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June 3, 2011

Trina Vielhauer - Chief
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Mail Station #5505
Tallahassee, FL 32399-2400

**Re: FPL Comments for West County Energy Center Draft Title V & AC Permit
Modification (0990646-001-AV & 0990646-003-AC)**

Dear Mrs. Vielhauer,

Provided in the attachment you will find the FPL comments related to the Department's draft Title V Permit and proposed Air Construction Permit modification. We appreciate the Departments' efforts in preparing the draft permits and have provided comments which we believe will further assist the facility in understanding and maintaining compliance with the substantial list of state and federal regulations. Admittedly the increasing number of regulations which now affect the variety of small sources located at new facilities has created a very complex permitting process as we try to work together in creating permits that are neither burdensome for the permittee or the compliance authority. .

Should you have any questions, or need any additional information, please contact me at your earliest convenience.

Sincerely,

A handwritten signature in black ink that reads "John C Hampp".

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FPL

FPL Comments for Draft Title V Permit

Subsection A. Facility Description.

FPL suggests the facility description be modified as follows:

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 distillate (ULSD) 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 3.75 gigawatts (GW), ~~which will make this facility the largest power plant in U.S. history.~~

Emission Unit 001 – 006 (Gas Turbines 1A, 1B, 1C, 2A, 2B & 2C)

A.11 Visible Emission Standard

FPL proposes to modify condition A.11 to include allowable visible emissions for fuel switches as follows:

Visible Emissions Standard - Startups, Shutdowns, Fuel Switches, and Malfunctions. Visible emissions shall not exceed 20% opacity for up to ten, 6-minute averaging periods during a calendar day due to startups, shutdowns, **fuel switches**, and malfunctions. [Rule 62-212.400 (BACT Determination), F.A.C. and Permit No. 0990646-001-AC/PSD-FL-354.]

A.15 Excess Emission Allowed

FPL appreciates the proposed excess emission allowed conditions which has made it clearer for unit operators to comply with permit limits. FPL suggests that two minor changes could be made to further clarify the excess emissions allowed for the CT's as follows (in red) for the Title V Permit and similarly for the modification to the AC Permit:

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. For each gas turbine/HRSG System, excess emissions of NO_x and CO resulting from startup, shutdown, or malfunction shall 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. *Steam Turbine Cold Startup.* For cold startup of the steam turbine, excluded emissions from any gas turbine/HRSG system shall not exceed eight hours in any 24-hour period. A cold "startup of the steam turbine" 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 steam turbine, 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. *Gas Turbine/HRSG System Cold Startup.* For cold startup of a gas turbine/HRSG system, excluded 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 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.

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

e. ~~Shutdown~~ *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.

f. *Fuel Switching.* For fuel switching, excluded emissions shall not exceed 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.

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.

[Permit Nos. 0990646-001-AC/PSD-FL-354 and 0990646-005-AC/PSD-FL-354B, specific condition III.A.18.]

A.17 DLN Tuning

FPL proposes to amend condition A17 to include Full Speed No Load Trip Tests that are manufacturer required for allowable exclusions of emission data for CEMS data exclusions. FPL must perform the FSNL test following routine replacement of major combustion turbine components to retain manufacturer warranties. FPL suggests that the current language of the first part of the condition be modified from:

"DLN Tuning. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. "

To the following :

"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** shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. "

A.20. Continuous Emission Monitoring Systems (CEMS).

FPL requests modification to the CO monitoring provisions to allow the use of Part 75 monitoring requirements. FPL proposes to modify the existing requirement from:



FPL

a. *CO Monitors.* The CO monitors 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, 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.

To the revised text as proposed:

b. *CO Monitors.* The CO monitors 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 40 CFR 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.

A.32 Excess Emission Reporting

FPL proposes to clarify the applicable emission specification for these units under 40 CFR part 60 Subpart KKKK by modifying the first sentence of section c from:

NSPS Semi-Annual Excess Emissions Reports. For purposes of reporting emissions in excess of NSPS Subpart KKKK, excess emissions from the gas turbine are defined as: a specified averaging period over which either the NOx emissions are higher than the applicable emission limit in 60.4320; or the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in 60.4330.

To the following text:

NSPS Semi-Annual Excess Emissions Reports. For purposes of reporting emissions in excess of NSPS Subpart KKKK, excess emissions from the gas turbine are defined as operation on gas that exceeds : a specified averaging period over which either the NOx emissions **are greater than 15ppm at 15%O₂ on a 30 day rolling average while firing natural gas and greater than 42ppm at 15%O₂ on a 30 day rolling period while firing ultra low sulfur distillate**; or the total sulfur content of the fuel being combusted in the affected facility exceeds the limit specified in 60.4330.

Emission Unit 010 (Gas-Fired Process Heaters)

B.4

FPL believes that emission limits for each process heater could be removed from the permit . The 8.3 MMBtu/Hr heaters are not regulated sources under either 40 CFR Part 60 or Part 63 and do not have applicable emission specifications. FPL understands that the department may impose BACT limits on major sources, or major modifications, under the PSD requirements of 62-212.400 but recommends the Department remove the condition from the permit.

~~The applicable emission limitations/standards for each process heater are:~~

| CO | NOx | VE |
|--------------------------|---------------------------|----------------|
| 0.08 lb/MMBtu | 0.095 lb/MMBtu | 10% |



Emission Unit 009 & Emission Unit 010 (Gas-Fired Auxiliary Boiler & Gas-Fired Process Heaters)

B.6

FPL believes that annual test requirements for the auxiliary boiler are burdensome and unnecessary to meet compliance requirements under 40 CFR Part 60 Subpart Dc and the final, though currently stayed, 40 CFR Part 63 Subpart DDDDD. Additionally, as discussed in the comment for condition B.4, the process heaters have no federal testing requirements. FPL recommends deleting this requirement for both emission units.

~~Annual Compliance Test. During each federal fiscal year (October 1st to September 30th), Emissions Unit ID Nos. 009 (Auxiliary Boiler) and 010 (Process Heaters) shall be tested to demonstrate compliance with the emission limitations and standards for VE. [Rule 62-297.310(7), F.A.C.]~~

B.7

FPL agrees that it would be appropriate to require a compliance test prior to permit renewal to demonstrate compliance with the applicable emission standards for the Aux Boiler. We do not agree that a compliance test prior to permit renewal should be required for the natural gas-fired process heaters. Stack testing of the process heaters would represent a burdensome and costly activity that would provide no environmental benefit. FPL proposes the text be modified as follows:

Compliance Test Prior To Renewal. Prior to permit renewal, E.U. ID Nos. 009 (Auxiliary Boiler) ~~and 010 (Process Heaters)~~ shall be tested to demonstrate compliance with the emission limitations and standards for CO, NOx and VE. [Rule 62-297.310(7)(a)3., F.A.C.]



FPL Emission Unit 011 (Three Emergency Generators/Engines)

C.1. Hours of Operation.

FPL proposes that the hours of operation requirement for the diesel generators conform to 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII with a limit on operation for testing and maintenance checks not to exceed 100 hours and unlimited operation for the emergency use. FPL suggests the requirement be reworded as follows:

Hours of Operation. The hours of operation shall not exceed **100 hours per year for each engine for the purpose of 160 hours per year per each engine. Maintenance checks and readiness testing with unlimited operation for emergency use is limited to 100 hours per year for each engine.** [Rule 62-210.200 (Definitions - Potential to Emit (PTE), F.A.C.; 40 CFR 60.4211(e); and, Permit No. 0990646-001-AC/PSD-FL-354.]

C.3 Fuel Specifications

FPL suggests that the first sentence in Fuel Specifications be modified as follows:

Fuel Specifications. Each engine shall use **ultra** low-sulfur diesel fuel oil, as required by 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII

C.5 Test Methods

Reference test methods for particulate testing should be modified to include use of Method 17 as an alternative to Method 5. FPL suggests the Test Method table be modified to include 17 as follows:

| | |
|--------------------|-------------------------------|
| EPA Method 5 or 17 | Determination of PM Emissions |
|--------------------|-------------------------------|

C.7. Compliance Test Prior To Renewal.

Emission Unit 11, three stationary emergency generators, are new emergency compression ignition diesel generators. These units are not subject to any emission standards under the Subpart ZZZZ NESHAP and must only comply with initial notification requirements. Emission performance standards for these emergency compression ignition engines, 40 CFR Part 60 Subpart IIII, requires certification by the engine manufacturer. While owners or operators are responsible for ensuring that the engine certification meets applicable emission guidelines. Subpart IIII does not require periodic monitoring of emissions and instead requires that owners and operators change only those settings permitted by the engine manufacturer and operate and maintain the engine in accordance with the manufacturer's written instructions. FPL requests that condition C.7 be required only upon determination that the owner or operator had not operated or performed required maintenance according to the manufacturer's recommendations and instructions. FPL requests condition C.7 be changed to the following text:

C.7. Compliance Test Prior To Renewal. Except as provided in Specific Condition **C.8.**, these emergency generators/engines shall be tested to demonstrate compliance with the emission limitations and standards for NMHC, NO_x, CO and PM/PM₁₀ prior to permit renewal **upon determination that the owner has not operated or maintained the engine in accordance with the manufacturer's recommendations and instructions.** [Rule 62-297.310(7)(a)3., F.A.C.]



FPL

Emission Unit 012 (One Emergency Fire Pump Engine)

D.6. Compliance Test Prior To Renewal.

Emission Unit 12, emergency diesel fire pump with 500 gallon fuel oil storage tank, is a new emergency compression ignition fire pump. These units are not subject to any emission standards under the Subpart ZZZZ NESHAP and require only initial notification requirements. Emission performance standards for these emergency compression ignition engines, 40 CFR Part 60 Subpart IIII, requires certification by engine manufacturer. Similar to our request for Emission Unit 11, FPL requests that condition D.6 be required only upon determination that the owner or operator had not operated or performed required maintenance according to the manufacturer's recommendations and instructions to avoid unnecessary costs. FPL proposes the following change:

D.6. Compliance Test Prior To Renewal. Except as provided in Specific Condition **D.7.**, the fire pump engine shall be tested to demonstrate compliance with the emission limitations and standards for NMHC, NO_x, CO and PM/PM₁₀ prior to permit renewal **upon determination that the owner has not operated or maintained the engine in accordance with the manufacturer's recommendations and instructions...** [Rule 62-297.310(7)(a)3., F.A.C.]

FPL Comments for Appendix I (Insignificant Emission Units/Activities)

Brief description for unit 26 should be changed from:

26. Cooling tower hydrochloric acid (HCl) storage tanks (2)

To the following text:

26. Cooling tower sulfuric acid (H₂SO₄) storage tanks (2)

Additionally, FPL suggests the addition of the following equipment that may be onsite during unit outage repair work whose engines may be regulated under an NSPS for RICE or NESHAP for RICE. Temporary Units typically used during outages are rental diesel-fired air compressors, portable welders, and generators and are removed from the site following the repair outage. Compliance requirements with air emission standards for these units are manufacturer certifications for engine performance. FPL requests that the following emission units be added to the list of insignificant emission units with the remaining list renumbered accordingly:

33. Temporary portable air compressors used during unit outages

34. Temporary portable generators used during unit outages

35. Temporary portable welders used during unit outages



FPL

FPL Comments for AC Permit Modifications

Annual CO Performance Test for Auxiliary Boilers:

FPL has commented that annual test requirements for the Aux boiler and Process Heaters be removed from the draft permit. Should the Department believe that this condition is required under state or federal regulation, FPL recommends that the performance test conditions of the AC Permit be changed to conform to the Title V Permit requirements from the current language of:

Pursuant to 40 CFR 63.7515(e) permittee shall conduct an annual CO test according to Sec. 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

To a revised requirement:

Pursuant to 40 CFR 63.7515(e) permittee shall conduct an annual CO test according to Sec. 63.7520. Each annual performance test must be conducted during the fiscal year (October 1th through September 30th)