to the application available at: [Link to FPL Application](#) .

Table 2 is a summary of the applicant's PSD applicability analysis. The full step-by-step procedure is shown in the application report in Tables 1 through 7 (Pages 74 through 82 of the pdf document).

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Table 2. Summary of the Applicant’s PSD Applicability Analysis.

Pollutant ¹	Baseline Actual Emissions (TPY)	Projected Actual Emissions (TPY)	Projected Emissions Increase (TPY)	SER (TPY)	Subject to PSD?
CO	159.9	167.5	7.6	100	No
NO _x	1,328.1	1,359.8	31.7	40	No
PM/PM ₁₀	287.2	287.2	0.0	25/15	No
SO ₂	26.5	27.2	0.7	40	No
VOC ²	0.15	0.16	< 1	40	No
SAM	4.1	4.2	0.1	7	No
CO ₂	5,214,241	5,248,293	34,052	75,000 (EPA SER)	No
N ₂ O (CO ₂ e)	2,973	3,932	959		
CH ₄ (CO ₂ e)	2,014	2,014	0		
Total GHG (CO ₂ e)	5,219,227	5,254,238	35,011		
<ol style="list-style-type: none"> 1. N₂O is nitrous oxide – a GHG. CH₄ is methane – a GHG. 2. The baseline and projected VOC emissions appear unrealistically low. However, any increase would be less than the increase in CO emissions and less than the VOC SER. 					

As shown in the above table, total project emissions will not exceed the PSD SER; therefore, the project is not subject to PSD preconstruction review. However, because the projected emissions increase for NO_x is approaching the PSD SER, future reporting comparing baseline actual emissions of NO_x to future actual emissions of NO_x will be required for 5 years following completion of the project, in accordance with the requirements of Rule 62-210.370, F.A.C.

To-date, Units 4 and 5 have used only natural gas. Assuming an increase of heat input rate for natural gas-firing and oil-firing of 32 mmBtu/hr/CT (1.8% of 1,776 mmBtu/hr/CT), NO_x emissions may increase at each compressor inlet temperature. At International Organization for Standardization (ISO) conditions, actual NO_x emissions are approximately 50 pounds per hour (lb/hr/CT). In that case, the additional emissions would be less than 1 lb/hr/CT or 32 TPY assuming the equivalent of 8,000 hours/year/CT at full load. At this emission increase (assuming there is any increase at all), the SER for NO_x would not be triggered. A similar analysis for CO, SO₂, VOC, PM/PM₁₀ and SAM would yield the same conclusion; PSD is not triggered.

While there is a projected increase in GHG emissions, there is an overall reduction in heat rate (Btu/kilowatt-hour) that reduces the amount of emissions for each megawatt-hour (MWH) generated.

According to the applicant, there will be an approximate 1% percent decrease in heat rate as a result of the project, which will reduce CO₂e emissions by roughly 53,000 TPY compared with the projected future actual emissions given in the table. Because of the efficiency improvements, the proposed project will reduce the output based emissions on the basis of lb CO₂e/MWH as well as lb NO_x/MWH. Similar conclusions apply for the other PSD pollutants, including CO, SO₂, PM/PM₁₀ and VOC.

3. NSPS APPLICABILITY

Sanford Units 4 and 5 are each an affected facility and an existing facility as defined in 40 CFR 60, Subpart A – General Provisions. [40 CFR 60.2 (Definitions) adopted as Rule 62-204.800(8)(a), F.A.C.] [Link to 40 CFR 60.2](#) .

Sanford Units 4 and 5 were constructed pursuant to 40 CFR 60, Subpart GG - Standards of Performance for Stationary Gas Turbines. [40 CFR 60, Subpart GG adopted as Rule 62-204.800(8)(b)(40), F.A.C.] [Link to Subpart GG](#) . The key minimum requirements of Subpart GG applicable to Sanford Units 4 and 5 include standards for NO_x and SO₂. In summary these are:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- Limit of 75 ppmvd of NO_x plus an efficiency and fuel nitrogen correction that for the Sanford Units 4 and 5 CT would result in a limit of approximately 110 ppmvd as measured by an annual NO_x compliance test and continuous water or steam to fuel monitoring (with continuous emissions monitoring system (CEMS) alternatives); and
- Limit of 0.8% by weight of sulfur in the fuel burned in the CT using one of several standard methods (with alternatives for contracts and representative sampling indicating sulfur less than 20 grains per 100 standard cubic feet – gr/100 SCF).

The following table is the summary of the emission limits given in the original air construction permit (1270001-004-AC/PSD-FL-270) for repowered Units 4 and 5. The NO_x emissions are corrected to 15% oxygen and measured by continuous emission monitoring systems (CEMS).

Table 3. Emission Limits Applicable to Repowered Units 4 and 5.

Emission Unit	NO _x	CO	VOC	PM/Visibility (% Opacity)	Technology and Comments
Combustion Turbines (each)	9 ppmvd (30 day) - gas 42 ppmvd - oil 75/110 ppmvd (NSPS)	12 ppmvd - gas 20 ppmvd - oil	1.4 ppmvd 7 ppmvw	10 - gas 20 - oil	Dry Low NO _x Combustors Natural Gas or 0.05% S Fuel Oil Good Combustion Water Injection on Fuel Oil

Clearly the NO_x requirements of Subpart GG (indicated by NSPS in the table) are less stringent than those imposed by the permit that was issued for Units 4 and 5 in 1999. Also the fuel spec in the original permit of natural gas or 0.05% sulfur (S) fuel oil is more stringent than the 0.8% S specification in Subpart GG.

For the purposes of NSPS applicability, the term “modification” means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

[40 CFR 60.2 (Definitions) adopted as Department Rule 62-204.800(8)(a), F.A.C.] [Link to 40 CFR 60.2](#) .

Modifications are further addressed in Section 40 CFR 60.14. [Link to 40 CFR 60.14](#) . This section requires that emission rates be expressed on a short-term mass per hour basis i.e. kilograms/hour (kg/hr). It includes a key exemption from the definition of modification for “maintenance, repair, and replacement which the Administrator determines to be routine for a source category”

The applicant presumed that replacement of the hot gas paths components with upgraded versions to improve efficiency does constitute “routine replacement”.

Reconstruction, which would make an existing facility also an affected facility, is addressed in Section 40 CFR 60.15. [Link to 40 CFR 60.15](#) . Reconstruction means “replacement of components of an existing facility to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility”.

Sanford Units 4 and 5 were repowered at a cost on the order of \$700,000,000.² The marginal cost of the improved hot path components compared with like-kind routine replacement of existing components is at most a few percent of the cost of constructing a comparable and entirely new facility. The Department concludes that the project does not constitute reconstruction.

There may or may not be a small increase in short-term mass emission rates of NO_x. According to the application, “since the hourly emission rates for these pollutants may potentially increase, the proposed

² Newspaper Article. Sun Sentinel. March 5, 2002. [Link to Article](#)

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

project is a potential modification according to the rules for NSPS. As a result, the improved Units 4 and 5 turbines may be subject to 40 CFR 60 Subpart KKKK”.

40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines applies to stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005. [40 CFR 60, Subpart KKKK adopted as Department Rule 62-204(8)(b)(81), F.A.C.]. [Link to Subpart KKKK](#) . Units subject to Subpart KKKK are not (i.e. no longer) subject to Subpart GG.

The key minimum requirements of Subpart KKKK applicable to Sanford Units 4 and 5 include standards for NO_x and SO₂. In summary these are:

- Limits of 15 and 42 ppmvd of NO_x, gas-fired or oil-fired respectively, on a 30-day basis when operating in combined cycle mode, and
- Limit of 0.90 lb SO₂/MWH or 0.060 lb SO₂/mmBtu using one of several standard sulfur fuel test methods (with alternatives for contracts and representative sampling indicating sulfur less than 20 gr/100 SCF of natural gas and less than 0.05%, by weight, in the fuel oil).

These requirements are more stringent than those of Subpart GG and approximately as stringent as the NO_x emission limitation and the sulfur fuel specifications already applicable to Units 4 and 5 per the original repowering permit. The key exception is that the Subpart KKKK simple cycle NO_x limit when firing natural gas would be applicable on a 4-hour basis rather than a 30-day basis. Simple cycle operation is rarely if ever practiced for Units 4 and 5.

Overall there would be no meaningful difference in the future operation of Units 4 and 5 or future emissions regardless of the applicability of Subpart KKKK. The Department will make a final determination based on future operation and will require the applicant to submit data comparing emissions before and after the project in accordance with 40 CFR 60, Appendix C – Determination of Emission Rate Change. Details of the methodology are provided in the following link: [Link to Appendix C](#) .

According to the introduction in Appendix C, the “method shall be used to determine whether a physical or operational change to an existing facility *resulted* in an increase in the emission rate to the atmosphere. The method used is the Student's *t* test, commonly used to make inferences from small samples”. Fortunately Units 4 and 5 have CEMS for NO_x and it will be easy to review data from before and after the change and make the inference from a relatively large number of runs (n = 20-29).

If short-term mass emission rate increases occur, then Units 4 and 5 will be subject to the requirements of Subpart KKKK. The primary changes would be in certain reporting requirements.

4. PERMIT CHANGES

The only permit conditions required are:

- A description and authorization of the improvement project – replacement of hot gas path components with upgraded parts;
- A requirement that the permittee report emissions of NO_x pursuant to Rule 62-212.300(1)(e), F.A.C. to determine in the future whether the project has triggered PSD; and
- A requirement that the permittee conduct tests in accordance with 40 CFR 60, Appendix C (using CEMS) and submit the data with a preliminary inference whether the emission rates after the change are greater than before the change with 95% confidence and whether Subpart KKKK applies.
- The present Title V Operation Permit (1270009-018-AV) already provides exclusion of several hours of emission data during tuning of the combustors such as would be performed at the completion of the turbine improvement project. The Department will, nevertheless, include a condition in the present

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

air construction permit to insure that similar tuning is allowed on a permanent basis rather than only during the lifetime of the present Title V Operation Permit, which expires on December 31, 2014.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Robert Wong is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399.

DRAFT PERMIT

PERMITTEE

Florida Power & Light Company (FPL)
700 Universe Boulevard
Juno Beach, Florida 33408

Authorized Representative:
Jeff Smith, Plant General Manager

Air Permit No. PSD-FL-270E
Project No. 1270009-022-AC
Sanford Power Plant Units 4 and 5
Combustion Turbine Improvements
Permit Expires: April 30, 2012
Volusia County

PROJECT

This is the draft air construction permit, which modifies original Permit No. PSD-FL-270 that authorized the construction of Units 4 and 5, two "4-on-1" combined cycle systems. This revision authorizes the replacement and upgrade of certain components on the gas turbines. Units 4 and 5, each have a total capacity of approximately 1,000 megawatts (MW) in combined cycle operation. The proposed work will be conducted at the existing Sanford Power Plant, which is an electric utility power plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Volusia County 950 South Highway 17-92, in DeBary, Florida. The UTM coordinates are Zone 17, 468.1 km East and 3190.86 km North.

This draft permit is organized into the following sections: Section I (General Information); Section II (Administrative Requirements); Section III (Emissions Unit Specific Conditions); Section IV (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This draft 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.). The permittee will be authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

DRAFT

Jeffery F. Koerner, Administrator
Office of Permitting and Compliance
Division of Air Resources Management

(Date)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on _____ to the persons listed below.

- Mr. Jeff Smith, FPL: jeff_smith@fpl.com
- Mr. Kevin Washington, FPL: kevin.washington@fpl.com
- Mr. Willie Welch, FPL: willie_welch@fpl.com
- Mr. Kennard Kosky, P.E., Golder Associates: ken_kosky@golder.com
- Ms. Caroline Shine, DEP Central District: Caroline.Shine@dep.state.fl.us
- Ms. Heather Abrams, EPA Region 4: abrams.heather@epa.gov
- Ms. Lynn Searce, DEP OPC Reading File: lynn.searce@dep.state.fl.us

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.

(DRAFT)

(Clerk)

(Date)

SECTION I – GENERAL INFORMATION

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

EU No.	Brief Description
<i>Regulated Emissions Units</i>	
001	Electric Utility Steam Generating Unit 3
004	Miscellaneous Engines
005	Combined Cycle Combustion Turbine Unit 4A
006	Combined Cycle Combustion Turbine Unit 4B
007	Combined Cycle Combustion Turbine Unit 4C
008	Combined Cycle Combustion Turbine Unit 4D
009	Combined Cycle Combustion Turbine Unit 5A
010	Combined Cycle Combustion Turbine Unit 5B
011	Combined Cycle Combustion Turbine Unit 5C
012	Combined Cycle Combustion Turbine Unit 5D
<i>Unregulated Emissions Units</i>	
013	Two evaporative equipment coolers

PROPOSED PROJECT

The applicant proposes to upgrade the eight Combustion Turbines during an otherwise routine maintenance outage. The changes will increase the efficiency and power output of each CT by installing new hot gas path components, combustion liners, flow sleeves and new control software characteristic of the more recent GE Model 7FA.04 CT to increase firing temperature. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination. The combined-cycle combustion turbines are Acid Rain Units.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the Acid Rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C..
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. PSD

SECTION II – ADMINISTRATIVE REQUIREMENTS

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

1. **Permitting Authority:** The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address 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 the Department's Central District at: 3319 Maguire Boulevard, Suite 232, Orlando, FL 32803-3767.
3. **Appendices:** The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); and Appendix C (Common Conditions).
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 all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. **New or Additional Conditions:** For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. **Modifications:** The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. **Source Obligation:** At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]
8. **Application for Title V Permit:** This permit authorizes modification of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. 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 appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]
9. **Actual Emissions Reporting:** This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions as described in Section III, Specific Condition No. 3.
10. **NSPS, Subpart KKKK Applicability Determination:** The permittee shall submit an applicability analysis related to 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines with

SECTION II – ADMINISTRATIVE REQUIREMENTS

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

the Title V Permit application required by Section 2, Condition 8 above and as detailed in Section III, Specific Condition No. 4.

SECTION III – EMISSION(S) UNIT SPECIFIC CONDITIONS

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

This section of the permit addresses the following emissions units.

EU No.	Sanford Combustion Turbines (CT)			Unfired HRSG	Total
	Unit No.	CT No.	MW, Shaft		
Combined Cycle Unit No. 4					
005	Combined Cycle Combustion Turbine 4A	PSNCT4A	170 MW	320 MW	1000 MW
006	Combined Cycle Combustion Turbine 4B	PSNCT4B	170 MW		
007	Combined Cycle Combustion Turbine 4C	PSNCT4C	170 MW		
008	Combined Cycle Combustion Turbine 4D	PSNCT4D	170 MW		
Combined Cycle Unit No. 5					
009	Combined Cycle Combustion Turbine 5A	PSNCT5A	170 MW	320 MW	1000 MW
010	Combined Cycle Combustion Turbine 5B	PSNCT5B	170 MW		
011	Combined Cycle Combustion Turbine 5C	PSNCT5C	170 MW		
012	Combined Cycle Combustion Turbine 5D	PSNCT5D	170 MW		

PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

EQUIPMENT

2. Combustion Turbine Improvements on Units 4 and 5: The permittee is authorized to conduct work on Units 4 and 5 (EU 005 – 012) to replace various components of the Series 7FA.03 gas turbines with upgraded components of the Series 7FA.04 version including (but not limited to) the following:
 - New hot gas path components;
 - New combustion liners and flow sleeves; and
 - New control software.

[Application No. 1270009-022-AC]

REPORTING REQUIREMENTS

{Permitting Note: Continuous compliance with the NO_x standards will be demonstrated by CEMS. Other required stack tests may be conducted during the next scheduled period in accordance with existing permit conditions.}

3. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
 - a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year (TPY) on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

SECTION III – EMISSION(S) UNIT SPECIFIC CONDITIONS

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

- b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
 - 1) The name, address and telephone number of the owner or operator of the major stationary source;
 - 2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
 - 3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
 - 4) Any other information that the owner or operator wishes to include in the report.
- c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
- d. The Department has identified NO_x as the only PSD pollutant that could reasonably increase as a result of this modification. For informational purpose, the permittee estimated the baseline actual emissions of NO_x as 1,328 TPY. The permittee shall use the installed CEMS to determine and report the actual annual emissions of NO_x for the purpose of comparisons with baseline actual emissions.
- e. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

[Application 1270009-022-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

4. NSPS, KKKK Applicability Determination: The permittee shall conduct tests in accordance with 40 CFR 60, Appendix C - Determination of Emission Rate Change. The permittee shall submit the data with the Title V Permit application required by SECTION II, Condition 8 above. The submittal shall include a preliminary inference. If the short-term NO_x emission rates (in pounds per hour), while operating in the normal combined cycle mode and burning natural gas, after the change are greater than before the change with 95% confidence and an analysis regarding the applicability of 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines. The tests shall be conducted using the installed NO_x CEMS with the units operated as if a manual test were being performed. Valid data using the averaging time which would be required if a manual emission test were being conducted shall be used. The number (n) of runs shall be between 20 and 29. [Application 1270009-022-AC]

MODIFIED PERMIT CONDITIONS

5. In addition, this permit changes the excess emissions provisions contained in original permit No. 1270009-004-AC (PSD-FL-270). To establish provisions for excess emissions due to DLN tuning, Specific Condition 24 is revised by adding paragraph c. Pursuant to Rules 62-210.200(220) and 62-213.410(2), F.A.C., this change in the PSD-established excess emissions provisions is considered an operating change that does not require a Title V permit revision, since it does not contravene an applicable requirement for the source and does not constitute a modification. The provisions of this condition supersede the excess emissions provisions established in Specific Condition B.12.e. of permit No. 1270009-018-AV and will be incorporated into the Title V permit as an applicable requirement at the next opportunity. New text will be shown with double underline and deleted text will be shown with ~~strikethrough~~.

24. Excess Emissions Requirements:

SECTION III – EMISSION(S) UNIT SPECIFIC CONDITIONS

REPOWERED COMBINED CYCLE UNITS 4 AND 5 (EU-005 to EU-012)

- a. Excess emissions resulting from startup, shutdown, or malfunction of the combustion turbines and heat recovery steam generators shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period except during either “cold start-up” to or cold shutdowns from combined cycle operation. During cold start-up to combined cycle operation, up to three hours of excess emissions are allowed. During shutdowns from combined cycle operation, up to three hours of excess emissions are allowed. Cold start-up is defined as a startup to combined cycle operation following a complete shutdown lasting at least 48 hours.
- b. Excess emissions from the combustion turbines resulting from startup of the steam turbines system shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed 12 hours per cold startup of the steam turbine system.
- c. DLN Tuning. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances as identified by the equipment manufacturer. . Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.

[Applicant Request (FPL estimates that, on average, there will be approximately 12 startups to combined-cycle operation per year), G.E. Combined Cycle Startup Curves Data and Rules 62-4.070(3), 62-210.700, 62-4.130, F.A.C.].

SECTION IV. APPENDICES (DRAFT)

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Appendix A. Citation Formats and Glossary of Common Terms

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SECTION IV. APPENDIX A (DRAFT)
Citation Formats and Glossary of Common Terms

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or 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-AF, 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 for that county
“001” identifies the specific permit project number
“AC” identifies the permit as an air construction permit
“AF” identifies the permit as a minor source federally enforceable state operation permit
“AO” identifies the permit as a minor source air operation permit
“AV” identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the preconstruction review requirements of 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 number

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 CRF 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

µg: microgram

AAQS: Ambient Air Quality Standard

acf: actual cubic feet

acfm: actual cubic feet per minute

ARMS: Air Resource Management System
(Department’s database)

BACT: best available control technology

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

CFR: Code of Federal Regulations

CAA: Clean Air Act

SECTION IV. APPENDIX A (DRAFT)
Citation Formats and Glossary of Common Terms

CMS: continuous monitoring system	NO_x: nitrogen oxides
CO: carbon monoxide	NSPS: New Source Performance Standards
CO₂: carbon dioxide	O&M: operation and maintenance
COMS: continuous opacity monitoring system	O₂: oxygen
DARM: Division of Air Resource Management	Pb: lead
DEP: Department of Environmental Protection	PM: particulate matter
Department: Department of Environmental Protection	PM₁₀: particulate matter with a mean aerodynamic diameter of 10 microns or less
dscf: dry standard cubic feet	ppm: parts per million
dscfm: dry standard cubic feet per minute	ppmv: parts per million by volume
EPA: Environmental Protection Agency	ppmvd: parts per million by volume, dry basis
ESP: electrostatic precipitator (control system for reducing particulate matter)	QA: quality assurance
EU: emissions unit	QC: quality control
F: fluoride	PSD: prevention of significant deterioration
F.A.C.: Florida Administrative Code	psi: pounds per square inch
F.A.W.: Florida Administrative Weekly	PTE: potential to emit
F.D.: forced draft	RACT: reasonably available control technology
F.S.: Florida Statutes	RATA: relative accuracy test audit
FGD: flue gas desulfurization	RBLC: EPA's RACT/BACT/LAER Clearinghouse
FGR: flue gas recirculation	SAM: sulfuric acid mist
ft²: square feet	scf: standard cubic feet
ft³: cubic feet	scfm: standard cubic feet per minute
gpm: gallons per minute	SIC: standard industrial classification code
gr: grains	SIP: State Implementation Plan
HAP: hazardous air pollutant	SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)
Hg: mercury	SO₂: sulfur dioxide
I.D.: induced draft	TPD: tons/day
ID: identification	TPH: tons per hour
kPa: kilopascals	TPY: tons per year
lb: pound	TRS: total reduced sulfur
MACT: maximum achievable technology	UTM: Universal Transverse Mercator coordinate system
MMBtu: million British thermal units	VE: visible emissions
MSDS: material safety data sheets	VOC: volatile organic compounds
MW: megawatt	
NESHAP: National Emissions Standards for Hazardous Air Pollutants	

SECTION IV. 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 403.141, 403.727, or 403.859 through 403.861, F.S. 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 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any 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 of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and 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 and 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 reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under 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 noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. 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 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

SECTION IV. APPENDIX B (DRAFT)

General Conditions

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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with 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 to project);
 - b. Determination of Prevention of Significant Deterioration (not applicable to project); and
 - c. Compliance with New Source Performance Standards (not applicable to project).
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 for 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:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The person responsible for performing the sampling or measurements;
 - (c) The dates analyses were performed;
 - (d) The person responsible for performing the analyses;
 - (e) The analytical techniques or methods used;
 - (f) 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 the 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 IV. APPENDIX C (DRAFT)

Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. 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.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]
4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

RECORDS AND REPORTS

10. 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.]

SECTION IV. APPENDIX C (DRAFT)

Common Conditions

11. Emissions Computation and Reporting:

- a. *Applicability.* This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]
- b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.
 - (1) **Basic Approach.** The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
 - (a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
 - (b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
 - (c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
 - (2) **Continuous Emissions Monitoring System (CEMS).**
 - (a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
 - 1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
 - 2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
 - (b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
 - 1) A calibrated flow meter that records data on a continuous basis, if available; or
 - 2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - (c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

SECTION IV. APPENDIX C (DRAFT)

Common Conditions

(3) Mass Balance Calculations.

- (a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
 - 1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and
 - 2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
- (b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
- (c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

(4) Emission Factors.

- a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
 - 1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - 2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
 - 3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
 - b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
- (5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
- (6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
- (7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or

SECTION IV. APPENDIX C (DRAFT)

Common Conditions

operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

- (8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

- (1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:
- All Title V sources.
 - All synthetic non-Title V sources.
 - All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.
 - All facilities for which an annual operating report is required by rule or permit.
- (2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.
- (3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.
- (4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.
- (5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]