TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Florida Power and Light Company (FPL)

Manatee Power Plant

Excess Emissions Revision

Manatee County

DEP File No. 0810010-018-AC

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
Permitting Section

July 19, 2013

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. GENERAL PROJECT INFORMATION

Applicant Name and Address

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

Authorized Representative:
Mr. Paul Plotkin, Plant General Manager

Processing Schedule

May 7, 2013: Air construction permit application received and deemed complete.

Facility Description and Location

This nominal 2,750 megawatt (MW) facility consists of two fossil fuel steam generators, a "4-on-1" gas-fired combined cycle unit and associated support equipment.

Fossil Fuel Steam Generators, Unit 1 and Unit 2: Each unit is a Foster-Wheeler Steam Generator rated at 800 MW (900 MW gross capacity) output. These units burn a variable combination of natural gas, No. 6 fuel oil, No. 2 fuel oil, propane, and used oil from Florida Power and Light Company (FPL) operations, discharging pollutants through a stack 499 feet above ground level. Each unit is equipped with an electrostatic precipitator (ESP), a flue gas recirculation system and staged combustion and also operates a Westinghouse tandem compound, reheat-type extraction turbine.

Combined Cycle Gas Turbines, Unit 3: This unit consists of four ("4-on-1") nominal 170 MW General Electric Model PG7241(FA) gas-fired turbine-electrical generator sets with evaporative inlet cooling systems, an automated gas turbine control system, an inlet air filtration system, four 495 million British thermal units per hour (MMBtu/hr) supplementary-fired heat recovery steam generators (HRSG) with selective catalytic reduction (SCR) reactors, a single nominal 470 MW steam-electrical generator that serves all four gas turbine/HRSG systems, four 120 feet high exhaust stacks, and associated support equipment. The total generating capacity of the "4-on-1" combined cycle system Unit 3 is 1150 MW.

This existing facility is located at 19050 State Road 62, Parrish, Manatee County; UTM Coordinates: Zone 17, 367.250 km East and 3054.150 km North; Latitude: 27° 36' 21" North and Longitude: 82° 20' 44" West.

Major Regulatory Categories

The key regulatory provisions applicable to the facility are:

Title I, Part C, Clean Air Act (CAA): The facility is located in an area that is designated as "attainment", "maintenance", or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard (NAAQS). It is classified as a "fossil fuel-fired steam electric plant of more than 250 million BTU per hour of heat input", which is one of the 28 Prevention of Significant Deterioration (PSD) Major Facility 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 "major stationary source" of air pollution with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration of Air Quality.

Title I, Section 111, CAA: The Combined Cycle Gas Turbine is subject to Subpart Da (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978) and Subpart GG (Standards of Performance for Stationary Gas Turbines) of the New Source Performance Standards in 40 CFR 60.

Title I, Section 112, CAA: The facility is a "Major Source" of hazardous air pollutants (HAP).

Title V, CAA: The facility is a Title V or "Major Source of Air Pollution" in accordance with Chapter 62-213, F.A.C., because the potential emissions of at least one regulated pollutant exceed 100 tons per year. 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). The plant currently operates under Title V Air Operations Permit No. 0810010-015-AV.

Proposed Project

Because FPL is striving to gain more consistency in its Title V permits for the 7 FA combustion turbine fleet, it has proposed common language to certain specific conditions that pertain to like combustion turbines. This common language has evolved as FPL has gained experience in operating and maintaining these turbines and developing proper protocol. These changes, primarily affecting excess emissions identification during startup (both cold and warm), shutdown and malfunction periods, and during tuning sessions (including full speed no load trip tests and green rotor run-in periods), are acceptable to the Department because proper operator management of these transient conditions results in less steady state emissions and is therefore beneficial to the environment. Excluding such identified emissions from excess emissions computations using appropriate time spans is sound policy. In addition to these changes, FPL requested that the certification of CO monitors protocol be allowed to use quality assurance procedures that conform to the requirements of 40 CFR 60 Part 75. Finally, the Department clarifies that an annual compliance test for particulate matter emissions shall not be required for Unit 1 and/or Unit 2 if, in a federal fiscal year, the respective units do not burn oil, either alone in combination with other fuels, other than during startup, for a total of more than 400 hours. Please refer to the associated air construction permit revision (0810010-018-AC) document for the details of the changes.

These changes will not increase the potential to emit (PTE) of any pollutant. Based on the foregoing analysis, the project constitutes a non-major modification with respect to the Department's rules and requires a construction permit.

2. REGULATIONS THAT APPLY TO THE PROJECT

State Regulations

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code. These include: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards); and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures).

3. OTHER APPLICABLE REGULATIONS

The requirements already listed in the facility's existing Title V Air Operation Permit No. 0810010-015-AV are comprehensive and sufficient for the future operation of the facility. The main additional requirement is for an air construction permit revision pursuant to Rules 62-4, 62-210 and 62-212.300, F.A.C., to make the requested changes to underlying air construction permits.