PERMITTEE

Florida Power and Light Company (FPL)
West County Energy Center

Authorized Representative:
Mr. Peter G. Holzapfel, Plant General Manager

Draft Permit No. 0990646-006-AC/PSD-FL-396A
Air Construction Permit Revision -
Changes to Excess Emissions Provisions for the Gas Turbines

West County Energy Center
Palm Beach County, Florida

PROJECT

This is the final air construction permit revision which revises specific conditions of Permit No. 0990646-002-AC/PSD-FL-396 for Unit 3, a 1,250 megawatt (MW) combined cycle unit at the West County Energy Center. The revised permit conditions are related to excess emissions provisions for the gas turbines. The existing facility is a power plant categorized under Standard Industrial Classification No. 4911. The plant is located at 20505 State Road 80, Loxahatchee, Florida in Palm Beach County. The Universal Transverse Mercator (UTM) coordinates are Zone 17, 562.19 km East and 2953.04 km North. This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions). As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit revision 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.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is <u>not</u> subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit revision shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit revision, 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)

JFK/jkh/tbc

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 _____ to the persons listed below.

Mr. Peter G. Holzapfel, Florida Power & Light Company: pete.holzapfel@fpl.com
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Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us (for reading file)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____
Clerk Date

FACILITY DESCRIPTION

The project authorized by 0990646-002-AC was the construction of the third nominal 1,250 megawatt combined cycle unit (Unit 3) and ancillary equipment at the Florida Power and Light Company (FP&L) West County Energy Center. Unit 3 consists of: Three nominal 250 megawatt (MW) Model 501G combustion turbine-electrical generators (CTG) with evaporative inlet cooling systems; three supplementary-fired heat recovery steam generators (HRSG) with selective catalytic reduction (SCR) reactors; one nominal 428 MMBtu/hour (lower heating value - LHV) gas-fired duct burner (DB) located within each of the three HRSG; three 149 feet exhaust stacks; one 26 cell mechanical draft cooling tower; and a common nominal 500 MW steam-electrical generator (STG).

FACILITY REGULATORY CLASSIFICATION

- This facility is a major source of hazardous air pollutants (HAP).
- This facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

PROPOSED PROJECT

For the current project, the applicant has requested an air construction permit revision to change several of the underlying construction permit conditions related to the gas turbine excess emissions provisions.

SECTION 2. PERMIT REVISIONS

The following facility unit description table and permit specific conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are highlighted in yellow for ease of location.

Air Construction Permit Being Revised: Permit No. 0990646-002-AC (expiration date December 31, 2013)

Emission Unit Description

ID	Emission Unit Description
013	Unit 3A – one nominal 250 MW CTG with supplementary-fired HRSG
014	Unit 3B – one nominal 250 MW CTG with supplementary-fired HRSG
015	Unit 3C – one nominal 250 MW CTG with supplementary-fired HRSG
016	One 26 cell mechanical draft cooling tower
017	Two nominal 10 MMBtu/hr natural gas-fired process heaters
018	Two nominal 2,250 KW (~ 21 MMBtu/hr) emergency generators

Affected Emissions Units: Combined Cycle Combustion Turbines (CT) and Heat Recovery Steam Generators (HRSG) (E.U. ID Nos. 013 - 015).

Specific Conditions **A.14., 17., 19., 25.** and **32.** of Permit No. 0990646-002-AC are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

A.14. Alternate Visible Emissions Standard: Visible emissions due to startups, shutdowns, fuel switches and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C.]

A.17. Excess Emissions Allowed: As specified in this condition, excess emissions resulting from startup, shutdown, ~~oil-to-gas fuel switches~~ fuel switching and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. ~~For each CTG/HRSG system, excess emissions of NO_x and CO resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the specific cases listed below.~~ For each gas turbine/HRSG System, excess emissions of NO_X and CO resulting from startup, shutdown, or malfunction may be excluded from CEMS data in any 24-hour period ("any 24-hour period" means a calendar day, midnight to midnight) for the following conditions (these conditions are considered separate events and each event may occur independently within 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.~~

a. ~~*STG/HRSG System Cold Startup:*~~ *Steam Turbine Cold Startup*: For cold startup of the ~~STG/HRSG~~ steam turbine, ~~excess NO_x and CO~~ excluded emissions from any ~~CTG~~ gas turbine/HRSG system shall not exceed eight ~~(8)~~ hours in any 24-hour period. A cold "startup of the steam turbine ~~system~~" is defined as startup of the 3-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 ~~STG system~~ steam turbine, each ~~CTG~~ gas turbine/HRSG system is sequentially brought on line at low load to gradually increase the temperature of the ~~STG~~ 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. *Shutdown Combined Cycle Operation*: For shutdown of the combined cycle operation, ~~excess NO_x and CO~~ excluded emissions of from any ~~CTG~~ gas turbine/HRSG system shall not exceed three ~~(3)~~ hours in any 24-hour period.

c. ~~*CTG*~~ *Gas Turbine/HRSG System Cold Startup*: For cold startup of a ~~CTG~~ gas turbine/HRSG system,

~~excess NO_X and CO~~ excluded emissions shall not exceed four ~~(4)~~ hours in any 24-hour period. "Cold startup of a ~~CTG~~ 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. *Fuel Switching*: For fuel switching, ~~excess NO_X and CO~~ excluded emissions shall not exceed two ~~(2)~~ 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.

e. *Gas Turbine/HRSG System Warm Startup*: For warm startup of a gas turbine/HRSG system, excluded emissions shall not exceed two hours in any 24-hour period. "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.

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

g. *Documented Malfunction*: For the gas turbine/HSRG 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.

A.19. DLN Tuning / FSNL Testing: CEMS data collected during initial or other major DLN tuning sessions and during manufacturer required Full Speed No Load (FSNL) trip tests may be excluded by the permittee from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice of at least ~~14 days~~ 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.]

A.25. Continuous Emissions Monitoring System(s) (CEMS):

a. *CO Monitors:* The CO monitor~~s~~ shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F or 40 CFR Part 75, and the Data Assessment Report in 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.

A.32. Excess Emissions Reporting:

b. *SIP Quarterly Permit Limits Excess Emissions Report*: Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO and NO_X emissions in excess of the BACT permit standards, and the amounts of authorized data excluded following the ~~NSPS~~ format in ~~40 CFR 60.7(c), Subpart A~~ Figure XSE attached to this permit. Periods of startup, shutdown ~~and~~, malfunction, fuel switching and tuning shall be monitored~~,~~ and recorded at all times ~~and reported as excess emissions when emission levels exceed the standards specified in this permit~~. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.

Affected Emissions Unit: Two gas-fueled 10 MMBtu/hr process heaters) (E.U. ID No. 017).

Specific Conditions **C.1., C.4. and C.6.** of Permit No. 0990646-002-AC are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

ID	Emission Unit Description
017	Two gas-fueled ~~10~~ 8.3 MMBtu/hr process heaters

~~**NSPS APPLICABILITY**~~

~~**C.1.** NSPS Subpart Dc Applicability: Each process heater is subject to all applicable requirements of 40 CFR 60, Subpart Dc which applies to Small Industrial, Commercial, or Institutional Boiler. Specifically, each emission unit shall comply with 40 CFR60.48c Reporting and Recordkeeping Requirements.~~

~~[Rule 62-204.800(7)(b) and 40 CFR 60, NSPS Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, attached as Appendix Dc].~~

EQUIPMENT SPECIFICATIONS

C.4. Equipment: The permittee is authorized to install, operate, and maintain two ~~10~~ 8.3 MMBtu/hr process heaters for the purpose of heating the natural gas supply to the CTs. [Applicant Request and Rule 62-210.200(PTE), F.A.C.]

NOTIFICATION, REPORTING AND RECORDS

~~**C.6.** Notification: Initial notification is required for the two small gas-fueled 10 MMBtu/hr process heaters. [40 CFR 60.7]~~