From: Harvey, Mary

Sent: Tuesday, January 16, 2007 9:01 AM

To: Adams, Patty

Subject: FW: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

From: Wong, Patrick (DERM) [mailto:WongP@miamidade.gov]

Sent: Monday, January 15, 2007 8:47 AM

To: Harvey, Mary

Subject: RE: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

Received.

**From:** Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]

Sent: Wed 1/10/2007 3:35 PM

To: ed\_nunez@fpl.com; john\_hampp@fpl.com; Wong, Patrick (DERM); Graziani, Darrel; little.james@epa.gov

Cc: Cascio, Tom; Adams, Patty; Gibson, Victoria

Subject: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

#### Dear Sir/Madam:

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

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

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

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

Thank you,

DEP, Bureau of Air Regulation

From:

Harvey, Mary

Sent:

Thursday, January 11, 2007 3:57 PM

To:

Adams, Patty

Subject:

FW: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

From: Graziani, Darrel

Sent: Thursday, January 11, 2007 3:55 PM

To: Harvey, Mary

Subject: Read: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

#### Your message

To:

'ed\_nunez@fpl.com'; 'john\_hampp@fpl.com'; 'wongp@miamidade.gov'; Graziani, Darrel; 'little.james@epa.gov'

Cc:

Cascio, Tom; Adams, Patty; Gibson, Victoria

Subject:

Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

Sent:

1/10/2007 3:35 PM

was read on 1/11/2007 3:55 PM.

From:

Ed\_Nunez@fpl.com

Sent:

Thursday, January 11, 2007 9:59 AM

To:

Harvey, Mary

Cc:

Graziani, Darrel; john hampp@fpl.com; little.james@epa.gov; Adams, Patty; Cascio, Tom; Gibson, Victoria; wongp@miamidade.gov; gary andersen@fpl.com; Marister Ruiz@fpl.com;

timothy panoff@fpl.com

Subject:

Re: Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

Attachments:

0250003.007.AC.D\_pdf.zip



0250003.007.AC.D \_pdf.zip (1 MB...

I have received the attached documents. Regards,

Heriberto (Ed) Nuñez, P.E.

Power Generation Division-FPL

Turkey Point and Cutler Power Plants

Office: (305) 242-3822 Cell: (305) 775-0294 email: ed nunez@fpl.com

"Harvey, Mary"

<Mary.Harvey@dep.s

To: ed nunez@fpl.com,

john hampp@fpl.com, wongp@miamidade.gov, "Graziani, Darrel"

tate.fl.us> <Darrel.Graziani@dep.state.fl.us>,

little.james@epa.gov

cc: "Cascio, Tom"

<Tom.Cascio@dep.state.fl.us>, "Adams, Patty"

01/10/2007 03:35

<Patty.Adams@dep.state.fl.us>, "Gibson,

Victoria" < Victoria. Gibson@dep.state.fl.us>

Subject: Turkey Point Power Plant -

Facility #0250003-007-AC-DRAFT

Dear Sir/Madam:

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

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

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

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

Thank you,
DEP, Bureau of Air Regulation
(See attached file: 0250003.007.AC.D\_pdf.zip)

From:

Harvey, Mary

Sent:

Wednesday, January 10, 2007 3:35 PM

To:

'ed\_nunez@fpl.com'; 'john\_hampp@fpl.com'; 'wongp@miamidade.gov'; Graziani, Darrel;

'little.james@epa.gov'

Cc:

Cascio, Tom; Adams, Patty; Gibson, Victoria

Subject:

Turkey Point Power Plant - Facility #0250003-007-AC-DRAFT

Attachments: 0250003.007.AC.D\_pdf.zip

#### Dear Sir/Madam:

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

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

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

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

Thank you,

DEP, Bureau of Air Regulation

## Memorandum

# Florida Department of Environmental Protection

To:

Joseph Kahn

Through:

Trina Vielhauer

From:

A.A. Linero Tom Cascio

Date:

February 1, 2007

DEP File Nos. 0250003-007-AC (PSD-FL-338A)

Subject:

FPL Turkey Point Unit 5

Permit Modification

Air Construction Permit PSD-FL-338 (under the referenced DEP File) authorized construction of Combined Cycle Unit 5 at the FPL Turkey Point Power Plant.

Unit 5 has been constructed and is undergoing testing. Over the past year FPL has requested and the Department has issued permit modifications to allow longer periods of excess emissions during the cold startup of the steam turbine-electrical generators (STG) and fuel switches (gas-to-oil and oil-to-gas). Modifications have been issued for Martin Unit 8 and Manatee Unit 3. Such conditions have been incorporated into the new permits for FPL West County and Progress Energy Bartow.

Cold STG startups at baseloaded combined cycle are very infrequent events. For example one steam turbine at the Martin Power Plant operated about 10 years before a shut down. The excess emissions occur because during these conditions the combustion turbines associated with the STGs must be operated at loads less than the values at which they engage the full lean-premix (low NO<sub>X</sub>/CO) features.

FPL also requests clarification that the 4.3 million gallon storage tank containing backup ultralow sulfur fuel oil is not subject to 40 CFR 60, Subpart Kb. We researched fuel specifications and material safety data sheets and determined that ultralow sulfur fuel exerts considerably less than 3.5 kilopascals of vapor pressure which is the applicability threshold for the rule. This action is consistent with permits actions for recently issued combined cycle units that have storage tanks for backup low or ultralow sulfur fuel oil.

We recommend your approval of this air construction permit modification.

**AAL** 

Attachments



# Florida Department of Environmental Protection

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

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

February 6, 2007

Electronically Sent - Received Receipt Requested

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

Re: DEP File No. 0250003-007-AC

Air Construction Permit Modification -- Unit 5 Combined Cycle

Dear Mr. Nunez:

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

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

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

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

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

<u>Double-underline</u> denotes additions and strikethrough (strikethrough) indicates deletions.

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

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

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

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

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

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

Section III.B. is modified as follows:

#### NSPS APPLICABILITY

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

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

#### **EQUIPMENT SPECIFICATIONS**

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

#### EMISSIONS AND PERFORMANCE REQUIREMENTS

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

#### NOTIFICATION, REPORTING AND RECORDS

- 4. Oil Tank Records: The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of distillate fuel oil for each storage tank for use in the Annual Operating Report.

  [Rule 62-204.800(7)(b)16, F.A.C. and 40 CFR 60.116b(a) and (b)]
- 5. Fuel Oil Records: The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. The maximum true vapor pressure shall be less than 3.5 kPa. Compliance with this condition may be demonstrated by using the information from the respective MSDS for the low or ultra low sulfur fuel oil stored in the tank. [Rule 62-4.070(3), F.A.C.]

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

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a Notice of Appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Joseph Kahn, Director

Division of Air Resource Management

JK/tlv/aal/tbc

#### **CERTIFICATE OF SERVICE**

H. O. Nunez, Plant General Manager, FPL: <a href="mailto:ed\_nunez@fpl.com">ed\_nunez@fpl.com</a>
John C. Hampp, Principal Specialist, FPL: <a href="mailto:john\_hampp@fpl.com">john\_hampp@fpl.com</a>
H. Patrick Wong, Miami-Dade DERM: <a href="mailto:wongp@miamidade.gov">wongp@miamidade.gov</a>

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

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

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

inter is hereby deskilo wiedged.

From:

Harvey, Mary

Sent:

Thursday, February 15, 2007 8:10 AM

To:

Adams, Patty

Subject:

FW: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

Attachments:

0250003.007.AC.F\_pdf.zip



0250003.007.AC.F \_pdf.zip (1 MB...

----Original Message----

From: Ed Nunez@fpl.com [mailto:Ed Nunez@fpl.com]

Sent: Wednesday, February 14, 2007 3:34 PM

To: Harvey, Mary

Cc: timothy\_panoff@fpl.com; Marister\_Ruiz@fpl.com; gary\_andersen@fpl.com;

tom young@fpl.com; John Hampp@fpl.com

Subject: Re: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

I have received the attached documents, Regards,

Heriberto (Ed) Nuñez, P.E.

Power Generation Division-FPL

Turkey Point and Cutler Power Plants

Office: (305) 242-3822 Cell: (305) 775-0294 email: ed\_nunez@fpl.com

"Harvey, Mary"

<Mary.Harvey@dep.s</pre> To: e

ed nunez@fpl.com,

john hampp@fpl.com, wongp@miamidade.gov, "Graziani, Darrel"

tate.fl.us> <Darrel.Graziani@dep.state.fl.us>

cc: "Cascio, Tom"

<Tom.Cascio@dep.state.fl.us>, "Adams, Patty"

02/12/2007 02:25

Tiberedden state fl wax

<Patty.Adams@dep.state.fl.us>, "Gibson,

Victoria" <Victoria.Gibson@dep.state.fl.us>

PM

Subject: Turkey Point Power Plant - DEP

File #0250003-007-AC-FINAL

Dear Sir/Madam:

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

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

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

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

Thank you, DEP, Bureau of Air Regulation (See attached file: 0250003.007.AC.F pdf.zip)

From:

Harvey, Mary

Sent:

Wednesday, February 14, 2007 7:55 AM

To:

Adams, Patty

Subject:

FW: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

From: Graziani, Darrel

Sent: Monday, February 12, 2007 4:48 PM

To: Harvey, Mary

Subject: Read: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

#### Your message

To:

Cc:

Subject:

Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

Sent:

2/12/2007 2:26 PM

was read on 2/12/2007 4:48 PM.

From:

Harvey, Mary

Sent:

Monday, February 12, 2007 3:53 PM

To:

Adams, Patty

Subject:

FW: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

----Original Message----

From: John\_Hampp@fpl.com [mailto:John\_Hampp@fpl.com]

Sent: Monday, February 12, 2007 3:52 PM

To: Harvey, Mary

Subject: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

Return Receipt

Your

Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

document:

was

John Hampp/GC/FPL

received

by:

at:

02/12/2007 03:51:53 PM

From:

Harvey, Mary

Sent:

Monday, February 12, 2007 3:28 PM

To:

Adams, Patty

Subject:

FW: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

From: Wong, Patrick (DERM) [mailto:WongP@miamidade.gov]

**Sent:** Monday, February 12, 2007 3:05 PM

To: Harvey, Mary

Subject: Read: Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

Your message

To: WongP@miamidade.gov

Subject:

was read on 2/12/2007 3:05 PM.

From:

Harvey, Mary

Sent:

Monday, February 12, 2007 2:26 PM

To:

'ed\_nunez@fpl.com'; 'john\_hampp@fpl.com'; 'wongp@miamidade.gov'; Graziani, Darrel

Cc:

Cascio, Tom; Adams, Patty; Gibson, Victoria

Subject:

Turkey Point Power Plant - DEP File #0250003-007-AC-FINAL

Attachments: 0250003.007.AC.F\_pdf.zip

#### Dear Sir/Madam:

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

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

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

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

Thank you,

DEP, Bureau of Air Regulation

#### **MEMORANDUM**

To:

Trina Vielhauer

Through:

Al Linero

From:

Tom Cascio

Date:

January 5, 2007

Subject:

Draft Air Construction Permit No. 0250003-007-AC

**Turkey Point Power Plant** 

This Draft Air Construction Permit (0250003-007-AC) revises the language of certain specific conditions of 0250003-006-AC (authorized the construction of Unit 5). Specifically, this permit modification:

Provides consistency with recently issued air construction permits for similar facilities by: (1) allowing additional cold start and fuel switching hours of excess emissions for the combined cycle unit; and (2) clarifying the non-applicability of the federal NSPS standards to the new storage tank. There are no air pollution emissions increases associated with this permit modification. The current Air Construction Permit for Unit No. 5 has not yet expired. Therefore, the changes requested are addressed as an Air Construction Permit Modification.

I recommend your signature and forwarding to Patty for clerking.



# Florida Department of **Environmental Protection**

**Bob Martinez Center** 2600 Blairstone Road Tallahassee, Florida 32399-2400 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary - Designee

January 9, 2007

#### Electronic Mail - Received Receipt Requested

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

Re:

Turkey Point Unit 5

DEP File No. 0250003-007-AC (PSD-FL-338B)

Modification to Air Construction Permit

Dear Mr. Nunez:

Enclosed are documents indicating the Department's intent to issue an air construction permit to modify certain specific conditions of the previously issued air construction permit (0250003-006-AC) for Unit 5 at the Turkey Point Power Plant in Homestead. The documents include: the "Intent to Issue Air Construction Permit Modification"; the "Public Notice of Intent to Issue Air Construction Permit Modification"; the "Technical Evaluation and Preliminary Determination"; and the "Draft Permit Modification."

The Public Notice must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven (7) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any other written comments you wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, Program Administrator, South Permitting Section at the above letterhead address. If you have any questions, please call Tom Cascio at 850/921-9526.

Sincerely,

Trina L. Vielhauer, Chief

Bureau of Air Regulation

TLV/aal/tbc

Enclosures

In the Matter of an Application for Permit by:

Mr. H. O. Nunez, Plant General Manager Turkey Point Fossil Plant Florida Power & Light Company 9700 SW 344<sup>th</sup> Street Homestead, Florida 33035 DEP File No. 0250003-007-AC
Air Construction Permit Modification
Combined Cycle Unit 5
Miami-Dade County

#### **INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION**

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of draft permit modification attached) for the project, detailed in the application specified above, for the reasons stated below.

The applicant, Florida Power & Light Company (FPL), operates the Turkey Point Fossil Plant located east of Homestead and Florida City and next to Biscayne Bay in Miami-Dade County, Florida. FPL currently holds an Air Construction Permit No. 0250003-006-AC (PSD-FL-338) pursuant to the Rule for the Prevention of Significant Deterioration (PSD) to install Combined Cycle Unit 5 at the facility. On December 12, 2006, FPL submitted an application to modify the Air Construction Permit. This Air Construction Permit Modification (0250003-007-AC) provides consistency with recently issued air construction permits for similar facilities by: (1) allowing additional cold start and fuel switching hours of excess emissions for the combined cycle unit; and (2) clarifying the non-applicability of the federal NSPS standards to the new storage tank. There are no air pollution emissions increases associated with this permit modification.

The Department has permitting jurisdiction under the provisions of Chapter 403.087, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. This action is not exempt from permitting procedures. The Department has determined that an air construction permit modification is required.

The Department intends to issue this air construction permit modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit Modification. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting 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 Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final construction permit modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the construction permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so 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; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

Mediation is not available in this proceeding.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

Lud Vulhaun

#### CERTIFICATE OF SERVICE

H. O. Nunez, Plant General Manager, FPL: <a href="mailto:ed\_nunez@fpl.com">ed\_nunez@fpl.com</a>
John C. Hampp, Principal Specialist, FPL: <a href="mailto:john\_hampp@fpl.com">john\_hampp@fpl.com</a>
H. Patrick Wong, Miami-Dade DERM: <a href="mailto:wongp@miamidade.gov">wongp@miamidade.gov</a>

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

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

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of

which is hereby acknowledged.

(Date

(Date)

#### PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0250003-007-AC

Florida Power & Light Company
Turkey Point Fossil Plant, Miami-Dade County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification to Florida Power & Light Company (FPL) for the Turkey Point Fossil Plant located east of Homestead and Florida City and next to Biscayne Bay in Miami-Dade County, Florida. The applicant's mailing address is: Florida Power & Light Company, 9700 SW 344<sup>th</sup> Street, Homestead, Florida 33035.

This facility consists of two oil and natural gas fired conventional steam electric generating stations (Units 1 and 2) and three natural gas fueled combined-cycle units (Units 3, 4, and 8). Combined Cycle Unit 8 is a nominal 1,150 megawatt (MW) unit that recently began operation. It consists of four combustion turbine/heat recovery steam generator (CT/HRSG) sets and a nominal 470 MW steam turbine electric generator (STG). Pollutants from Unit 8 are controlled by use of inherently clean natural gas, Dry Low NO<sub>X</sub>/CO combustors, and selective catalytic reduction (SCR).

All physical construction related to Combined Cycle Unit 5 is complete and the unit is in operation. A Modification of the current Unit 5 Air Construction/PSD Permit will be issued to allow excess emissions from individual CT/HRSG sets for a period of eight rather than six hours during future cold startups of the 470 MW steam turbine generator. Such cold startups of a STG are infrequent and typically years apart for baseloaded combined cycle units.

The modification also clarifies that Federal standard 40 CFR 60, Subpart Kb (Standards of Performance for Volatile Liquid Storage Vessels) is not applicable to this facility. However, the Department will require the applicant to keep records to substantiate the exclusion criteria of maximum true vapor pressure (MVP) less than 3.5 kilopascals (kPa). Compliance with this condition may be demonstrated by using the information from the respective Material Safety Data Sheets (MSDS) for the ultra low sulfur fuel oil(s) stored in the tanks.

The Department will issue the Final Air Construction Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed construction permit issuance action for a period of fourteen (14) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit Modification. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee,

Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so 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; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection Bureau of Air Regulation Suite 4, 111 S. Magnolia Drive Tallahassee, Florida, 32301 Telephone: 850/488-0114

Fax: 850/922-6979

Miami-Dade County Department of **Environmental Resources Management** 33 Southwest Second Avenue, Suite 900 Miami, Florida 33130-1540

Telephone: 305/372-6925

Fax: 305/372-6954

The complete project file includes the permit application, draft air construction permit modification, technical evaluation, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project, Tom Cascio at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or Tom.Cascio@dep.state.fl.us, or call 850/921-9526 for additional information. Key documents may also be viewed at: www.dep.state.fl.us/Air/permitting/construction.htm and clicking on FPL Turkey Point Unit 5 in the power plant category.

# Technical Evaluation and Preliminary Determination DEP Project No. 0250003-007-AC

This document describes the technical analysis supporting the draft air construction permit included in this Intent to Issue package. The issues addressed are noted below, and a discussion follows that includes operating scenarios developed by Florida Power & Light (FPL). The conclusions have the Department's concurrence.

Excess Emissions during Operational Switching from Natural Gas to Fuel Oil on Combined Cycle Unit 5 The Department previously recognized the need for excess emissions considerations for switching from fuel oil to natural gas during operation of the combustion turbines. The Air Construction/PSD Permit for Combined Cycle Unit 5 provides that for <u>fuel oil-to-gas</u> fuel switching, excess emissions shall not exceed one (1) hour in any 24-hour period.

The excess emissions are at least partially caused by the need to reduce load to less than 50 percent of capacity at which level the dry low  $NO_X/CO$  features of the GE 7FA combustion turbines are not fully employed.

Operational switching from <u>natural gas to fuel oil</u> firing <u>can</u> be accomplished without a significant load reduction. However, FPL requests the Department consider the possibility that FPL may want to make the switch at low load instead of high load, thus requiring as much time as a fuel oil to natural gas switch. According to FPL:

"Although operational switching from gas to oil can be accomplished at higher loads, it does not allow the option of aborting the transfer. At lower loads, GE process control logic allows enough time to perform a pressure check of the fuel nozzles, which will provide us an early indication of transfer issues. The same check can be made at high loads, but without the ability to abort. Combustion instability in a burner can (e.g. a plugged fuel oil nozzle) will cause a combustion issue, resulting in a CT trip requiring subsequent restart. The restart of the CT will result in higher overall  $NO_X$  than the shorter duration excess emissions from a CT load reduction to allow the switch from natural gas to fuel oil with the option of aborting and avoiding a unit trip and subsequent restart."

This requested flexibility to avoid unit trips that would result in a unit restart and greater NOx emissions is acceptable to the Department. It is expected that the oil-to-gas and gas-to-oil fuel switching operational practices will be very infrequent. Because the revised practices can lead to lower mass NOx emissions, the Department's conclusion is that prevention of significant deterioration (PSD) review is not warranted. Therefore, the Department will revise the condition as indicated in the attached Draft Air Construction Permit Modification to allow FPL to conduct its fuel switches in the manner they have described.

#### 40 CFR 60, Subpart Kb Requirements

FPL requested clarifying the non-applicability of the federal NSPS standards to the new storage tank. The Department agrees that this large storage vessel is not subject to 40 CFR 60, NSPS Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. Section 60.110b(c) exempts all vessels with greater than 151 m³ (40,000 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa). Information collected by the Department indicates that the true vapor pressure of typical low sulfur (less than 0.05% S) is less than 1 kPa.

The Department will clarify the non-applicability of Subpart Kb. However, the Department will keep the emissions unit designation. The tanks were part of a project that was subject to PSD for VOC. The use of 0.05% sulfur fuel is part of the BACT requirement. The condition will be modified consistent with some of the more recent permits (such as West County and Martin) that are not subject to Subpart Kb, but

# Technical Evaluation and Preliminary Determination DEP Project No. 0250003-007-AC

are subject to PSD for VOC and the maintenance of records is required. The changes are indicated in the attached Draft Air Construction Permit Modification.

Cold Start-up of the Steam Turbine/Generator on a Four-on-One Combined Cycle

The Applicant requested that for cold startup of the steam turbine system, the excess emission limit be extended from six to eight hours in any 24-hour period.

The following scenario, authored by FPL, is specific to Manatee Unit 3, but also applies to Martin Unit 8 and Turkey Point Unit 5.

All three units have "four-on-one" combined cycles that consist of: 4 General Electric 7FA combustion turbine-electrical generators (CTs); four duct-fired heat recovery steam generators (HRSGs); and a single steam turbine-electrical generator (STG).

Although a cold steam start-up is a complex procedure done infrequently, actual operating experience now shows that the six hours originally permitted by the PSD and AC permits is inadequate to successfully, and smoothly, execute a cold Steam Turbine start. The Steam Turbine Start Up process has CTs sequentially started so that the respective HRSG is able to provide a sufficient quantity of steam at the appropriate temperature, pressure, and flow to maintain accurate Steam Turbine speed control and warm the STG slowly. This requires that the CT's be run at low loads, during which time the full Dry Low NO<sub>X</sub> (DLN) features are not fully enabled.

Typically, one CT is started ahead of the others, and a second CT is started somewhat later. When the steam conditions from the second CT/HRSG match the pressure and temperature of the first HRSG, it is "blended" by means of valving operations with the first CT/HRSG steam and the start-up progresses. Later, a third CT/HRSG combination is started, warmed up, and "blended". This is done in order to "unblend" the first CT/HRSG as it approaches the 6-hour excess emissions window. That is, the steam from the first CT's HRSG is routed by means of valving operations from the Main Steam Turbine Header to the condenser. The first CT's load is then ramped up to a point where the SCR can be placed into service and render the CT in compliance with its normally permitted emissions. Afterward, it is "reblended" with the other two starting units.

This process of "unblending" one CT while ensuring the other CT's have been sequentially started up; and in the right configuration to provide steam of adequate temperature, pressure, and quantity to be "blended" to the steam turbine has proven to be challenging. During the "unblending" and "blending" valving operations, CT HRSG's temperatures, pressure and drum levels become very difficult to control.

Any HRSG instability can trip the CT's which would require a new restart and potentially more excess emissions, either from a restart of the CTs, or more typically, the start-up must be postponed until the next calendar day as insufficient start-up time remains in the current 24-hour period. Postponing the start-up until the next day necessitates that the needed generation is supplied from elsewhere. In the case of Manatee Unit 3 (or Martin Unit 8 or Turkey Point Unit 5), alternate residual fuel oil-fired units are greater emitters.

Extending the 6 hour emission limit to 8 hours would significantly reduce the number of "unblending' operations, and provide more certainty of a successful timely start using as few as two CTs. It also will allow more operational flexibility in cases where the load from 3 or 4 CT's is not needed, or when 2 CT's are out of service for routine maintenance.

Manatee Unit 3, for example, conducted a cold start-up of the STG on June 12, 2005. Three CTs were used during the start-up. To remain within the 6-hour excess emissions window, CT-A was unblended at the end of its 6-hour period, ramped up in firing rate, and the SCR placed into service. The CEM emissions data in Table 1 below is from that start-up. The "Additional 2 hours" of emissions data is projected from the actual emissions of the last 2 hours (hours 5 and 6) of CT-A and CT-C operation.

# Technical Evaluation and Preliminary Determination DEP Project No. 0250003-007-AC

A two CT start-up with 8-hours of excess emissions versus a three CT start-up with 6-hours of excess emissions allows: greater operational flexibility; a simplified start-up process; less risk from unintended CT trips associated with blending/unblending operations; and a modest net reduction in NOx mass emissions over the duration of the start-up.

Table 1. PMT\* UNIT 3 COLD TURBINE S/U JUNE 12, 2005. NOx emissions in pounds from CEM data

	CT-A	CT-B	CT-C	A+C	A+B+C
First 6 hours	554	509	574		
Additional 2 hours *Projected from hours 5 and 6 actual emissions	209*		230*		
Projected total for 2 CTs @ 8 hours each (CTs A & C)	763		804	1,567	
Total for 3 CTs @ 6 hours each	554	509	574		1,637

<sup>\*</sup>Manatee Power Plant

Source: FPL

Estimated NOx reduction (using CT-A and CT-B for 8 hours vs. CT-A and CT-B and CT-C for 6 hours)

$$= 1637 - 1567 = 70$$
 pounds

Because it is expected that NOx emissions will be reduced under this operational practice, the Department's conclusion is that PSD review is not warranted. The change is approved by the Department, and is indicated in the attached Draft Air Construction Permit Modification.



# Florida Department of Environmental Protection

Bob Martinez Center 2600 Blairstone Road Tallahassee, Florida 32399-2400 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary - Designee

January 9, 2007

Electronically Sent - Received Receipt Requested

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

Re: DEP File No. 0250003-007-AC

Air Construction Permit Modification -- Unit 5 Combined Cycle

Dear Mr. Nunez:

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

(1) allowing additional cold start and fuel switching hours of excess emissions for the combined cycle unit; and (2) clarifying the non-applicability of the federal NSPS standards to the new storage tank. There are no air pollution emissions increases associated with this permit modification. The current Air Construction Permit for Unit No. 5 has not yet expired. Therefore, the changes requested are addressed as an Air Construction Permit Modification.

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

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

<u>Double-underline</u> denotes additions and strikethrough (strikethrough) indicates deletions.

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

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

a. For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six eight hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.

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

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

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

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

Section III.B. is modified as follows:

#### NSPS APPLICABILITY

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

[40 CFR 60.110b(a) and (c); Rule 62-204.800(7)(b), F.A.C.; and Section 24.41.6, Miami-Dade County Code.]

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

#### **EQUIPMENT SPECIFICATIONS**

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

#### **EMISSIONS AND PERFORMANCE REQUIREMENTS**

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

#### NOTIFICATION, REPORTING AND RECORDS

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

  Compliance with this condition may be demonstrated by using the information from the respective MSDS for the low or ultra low sulfur fuel oil stored in the tank.

  [Rule 62-4.070(3), F.A.C.]

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

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

Executed in Tallahassee, Florida.

Joseph Kahn, Director Division of Air Resource Management

JK/tlv/aal/tbc

## **CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk he sent electronically (with Received Receipt) before the classed below:		RMIT MODIFICATION was to the person(s)
H. O. Nunez, Plant General Manager, FPL: <a href="mailto:ed_nunez">ed_nunez</a> John C. Hampp, Principal Specialist, FPL: <a href="mailto:john_ham">john_ham</a> H. Patrick Wong, Miami-Dade DERM: <a href="mailto:wongp@miar">wongp@miar</a> Darrel Graziani, Southeast District Office: <a href="mailto:darrel.graz">darrel.graz</a>	pp@fpl.com midade.gov	
James Little, EPA Region 4: <a href="mailto:little.james@epa.gov">little.james@epa.gov</a>	on this date, pursuant to	OWLEDGMENT FILED, o §120.52, Florida Statutes, partment Clerk, receipt of wledged.
	(Clerk)	(Date)
	A de de de	



Monday, December 11, 2006

Al Linero, Professional Engineer Administrator Bureau of Air Regulation Division of Air Resources Management Department of Environmental Protection 2600 Blair Stone Road, MS#5505 Tallahassee, FL 32399-2400 RECEIVED

DEC 12 2006

BUREAU OF AIR REGULATION

Dear Mr. Linero,

Florida Power & Light Company is requesting an administrative change to the Turkey Point Unit 5 Combined Cycle Air Construction Permit for consistancy with the Martin, Manatee, and West County Combined Cycle Air Construction Permits. The facility requires additional cold start hours of allowable excess emissions with a change from six hours to eight hours of allowable excess emissions. FPL affirms that these changes do not affect the require public review requirements and proposed that they be adopted prior to the issuance of the Title V Permit to allow operation within air construction permit requirements. FPL is also requesting the modification of the Distillate Oil Sotrage Tank Subpart Kb applicability to identify applicability of this standard only if storage of products with a vapor pressure greater than 3.5kPa occurs.

Attached you will find the application for the modification of the existing Air Construction Permit for Turkey Point. Should you have any questions, or need any additional information, please do not hesitate to contact me at either 561-691-2894 (office) or 561-676-1838 (mobile).

Sincerely,

John C. Hampp Principle Specialist

Florida Power & Light Company JES-JB

700 Universe Blvd. Juno Beach, FL 33408

Email: john hampp@fpl.com

Attachments.



# Department of Environmental Protection

# Division of Air Resource Management APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for any air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to
  escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

#### Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial/revised/renewal Title V air operation permit.

Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option) — Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

#### **Identification of Facility** 1. Facility Owner/Company Name: Florida Power & Light Company 2. Site Name: Turkey Point Power Plant 3. Facility Identification Number: 025003 4. Facility Location... Street Address or Other Locator: 9.5 miles east of Homestead on SW 344th Street City: Homestead County: Miami-Dade Zip Code: 33035 5. Relocatable Facility? Existing Title V Permitted Facility? X No Yes ☐ Yes No **Application Contact** 1. Application Contact Name: John C. Hampp 2. Application Contact Mailing Address... Organization/Firm: Florida Power & Light Company, Environmental Services Dept. Street Address: 700 Universe Blvd City: Juno Beach State: FL Zip Code: **33408** 3. Application Contact Telephone Numbers... Telephone: (561) 691 - 2894 ext. Fax: (561) 691 - 7049 4. Application Contact Email Address: **Application Processing Information (DEP Use)**

DEP Form No. 62-210.900(1) - Form

1. Date of Receipt of Application: 12/12/06

2. Project Number(s): 035 ma 3 - 007 - AC

Effective: 2/2/06

3. PSD Number (if applicable):

4. Siting Number (if applicable):

# **Purpose of Application**

This application for air permit is submitted to obtain: (Check one)
Air Construction Permit
☐ Air construction permit.
Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.
Air Operation Permit
☐ Initial Title V air operation permit.
☐ Title V air operation permit revision.
☐ Title V air operation permit renewal.
Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.
Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)
Air construction permit and Title V permit revision, incorporating the proposed project.
Air construction permit and Title V permit renewal, incorporating the proposed project.
Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:
☐ I hereby request that the department waive the processing time
requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.
Application Comment
Application to revise Air Construction Permit for Turkey Point Combined Cycle Unit 5 conditions for cold start-up from 6 hours to 8 hours and removal of Distillate Oil Storage Tanks from NSPS Subpart Kb applicability due to exemption for low vapor pressure oil storage.

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 2

# **Scope of Application**

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee		
5A	GE Frame 7FA Combustion Turbine/HRSG	AC1A			
5B	GE Frame 7FA Combustion Turbine/HRSG	AC1A			
5C	GE Frame 7FA Combustion Turbine/HRSG	AC1A			
5D	GE Frame 7FA Combustion Turbine/HRSG	AC1A			
			-		
Application	Application Processing Fee				

# Check one: Attached - Amount: \$\_\_\_\_\_ Not Applicable

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 3

#### Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name:

H.O. Nunez - Plant General Manager

2. Owner/Authorized Representative Mailing Address...

Organization/Firm: Florida Power & Light, Turkey Point Fossil Plant

Street Address: 9700 SW 344th Street

City: **Homestead** 

State: FL

Zip Code: 33035

3. Owner/Authorized Representative Telephone Numbers...

Telephone: (305) 242-3822

ext. Fax: (305) 242-3821

4. Owner/Authorized Representative Email Address: ed\_nunez@fpl.com

5. Owner/Authorized Representative Statement:

I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility for any permitted emissions unit.

4

Signature

Date

12/1/06

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06

## **Application Responsible Official Certification**

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1.	Application Responsible Official Name: H.O. Nunez		
2.	Application Responsible Official Qualification (Check one or more of the following options, as applicable):		
	For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.		
	For a partnership or sole proprietorship, a general partner or the proprietor, respectively.		
	For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.		
	The designated representative at an Acid Rain source.		
3.			
Or	ganization/Firm: Florida Power & Light, Turkey Point Fossil Plant		
	Street Address: 9700 SW 344th Street		
	City: Homestead State: FL Zip Code: 33035		
4.	Application Responsible Official Telephone Numbers  Telephone: (305) 242-3822 ext. Fax: (305) 242-3821		
5.	Application Responsible Official Email Address: ed_nunez@fpl.com		
6.	Application Responsible Official Certification:		
	I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.		

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 5

Pr	ofessional Engineer Certification
1.	Professional Engineer Name: Kathryn S Salvador
	Registration Number: 54726
2.	Professional Engineer Mailing Address
	Organization/Firm: Florida Power & Light Co. / Environmental Services Dept.
	Street Address: 700 Universe Blvd.
	City: Juno Beach State: FL Zip Code: 33408
3.	Professional Engineer Telephone Numbers
	Telephone: (561) 691 - 7054 Fax: (561) 691 - 7049
	Professional Engineer Email Address: kathy_salvador@fpl.com
5.	Professional Engineer Statement:
	I, the undersigned, hereby certify, except as particularly noted herein*, that:
	(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and
	(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.
	(3) If the purpose of this application is to obtain a Title V air operation permit (check here, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.
	(4) If the purpose of this application is to obtain an air construction permit (check here $X$ , if so) or concurrently process and obtain an air construction permit and a Title $V$ air operation permit revision or renewal for one or more proposed new or modified emissions units (check here $V$ , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.
	(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions agontained in such permit.
* A	ttookanii Avaalii Art & Forti fi Antion Statement

#### A. GENERAL FACILITY INFORMATION

#### **Facility Location and Type**

1. Facility UTM Coordinates		2.	2. Facility Latitude/Longitude		
Zone 17 East (km)			Latitude (DD/MM/SS)		
North (km)			Longitude (DD/MM/SS)		
3. Governmental	4. Facility Status	5.	Facility Major	6. Facility SIC(s):	
Facility Code:	Code:		Group SIC Code:		
0	A		49	4911	

7. Facility Comment:

Project consists of four 170-MW dual fuel, GE Frame 7FA CT/HRSGs that will use dry low-nitrogen oxide combustion technology when firing natural gas and water injection when firing distillate fuel oil, along with selective catalytic reduction (SCR). Each CT/HRSG will operate up to 8,760 hr/yr. Current facility Title V Permit No. 0250003-005-AV.

#### **Facility Contact**

1. I	Facility	Contact	Name:
------	----------	---------	-------

#### Gary Andersen, Environmental Specialist

2. Owner/Authorized Representative Mailing Address...

Organization/Firm: Florida Power & Light, Turkey Point Fossil Plant

Street Address: 9700 SW 344th Street City: Homestead

State: FL Zip Code: 33035

3. Facility Contact Telephone Numbers:

Telephone: (305) 242-3826

ext. Fax: (305) 242-3821

Facility Contact Email Address:

#### Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name: H.O. Nunez

2. Facility Primary Responsible Official Mailing Address...

Organization/Firm: Florida Power & Light, Turkey Point Fossil Plant

Street Address: 9700 SW 344th Street

City: Homestead

State: **FL** 

Fax:

Zip Code: 33035

3. Facility Primary Responsible Official Telephone Numbers...

Telephone: (305) 242-3822

ext.

7

(305) 242-3821

4. Facility Primary Responsible Official Email Address: ed nunez@fpl.com

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06

# **Facility Regulatory Classifications**

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1.  Small Business Stationary Source  Unknown
2. Synthetic Non-Title V Source
3. X Title V Source
4. X Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)
5. Synthetic Minor Source of Air Pollutants, Other than HAPs
6. X Major Source of Hazardous Air Pollutants (HAPs)
7. Synthetic Minor Source of HAPs
8. X One or More Emissions Units Subject to NSPS (40 CFR Part 60)
9.  One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)
10. X One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)
11. Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))
12. Facility Regulatory Classifications Comment:  CT and HRSGs are subject to NSPS Subpart GG and Da, respectively. CT may be subject to NESHAPS under YYYY.

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 8

# **List of Pollutants Emitted by Facility**

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM <sub>10</sub>	A	N
VOC	A	N
SO <sub>2</sub>	A	N
NO <sub>x</sub>	A	N
СО	A	N

DEP Form No. 62-210.900(1) - Form Effective: 2/2/06

9

## **B. EMISSIONS CAPS**

# Facility-Wide or Multi-Unit Emissions Caps

2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
de or Multi-Uni	t Emissions Cap C	omment:		
	Wide Cap [Y or N]? (all units)	Wide Cap [Y or N]? (all units)  Under Cap (if not all units)	Wide Unit ID No.s Cap Cap Under Cap (lb/hr) [Y or N]? (if not all	Cap (if not all units) (all units) (ton/yr)

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 10

# C. FACILITY ADDITIONAL INFORMATION

# Additional Requirements for All Applications, Except as Otherwise Stated

1.	permit revision applications if this information was submitted to the department within the
	previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID: Previously Submitted, Date: 11/5/2003
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID:  Previously Submitted, Date: 11/5/2003
3.	Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID:  Previously Submitted, Date: 11/5/2003
Ad	dditional Requirements for Air Construction Permit Applications
	Area Map Showing Facility Location:
	☐ Attached, Document ID: X Not Applicable (existing permitted facility)
2.	Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):  Attached, Document ID:
3.	Rule Applicability Analysis:  Attached, Document ID:
4.	List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.):  Attached, Document ID: X Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification:  Attached, Document ID: X Not Applicable
6.	Air Quality Analysis (Rule 62-212.400(7), F.A.C.):  Attached, Document ID: X Not Applicable
7.	Source Impact Analysis (Rule 62-212.400(5), F.A.C.):  Attached, Document ID:   Not Applicable
0	<u> </u>
8.	Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):  Attached, Document ID: X Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):
	Attached, Document ID: X Not Applicable
10.	. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
	Attached, Document ID: X Not Applicable

11

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06

# **Additional Requirements for FESOP Applications**

1.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):	
	Attached, Document ID: Not Applicable (no exempt units at facility)	
Additional Requirements for Title V Air Operation Permit Applications		
1.	List of Insignificant Activities (Required for initial/renewal applications only):  Attached, Document ID: Not Applicable (revision application)	
2.	Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):  Attached, Document ID:  Not Applicable (revision application with no change in applicable requirements)	
3.	Compliance Report and Plan (Required for all initial/revision/renewal applications):  Attached, Document ID:  Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.	
4.	List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):  Attached, Document ID:  Equipment/Activities On site but Not Required to be Individually Listed  Not Applicable	
5.	Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only):	
	Attached, Document ID: Not Applicable	
6.	Requested Changes to Current Title V Air Operation Permit:  Attached, Document ID: Not Applicable	
Additional Requirements Comment		

DEP Form No. 62-210.900(1) - Form

Effective: 2/2/06 12

# SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS A. UNIT 5 COMBINED CYCLE GAS TURBINE (EUs 005, 006, 007, AND 008)

# FPL Proposes the following changes to the Turkey Point Combined Cycle Unit 5 Air Construction Permit:

- 15. Excess Emissions Allowed: As specified in this condition, excess emissions resulting from startup, shutdown, oil to gas fuel switches and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail. For each gas turbine/HRSG system, excess emissions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the following specific cases.
  - a. For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six eight hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-l combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.
    - {Permitting Note: During a cold startup of the steam turbine system, each gas turbine/HRSG system is sequentially brought on line at low load to gradually increase the temperature of the steam-electrical turbine and prevent thermal metal fatigue. Note that shutdowns and documented malfunctions are separately regulated in accordance with the requirements of this condition.}
  - b. For shutdown of the combined cycle operation, excess emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.
  - c. For cold startup of a gas turbine/HRSG system, excess emissions shall not exceed four hours in any 24- hour period. "Cold startup of a gas turbine/HRSG system" is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 psig for at least a one-hour period.
  - d. For oil to gas fuel switching excess emissions shall not exceed 1 hour 2 hours in any 24-hour period.

Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5)F, .A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of the gas turbines. [Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.].

# SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS B. DISTILLATE FUEL OIL STORAGE TANK (EU 009)

# FPL Proposes the following changes to the Turkey Point Combined Cycle Unit 5 Air Construction Permit:

This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
009	One distillate fuel oil storage tank for Unit 5 gas turbines (approximately4 .2 million gallons)

#### NSPS APPLICABILITY

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

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

#### **EQUIPMENT SPECIFICATIONS**

2. <u>Equipment</u>: The permittee is authorized to install, operate, and maintain two 6.3 million gallon distillate fuel oil storage tank designed to provide ultra low sulfur fuel oil to the gas turbines. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

#### **EMISSIONS AND PERFORMANCE REQUIREMENTS**

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

#### NOTIFICATION, REPORTING AND RECORDS

- 4. Oil Tank Records: The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The permittee shall also keep records sufficient to determine the annual throughput of distillate fuel oil for each storage tank for use in the Annual Operating Report. [Rule 62-4.070(3) F.A.C]
- 5. Fuel Oil Records: The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. The maximum true vapor pressure shall be less than 3.5 kPa. [62-4.070(3) F.A.C.]

{Permitting Note: An evaluation of several Material Safety Data Sheets (MSDS) by the Department and applicant demonstrated that the vapor pressure is much less than 3.5 kPa for ultralow sulfur fuel oil. Compliance with this condition may be demonstrated by using the information from the respective MSDS for the ultra low sulfur fuel oil(s) stored in the tanks.}