FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTINEZ CENTER
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

PERMITTEE:

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

Authorized Representative:
Rodolfo Sanchez, Plant General Manager

FP&L Turkey Point Fossil Plant
DEP File No. 0250003-024-AC
Permit No. PSD-FL-338B
SIC No. 4911
Expires: December 31, 2015

PROJECT AND LOCATION

This is the final air construction permit, which authorizes the installation of the new GE FA.04 turbine components and revises miscellaneous conditions to previously issued air construction permits 0250003-006-AC/PSD-FL-338 and 0250003-007-AC/PSD-FL-338A for Unit 5. Unit 5 is a "4-on-1" combined cycle system with an electrical generating capacity of approximately 1150 MW located at the existing FP&L Turkey Point Fossil Plant. The FP&L Turkey Point Fossil Plant is located east of Homestead and Florida City and next to Biscayne Bay in Miami-Dade County, Florida. UTM Coordinates are Zone 17, 566.59 km East and 2813.21 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C.

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, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/jh/th

DRAFT

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 Revision) 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 the date indicated below to the following persons

Mr. Rodolfo Sanchez, RO Plant General Manager, FP&L: rudy.sanchez@fpl.com
Mr. Kevin Washington, FP&L: kevin.washington@fpl.com
Mr. Ken Kosky, PE, Golder: kkosky@golder.com
Mr. Joe Lurix, Southeast District Office: joe.lurix@dep.state.fl.us
Mr. Lee Hoefert, Southeast District Office: lee.hoefert@dep.state.fl.us
Mr. Patrick Wong, Miami-Dade PERA: wongp@miamidade.gov
Ms. Katy Forney, EPA Region 4: forney.kathleen@epa.gov
Ms. Heather Ceron, EPA Region 4: ceron.heather@epa.gov
Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@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)

DRAFT

FACILITY DESCRIPTION

The Turkey Point site is composed of two separate co-located power plants: the Fossil Plant and the Nuclear Plant. The existing Turkey Point Fossil Plant is an electric power plant categorized as Standard Industrial Classification No. 4911 and consisting of six primary electrical generating units, diesel engines, and associated auxiliary equipment. The existing fossil plant comprises the following emissions units:

- Unit 1 (440 MW) fossil fuel-fired steam electrical generating unit.
- Unit 5, a "4 on 1" combined cycle system that consists of four gas turbines (170 MW each), four heat recovery steam generators, a single steam turbine-electrical generator (470 MW), and a mechanical draft cooling tower. Unit 5 has a total generating capacity of approximately 1,150 MW.
- One 4.2 million storage tank.
- One 275 HP (205 kW) emergency diesel fire pump engine.
- Two 33 HP (25 kW) emergency hurricane shelter generators, and;
- Miscellaneous unregulated and insignificant emissions units and/or activities.

PROJECT DESCRIPTION

This permit addresses the following emissions units at this facility.

ID	Emission Unit Description
009	Unit 5A gas turbine (170 MW) with supplementary-fired heat recovery steam generator
010	Unit 5B gas turbine (170 MW) with supplementary-fired heat recovery steam generator
011	Unit 5C gas turbine (170 MW) with supplementary-fired heat recovery steam generator
012	Unit 5D gas turbine (170 MW) with supplementary-fired heat recovery steam generator

This permitting action revises several conditions in the underlying air construction permit No. 025003-006-AC (PSD-FL-338) primarily related to permitted capacity, NO_X emissions, tuning requirements, excess emissions during startup, shutdown, malfunctions and low load operations, CO continuous emissions monitoring requirements; and, facility engines. The permit also authorizes the replacement and installation of GE 7FA.04 components to improve the efficiency of Unit 5.

These revisions to the existing construction permit are shown in ~~strike through~~ format for deletions and in double underline format for additions. For ease of identification, all changes are highlighted in yellow within this DRAFT permit document. The revisions follow the existing permit numerical order. The revisions to the conditions only cover the paragraphs where the changes are made and not necessarily repeat the entire conditions.

REGULATORY CLASSIFICATION

Title III: The existing facility is major for hazardous air pollutants (HAPs).

Title IV: The facility operates emissions units subject to the acid rain provisions of the Clean Air Act.

Title V: Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

DRAFT

PSD: The project is located in an area designated as "attainment," "maintenance," or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. The facility is considered a "fossil fuel fired steam electric plant of more than 250 million BTU per hour of heat input", which is one of the 28 PSD source categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source of air pollution with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) of Air Quality.

Siting: The facility is subject to Electrical Power Plant Siting in accordance with Chapter 62-17, F.A.C. and Chapter 403, Part II, F.S.

RELEVANT DOCUMENTS

Several documents shown in the following link are not a part of this permit, but helped form the basis for this permitting action. Documents related to this permitting action are posted under permit No. 0250003-024-AC at the following web site address: http://appprod.dep.state.fl.us/air/emission/apds/default.asp

DRAFT

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority. All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to the Office of Permitting and Compliance in the Division of Air Resource Management of the Department. The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. Copies of all such documents shall also be submitted to the Compliance Authority.

2. Compliance Authority. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office and Local Air Program. The mailing address and phone number of the Southeast District Office is: 400 North Congress Avenue, West Palm Beach, Florida 33401; phone 561/681-6600. The mailing address and phone number of the Local Air Program is Miami-Dade County Regulatory & Economic Resources (RER), Environmental Resources Management, Air Facility Section at 701 NW 1st Court, Suite 400, Miami, FL 33136; phone 305/372-6925.

3. Appendices. The following Appendices are attached as part of this permit:
   a. Appendix CF. Citation Formats and Definitions;
   b. Appendix GC. General Conditions;
   c. Appendix CC. Common Conditions; and,
   d. Appendix CTR. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures. Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 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. No emissions unit shall be constructed or 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. Construction. This permit authorizes the installation of GE 7FA.04 components for Unit 5; and, the initial operation after the replacement to determine compliance with Department rules. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance prior to the expiration of this permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, 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 3, Specific Condition No. 3.

DRAFT

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 within 45 days after the installation of the GE 7FA.04 and testing of the units. The report shall include information as detailed in Section 3, Specific Condition No. 4.

DRAFT

This section of the permit addresses the following emissions units.

Emissions Units 009, 010, 011, 012

Description: Emissions units 009, 010, 011 and 012 each consist of a General Electric Model PG7241(FA) gas turbine-electrical generator set, an automated gas turbine control system, an inlet air filtration system, an evaporative inlet air-cooling system, a gas-fired heat recovery steam generator (HRSG), a HRSG stack, and associated support equipment. In addition, the project also includes a single steam turbine-electrical generator that serves all four gas turbine/HRSG systems.

Fuels: Each gas turbine fires natural gas as the primary fuel and distillate fuel oil as a restricted alternate fuel.

Generating Capacity: Each of the four gas turbine-electrical generator sets has a nominal generating capacity of ~~170~~ 184.6 MW for gas firing (~~180~~ 196.9 MW for oil firing). Exhaust from each gas turbine passes through a separate supplementary-fired heat recovery steam generator (HRSG). Steam from each HRSG is delivered to the single steam turbine-electrical generator, which has a generating capacity of 470 MW. The total generating capacity of the "4 on 1" combined cycle system is approximately ~~1,150~~ 1,209 MW.

Controls: The efficient combustion of natural gas and restricted firing of ultra low sulfur distillate fuel oil minimizes the emissions of CO, PM/PM_{10}, SAM, SO_2 and VOC. Dry Low-NO_X (DLN) combustion technology for gas firing and water injection for oil firing reduce NO_X emissions. A selective catalytic reduction (SCR) system further reduces NO_X emissions.

Stack Parameters: Each HRSG has a stack at least 130 feet tall with a nominal diameter of 19 feet. The Department may require the permittee to perform additional air dispersion modeling should the actual specified stack dimensions change. The following summarizes the exhaust characteristics:

Fuel	Heat Input Rate (LHV)	Compressor Inlet Temp.	Exhaust Temp., °F	Flow Rate ACFM
Gas	~~1,608~~ 1,659 MMBtu/hour	59° F	202° F	1,023,872
Oil	~~1,830~~ 1,908 MMBtu/hour	59° F	295° F	1,224,407

Continuous Monitors: Each stack is equipped with continuous emissions monitoring systems (CEMS) to measure and record CO and NO_X emissions as well as flue gas oxygen or carbon dioxide content.

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 below, these conditions are in addition to all other applicable permit conditions and regulations. The facility remains subject to all of the requirements contained in all previously issued air construction permits for this facility. (Note: These requirements are reflected in the Title V Air Operation Permit No. 0250003-025-AV issued concurrently). [Rule 62-4.070, F.A.C.]

NEW EQUIPMENT

This permit allows the installation of new GE turbine components to improve the performance of Unit 5.

2. Combustion Turbine Improvements on Unit 5: The permittee is authorized to conduct the following work on Unit 5 including the replacement of various components of the GE 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

DRAFT

- New control software.

[Application No. 0250003-024-AC]

REPORTING REQUIREMENTS AND NSPS APPLICABILITY TESTS

This permit requires actual emissions reporting for Unit 5 pursuant to Rule 62-212.300(1)(e), F.A.C.; and, tests data to demonstrate NSPS applicability/non-applicability of 40 CFR 60, Subpart KKKK as follows:

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 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.

   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. For this project, the permittee estimated the following baseline actual emissions: 30.44 tons/year of CO; 183.15 tons/year of NO_X; 13.91 tons/year of SO_2; 14.13 tons/year of VOC; 0.94 tons/year of PM/PM_{10}; and 2.13 tons/year of sulfuric acid mist (SAM).

   e. The Department has identified NO_X and CO as the only PSD-pollutants that could reasonably increase as a result of this modification. The permittee shall use the installed CEMS to determine and report the actual annual emissions of NO_X and CO for the purpose of comparisons with baseline actual emissions.

   {Permitting Note: Continuous compliance with the CO and 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.}

   [Application 0250003-024-AC; and Rules 62-212.300(1)(e) & 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 within 45 days after the installation of the GE 7FA.04 and testing of the units. The submittal shall include a preliminary inference whether 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

DRAFT

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 0250003-024-AC]

PERMITS BEING MODIFIED: PSD-FL- 338 (0250003-006-AC) and PSD-FL- 338A (0250003-007-AC)

5. Subsection III - Specific Condition **A.6** Permitted Capacity

This condition is revised to allow higher input rate as a result of the installation of the new GE 7A.04 components in Unit 5.

A.6. Permitted Capacity - Gas Turbines: The maximum heat input rate to each gas turbine is ~~1,608~~ 1,659 MMBtu per hour when firing natural gas and ~~1,830~~ 1,908 MMBtu per hour when firing distillate fuel oil (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C., and Application 0250003-024-AC]

6. Subsection III - Specific Condition **A.15** Excess Emissions

This condition is revised to update the Excess Emission language to establish excludable periods of excess emissions from the CEMS compliance averages related to periods of startup, shutdown and fuel switching for Unit 5. This condition was previously revised by Permit No. 0250003-007-AC (PSD-FL-338A). The sequential order of the items (*a*. through *f*.) are changed and/or revised in this permitting action.

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

a. *Steam Turbine Cold Startup*. For cold startup of the steam turbine system, ~~excess emissions~~ excluded emissions from any gas turbine/HRSG system shall not exceed eight hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours. *{Permitting Note: During a cold startup of the steam turbine system, each gas turbine/HRSG in the 4-on-1 combined cycle 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. *Gas Turbine/HRSG System Cold Startup*. For cold startup of an individual gas turbine/HRSG system, excluded ~~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 pounds per square inch gauge (psig) for at least a one-hour period.

c. *Gas Turbine/HRSG System Warm Startup.* For warm startup of a gas turbine/HRSG system, excluded

DRAFT

emissions shall not exceed two hours in any 24-hour period (with the additional provision of a limit of 2 warm startup periods per 24 hours per gas turbine/HRSG system, in which case excluded emissions shall not exceed eight hours total for the 4-on-1 combined cycle system). "Warm startup of a gas turbine/HRSG system" is defined as a startup after the pressure in the high-pressure (HP) steam drum is above 450 psig.

d. *Gas Turbine/HRSG System Shutdown.* For shutdown of the gas turbine/HRSG operation, excluded emissions from any individual gas turbine/HRSG system shall not exceed two hours in any 24-hour period.

e. *Shutdown of Combined Cycle Operation*. For shutdown of the entire 4-on-1 combined cycle operation, excluded emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.

f. *Fuel Switching*: For fuel switching ~~excess~~ excluded emissions shall not exceed two hours in any 24-hour period for each fuel switch and no more than four hours in any 24-hour period for any gas turbine/HRSG system.

g. *Documented Malfunction.* For the gas turbine/HRSG system, excess emissions of NO_x and CO resulting from documented malfunctions shall not exceed two hours in any 24-hour period. 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.

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., and Application 0250003-024-AC]

7. Subsection III - Specific Condition **A.16** Dry Low NOx Tunings

This condition is revised to provide excludable periods of excess emissions from the CEMS compliance averages due to excess emissions related to full speed no load trip tests, the DLN tuning / FSNL testing condition for Unit 5.

A.16. DLN Tuning/ FSNL Testing/Green Rotor Run-in: CEMS data collected during initial or other major DLN tuning sessions and during manufacturer required Full Speed No Load (FSNL) trip tests or Green Rotor Run-in periods shall be excluded from the CEMS compliance demonstration provided ~~the tuning session is~~ activities are performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, FSNL, or Green Rotor Run-in activities, the permittee shall provide the Compliance Authority with an advance notice of at least one working (business) day that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Design; Rule 62-4.070(3), F.A.C., and Application 0250003-024-AC]

8. Subsection III - Specific Condition **A.17** Test Methods

This condition is revised to provide flexibility for ammonia measurements, EPA Method 320 is added.

A.17. Test Methods. Any required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train.}
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Volatile Organic Concentrations
CTM-027 or EPA 320	Procedure for Collection and Analysis of Ammonia in Stationary Source {Notes: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.} Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy

Method CTM-027 is published on EPA's Technology Transfer Network Web Site at www.epa.gov/ttn/emc/ctm.html. The other methods listed above are described in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Application 0250003-024-AC, 40 CFR 60, Appendix A and Rule 62-204.800, F.A.C.]

[Application 0250003-024-AC]

9. Subsection III - Specific Condition **A.20** Annual Compliance Tests

This condition is revised to clarify that the VOC test during the Title V permit renewal period is not required unless the annual CO test indicates an exceedance of the CO standard.

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

{Note: After initial compliance with the VOC standards is demonstrated, annual and renewal compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing if CO limits are exceeded or for the reasons given in Appendix SC, Condition 17, Special Compliance Tests.}

Additional Ammonia Slip Testing: If the tested ammonia slip rate for a gas turbine exceeds 5 ppmvd corrected to 15% oxygen when firing natural gas during the annual test, the permittee shall:

a. Begin testing and reporting the ammonia slip for each subsequent calendar quarter;
b. Before the ammonia slip exceeds 7 ppmvd corrected to 15% oxygen, take corrective actions that result in lowering the ammonia slip to less than 5 ppmvd corrected to 15% oxygen; and
c. Test and demonstrate that the ammonia slip is no more than 5 ppmvd corrected to 15% oxygen within 15 days after completing the corrective actions.

DRAFT

Corrective actions may include, but are not limited to, adding catalyst, replacing catalyst, or other SCR system maintenance or repair. After demonstrating that the ammonia slip level is no more than 5 ppmvd corrected to 15% oxygen, testing and reporting shall resume on an annual basis.

[PSD-FL-338 and PSD-FL338B (Application 0250003-0024-AC) Specific Condition 20; Rules 62-212.400 (PSD), 62-297.310(7)(a)4, 62-297.310(7)(b),and 62-297.310(7)(a)1, F.A.C., and 40 CFR 60.8]

10. Subsection III - Specific Condition **A.21** Continuous Emission Monitoring

This condition is revised to allow flexibility to certification procedures for the CO monitors by allowing the use of quality assurance procedures conforming to the requirements of 40 CFR 60 Part 75 for Unit 5.

A.21. CEM Systems: The permittee shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_X from the combined cycle gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_X standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.

a. *CO Monitors*. The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, or Part 75, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.

b. f. No change to the rest of condition **A.21**.

[Application 0250003-024-AC]

DRAFT