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

Draft/Proposed Permit No. 0990646-004-AV, Initial Title V Air Operation Permit

APPLICANT

The applicant for this project is FPL. The applicant's responsible official and mailing address are: Ms. J. Carine Bullock, Plant General Manager, West County Energy Center, Florida Power and Light Company, 700 Universe Boulevard, Juno Beach, Florida 33408.

FACILITY DESCRIPTION

The West County Energy Center is located in Palm Beach County at 20505 State Road 80, Loxahatchee, Florida.

The West County Energy Center currently is operated as a nominal 2,500 megawatt (MW) power plant. The initial phase of the facility was for the construction of two nominal 1,250 MW gas-fired combined cycle units that use ultra low sulfur (ULS) fuel oil as backup fuel. These two combined cycle units are designated as Unit 1 and Unit 2. The permitted second phase of the facility is to add another nominal 1,250 MW gas-fired combined cycle unit, for a total of 3,750 MW, which will make this facility the largest power plant in U.S. history.

Each combined cycle unit consists of: three nominal 250 MW "G" Class gas turbine-electrical generator sets (Mitsubishi Heavy Industries Model M501G) 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 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.

Additional ancillary equipment includes: four emergency generators; two natural gas fired fuel heaters; two diesel fuel storage tanks; one auxiliary steam boiler; and, other associated support equipment.

Also included in this permit are miscellaneous insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to issue the initial Title V air operation permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for an Initial Title V Air Operation Permit received on November 12, 2009.
Request for Additional Information dated and sent via e-mail on January 8, 2010.
Notification of change in Responsible Official dated February 4, 2010, received on February 8, 2010.
Additional Information Response received via e-mail on April 1, 2010.
Additional Information Response received via e-mail on April 16, 2010.
Waiver of 90-day clock from FPL dated April 22, 2010.
Additional Information Requested on August 5, 2010.
Additional Information Response received via e-mail on January 28, 2011.
Application for Concurrent Air Construction/PSD Permit Revision by letter dated December 21, 2010.
Air Construction/PSD Permit Revision Processing Fee received on January 12, 2011.

Draft Air Construction Permit Revision clerked (issued) on Month day, 2011.
Draft/Proposed Initial Title V Air Operation Permit posted onto web site on Month day, 2011.
Public Notice published on Month day, 2011.

Notification to U.S. EPA Region 4 of Publication of Public Notice on Month day, 2011.

PRIMARY REGULATORY REQUIREMENTS

Title III: This facility is a major source of hazardous air pollutants (HAP), based on the initial Title V air operation permit application.

NESHAP: This facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 Code of Federal Regulations (CFR) 63.

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

Title V: This facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: This facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: This facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

CAIR: This facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

Siting: This facility operates units subject to the power plant siting provisions of Chapter 62-17, F.A.C.

CAM: Emissions units at this facility are not subject to Compliance Assurance Monitoring (CAM) for one or more of the following reasons: they do not trigger the pre-air pollution control device major source emission thresholds; they demonstrate continuous compliance with a continuous emission monitoring system (CEMS); or, they are not equipped with air pollution control device(s).

PROJECT REVIEW

Changes made in this permitting action from the PSD/air construction permit to the Title V air operation permit are highlighted below.

Permit

- The two distillate fuel oil storage tanks (Emissions Unit (E.U.) Identification (ID) Number (No.) 007) and the two mechanical draft cooling towers (E.U. ID No. 008) were classified as unregulated emissions units in Appendix U, List of Unregulated Emissions Units and/or Activities of this initial Title V air operation permit.
- Subsection III.A. Combined Cycle Combustion Turbines and Heat Recovery Steam Generators, Unit 1 and Unit 2 (E.U. ID Nos. 001 through 006). An updated version of NSPS 40 CFR 60, Subpart KKKK in the form of an Appendix 40 CFR 60 Subpart KKKK was added to the permit; subsequent to the issuance of the PSD permit, the U.S. EPA amended this federal regulation on March 20, 2009.
- 40 CFR 63, Subpart DDDDD - Boiler MACT. The two natural gas-fired process heaters (E.U. ID No. 010) and the auxiliary boiler (E.U. ID No. 009) were identified in the PSD/AC permit as being subject to the 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, or Institutional Boiler or Process Heater, a.k.a. "Boiler MACT." On July 30, 2007, the Court of Appeals for the District of Columbia Circuit issued its mandate in NRDC v. EPA, vacating and remanding EPA's Boiler MACT. On March 21, 2011, U.S. EPA published a direct final regulation with an effective date of May 20, 2011. The process heaters are "existing small gaseous process heaters," therefore, they are exempt from the Boiler MACT pursuant to 40 CFR 63.7506(c)(3).
- Subsection III.B. One Limited Use Gas-fueled Auxiliary Boiler (E.U. ID No. 009) and Two Natural gas-fired Process Heaters (E.U. ID No. 010). Potential particulate matter (PM) emissions from the auxiliary

boiler are 0.54 tons per year (TPY); therefore, an annual VE test is deemed to be adequate. Potential PM emissions from each process heater are 0.067 TPY which is much less than 1 TPY; therefore, VE testing upon renewal (every 5 years) is deemed to be sufficient.

- Engines: The four propane-fired emergency generators (30 kilowatt (kW)) were proposed to be insignificant in the initial Title V air operation permit application. These engines are now 'regulated' emissions units under recently promulgated federal regulations; specifically, 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). These engines are now included in this permit as 'regulated' emissions units within the body of the permit under Subsection E.
- The applicant requested the concurrent processing of an air construction permit revision to change air construction/PSD permit conditions related to excess emissions for the Combined Cycle Combustion Turbines and Heat Recovery Steam Generators, Unit 1 and Unit 2 (E.U. ID Nos. 001 through 006). See Permit No. 0990646-005-AC/PSD-FL-354B for the changes made. The Technical Evaluation and Preliminary Determination summarizes the requested changes, the Department's responses and identifies the changes made to the underlying air construction permit conditions. These changes have been reflected within the Title V air operation permit.

CONCLUSION

This project issues the initial Title V air operation permit for the above referenced facility.

West County Energy Center Site

http://www.fpl.com/environment/plant/west_county.shtml