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BUREAU OF AIR REGULATION

Mr. Jonathan Holtom, P.E.
Title V Program Administrator
Division of Air Resource Management
Florida Department of Environmental Protection
111 South Magnolia Drive, Suite 23
Tallahassee, Florida 32301-2973

RE: Comments on Draft/Proposed Title V Air Operation Renewal Permit
Project No: 0010001-009-AV
Florida Power Corporation d/b/a Progress Energy Florida, Inc.
University of Florida Co-Generation Facility
Facility ID: 0010001

Dear Mr. Holtom:

Included below are comments on the Draft/Proposed Title V Air Operation Renewal Permit for the Florida Power Corporation d/b/a Progress Energy Florida, Inc. (PEF) University of Florida Co-Generation Facility. However, there are several conditions related to the carbon monoxide and compliance testing that concern PEF. These issues have been discussed with the Department during the development of and after issuance of the draft/proposed renewal permit in an effort to incorporate changes to address these issues in the final permit. For example, ambiguity and confusion surrounds Condition B.24 and the emission limits identified in the tables contained in Conditions B.7 and B.8, and further delineated in Condition B.11. Specifically, the duct burner (DB) cannot be fired independently of the combustion turbine engine (CT); however, these conditions appear to apply emission limits for carbon monoxide (CO) in ppmvd for the CT and a pounds per hour (lbs/hr) limit for the DB. The Department has communicated the draft/proposed permit comment period is not the appropriate forum to incorporate these types of changes and requested that any modification of the CO emission limitations and compliance testing be addressed through the air construction (AC) permitting process. Therefore, as discussions with the Department continue, PEF has begun preparation of an AC permit application to address these concerns and issues and the application will be submitted in the near future.

Therefore, the remaining changes PEF is requesting for the University of Florida Co-Generation Facility's Draft/Proposed Title V Air Operation Permit Renewal are shown below in red with ~~strikethrough~~ for deletion and underline for insertion.

Progress Energy Florida, Inc.
P.O. Box 14042
St. Petersburg, FL 33733

Draft/Proposed Title V Air Operation Permit Renewal: 0010001-009-AV

1. *Section III, Subsection, Specific Condition A.15 – Annual Compliance Tests:* The requested change is to clarify the facility could comply with the sulfur dioxide (SO₂) limitation by complying with Condition A.19; i.e., without conducting an annual compliance test for SO₂. Therefore the requested changes are as follows:

A.15 Annual Compliance Tests. Except as provided for in Specific Conditions A.19 and A.20, during each federal fiscal year (October 1st to September 30th), each emissions unit (002 and 003) shall be tested to demonstrate compliance with the emissions standards for **VE and SO₂**.

2. *Section III, Subsection, Specific Condition A.16 – Compliance Tests Prior to Renewal:* The requested change is to clarify the facility could comply with the sulfur dioxide (SO₂) limitation by complying with Condition A.19; i.e., without conducting an annual compliance test for SO₂. Therefore the requested changes are as follows:

A.16 Compliance Tests Prior to Renewal. Except as provided for in Specific Condition A.19, Compliance tests shall be performed for **VE and SO₂** prior to obtaining a renewed operating permit to demonstrate compliance with the emission limits in Specific Conditions **A.5., A.6. and A.8.**

3. *Section III, Subsection, Specific Condition A.19 - Sulfur Dioxide - Sulfur Content:* The requested change is to incorporate the method by which the facility currently demonstrates compliance with the liquid fuel sulfur limit. The facility currently samples the fuel oil tank at the end of each delivery day. An additional change is requested to include approved analytical methods other than those delineated in this specific condition. The requested language for insertion expanding the number of acceptable methods for fuel sulfur analysis has been approved by the Bureau of Air Regulation - Permitting Section for other Title V Air Operation Permits. The requested change is as follows:

A.19. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by the vendor providing a fuel analysis upon each fuel delivery or by analyzing samples taken from the fuel oil tank at the end of each delivery day. The fuel sulfur content percent by weight, for liquid fuels shall be evaluated using either: ASTM D2622-92, ASTM D2494-90, both D4057-88 and ASTM D129-91, ASTM D1552 or equivalent method, or the latest edition(s). In addition, other applicable approved ASTM methods as adopted in Rule 62-297.440(1), F.A.C. are also acceptable.

4. *Section III, Subsection B. Emission Units 005 and 007- Facility Description:* The requested change is to maintain consistency and reflect the correct description of control for NO_x emissions in Section I, Subsection A - Facility Description. The unit controls NO_x emissions employing steam inject; water injection is not used for NO_x control. Therefore, the requested change is as follows:

Emissions units 007 and 005 are a combustion turbine (CT) with a duct burner-fired (DB) heat recovery steam generator (HRSG), respectively. The CT is a GE LM6000-PC-ESPRINT combustion turbine with a nominal generator rating of 48 megawatts (MW) fired with natural gas and fuel oil. The CT utilizes spray intercooling to maximize throughput, thus reducing supplemental firing in the duct burner for meeting steam and power requirements. The NO_x emissions are controlled with ~~water~~steam injection. The HRSG is equipped with a natural gas-fired duct burner. The DB is equipped with low-NO_x burners to control NO_x emissions. The CT and the DB exhaust through the same HRSG and common stack. The common stack has a height of 93 feet, exit diameter of 9.8 feet, exit temperature of 257°F, and actual volumetric flow rate of 365,700 acfm, based on CT only @ 59°F, 60% relative humidity at inlet, maximum dry standard flow rate of 216,956 dscfm, and exit velocity of 80.8 feet per second. The 48 MW CT began commercial service on September 24, 2002 (replacing the original 43 MW CT that was installed in 1994). The DB and HRSG began commercial service January 31, 1994.

5. *Section III, Subsection B, Specific Condition B.6 – Wet Injection:* The requested change is to maintain consistency and reflect the correct description of control for NO_x emissions. The unit controls NO_x emissions employing steam inject; water injection is not used for NO_x control. Therefore, the requested change is as follows:

B.6. Wet Injection. A wet injection system (~~water and/or steam~~) shall be maintained and operated to reduce NO_x emissions from the CT exhaust. The permittee shall maintain and operate a continuous monitoring system to monitor and record the ratio of ~~water~~steam to fuel being fired in the CT.

6. *Section III, Subsection B, Specific Condition B.10 - NO_x Emissions:* The requested change is to clarify the emission limitations delineated in Condition B.10.a are applicable to only the turbine engine. Therefore, the requested change is as follows:

B.10. NO_x Emissions. In addition to the following restrictions, the combustion turbine and the duct burner are also subject to the facility-wide NO_x limit of 194.3 TPY contained in Facility-wide Condition **FW10**. The NO_x emissions limits include oxides of nitrogen consisting of both nitric oxide (NO) and nitrogen dioxide (NO₂). By convention, total NO_x on a mass basis is expressed as equivalent NO₂. NO_x concentration (ppm) is measured as NO by EPA stack sampling methods 7E and 20, and as NO₂ by the CEM analyzer. The NO_x concentration is converted to mass emissions by applying the molecular weight of NO₂ to the total flow rate.

- a. *Combustion Turbine.* The total annual NO_x emissions from the firing of all fuels in the combustion turbine engine only shall not exceed 141 TPY.
 - (1) When firing natural gas, NO_x emissions shall not exceed 39.6 lbs/hr (30-day rolling average), based on 25 ppmvd corrected to 15% O₂.
 - (2) When firing No. 2 fuel oil, NO_x emissions shall not exceed 66.3 lbs/hr (30-day rolling average), based on 42.0 ppmvd corrected to 15% O₂.
7. *Section III, Subsection B, Specific Condition B.11 – CO Emissions:* As required by the Department PEF will be requesting changes to clarify CO emission limitations associated with the simultaneous operation of the CT and DB through the AC permit process; therefore, no recommended changes are presented here.
- B.11. CO Emissions.**
- a. *Combustion Turbine.*
 - (1) When firing natural gas, CO emissions shall not exceed 31.6 ppmvd corrected to 15% O₂, 29.9 lbs/hr or 127.5 TPY.
 - (2) When firing No. 2 fuel oil, CO emissions shall not exceed 75.0 ppmvd corrected to 15% O₂, 70.5 lbs/hr or 7.7 TPY.
 - b. *Duct Burner.* CO emissions from the duct burner shall not exceed 28.1 lbs/hr, based on 0.15 lb/MMBtu, or 36.9 TPY.
8. *Section III, Subsection B, Specific Condition B.18 – Fuel Consumption Rates Monthly Monitoring:* The requested change is to provide flexibility by granting an additional five (5) calendar days to prepare this report. Therefore, the requested change is as follows:
- B.18. Fuel Consumption Rates Monthly Monitoring.** By the ~~four~~ tenth calendar day of each month, the permittee shall record the monthly fuel consumption and hours of operation for the CT. The information shall be recorded in a verifiable manner and shall summarize the previous month of operation and the previous 12 months of operation. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department.
9. *Section III, Subsection B, Specific Condition B.24 – Annual Compliance Tests:* As required by the Department PEF will be requesting changes to clarify CO emissions compliance testing requirements associated with the simultaneous operation of the CT and DB through the AC permit process; therefore, no recommended changes on this issue are presented here. However, the requested change that is presented attempts to clarify the method of demonstrating compliance with the emission limitation for NO_x and VE. Currently, compliance with the NO_x emission standard is demonstrated with CEMS and an annual RATA. The requirement to conduct a VE if the unit operates over 400 hours in a 12-month period appears to be moot; the unit is authorized to burn liquid fuel (No. 2 fuel oil) for only 219 hours/year. Therefore, the requested changes are as follows:

B.24. Annual Compliance Tests. Except as provided for in Specific Condition B.30, ~~During~~ each federal fiscal year (October 1st to September 30th), the CT and DB shall be tested to demonstrate compliance with the emissions standards for **NO_x and, CO and VE**. Annual compliance tests for these pollutants shall be performed on each unit when firing natural gas. ~~If the CT operates over 400 hours in a 12-month period when firing fuel oil, it shall also be tested for VE while firing fuel oil.~~

10. *Section III, Subsection B, Specific Condition B.29 – Carbon Monoxide:* As required by the Department PEF will be requesting changes to clarify CO emission limits and compliance testing requirements associated with the operation of the CT and DB through the AC permit process; therefore, no recommended changes on this issue are presented at this time.

B.27. Carbon Monoxide. EPA Method 10 shall be used to demonstrate compliance with the CO limits of this permit, in accordance with Chapter 62-297, F.A.C., and 40 CFR 60, Appendix A.

11. *Section III, Subsection B, Specific Condition B.29 – Sulfur Dioxide Annual Test Waiver:* The requested change is to expand the number of acceptable methods for fuel sulfur analysis other than those delineated in this specific condition. The requested language for insertion has been approved by the Bureau of Air Regulation - Permitting Section for other Title V Air Operation Permits. The requested change is as follows:

B.29. Sulfur Dioxide Annual Test Waiver. In lieu of an annual compliance test for SO₂, the fuels fired in the CT and the DB shall meet the sulfur content limits listed in Specific Condition **B.13**. Ongoing compliance with the fuel sulfur limit for natural gas and fuel oil shall be demonstrated by the fuel supplier's analysis reports containing the sulfur content of the fuel being supplied. Methods for determining the sulfur content of natural gas shall be ASTM methods D4084-82, D3246-81, D5504* or more recent versions or equivalent approved ASTM analytical methods. In addition, other applicable approved ASTM methods as adopted in Rule 62-297.440(1), F.A.C. are also acceptable. Ongoing compliance with the fuel oil sulfur limits shall be demonstrated by fuel analyses certified according to the provisions of 40 CFR 75, Appendix D, by the fuel supplier. At the request of the Department's Northeast District office, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

12. *Section III, Subsection B, Specific Condition B.31 & B35 – Reporting Schedule & Notification of Excess Emissions:* The requirement to report excess emissions due to startup and shutdown appears to be excessive and PEF is requesting clarification from the Department on this condition. Per Conditions B.14, B.15 and B.16 address excess emissions and the facility is

allowed up to two hours of excess emissions per 24-hour period. In addition, excess emissions regardless of origin are included in a semi-annual report. PEF believes the semi-annual reporting frequency is adequate for excess emissions meeting the requirements of Condition B14. Is it the Department's intent to require the facility report ALL excess emissions related to startup, shutdown and malfunction or only those excess emissions incurred during hours outside of the two-hour exclusion period authorized by the Department for startup, shutdown and malfunction? The permit conditions in question are included below.

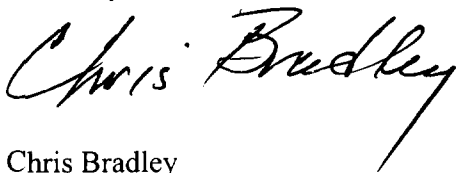
B.31. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Notice of Excess Emissions	Semi-annually	B.34.
Notice of Excess Emissions Startup, Shutdown and Malfunction	Immediately	B.35.

B.35. Notification of Excess Emissions During Startup, Shutdown, and Documented Unavoidable Malfunctions. If a CEM system reports emissions in excess of the standard, the permittee shall notify the Department's Northeast District office within 1 working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident.

Thank you for your assistance and if you have any questions, you may contact me by e-mail at Chris.Bradley@pgnmail.com or via telephone at (727) 820-5962.

Sincerely,



Chris Bradley
Sr. Environmental Specialist
Progress Energy Florida, Inc.

cc: Mr. Scott Sheplak, P.E., Permitting Engineer – DEP/DARM (via e-mail)
Mr. Wilson Hicks, Plant Manager – GV44 (via e-mail)