



September 23, 2009

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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

RECEIVED

SEP 24 2009

BUREAU OF AIR REGULATION

RE: Comments on Draft/Proposed Title V Air Operation Renewal Permit  
Project No: 1030011-016-AV  
Florida Power Corporation d/b/a Progress Energy Florida, Inc.  
P.L. Bartow Power Plant  
Facility ID: 1030011

Dear Mr. Holtom:

Please find below comments on the draft Title V Air Operation Renewal/Revision Permit for the Florida Power Corporation d/b/a Progress Energy Florida, Inc. ("PEF") P.L. Bartow Power Plant. Any requested changes are shown in red with strikethrough for deletion and underline for insertion.

*Draft Title V Air Operation Permit Revision & Renewal: 1030011-016-AV*

1. *Requested changes throughout the Draft Permit:* PEF requests the following changes/corrections throughout the permit:
  - a. Where the combustion turbines are identified throughout the permit as Model SGT6-5000F, please make the following change: 50100F.
  - b. Where the CT burners are identified throughout the permit as Dry Low NOX, please make the following change: ~~Dry~~Ultra Low NOX Burners or DULN.
2. *Statement of Basis, Project Description* – The reference to a new 1475 MW energy project is incorrect. This revision incorporates only 1280 MW of the original 1475 MW included in original Air Construction Permit No. 103011-010-AC. Therefore, the requested change is as follows:

The purpose of this permitting project is to revise the existing Title V permit by incorporating the new 1475 1280 MW energy project.

3. *Statement of Basis, Primary Regulatory Requirements, Title IV* – This portion of the *Statement of Basis* preserves the sulfur dioxide (SO<sub>2</sub>) Acid Rain allowances previously held by the 3 fossil fuel-fired steam units; however, these units have ceased operation and are slated for demolition within the next 18 months. The SO<sub>2</sub> allowances have been reallocated to the newly constructed emission units, but only Unit 4 has been constructed at this time. In an effort to clarify this section of the *Statement of Basis* the following change is requested

Title IV: The facility operates units (Unit 4) subject to the acid rain provisions of the Clean Air Act. Units 1, 2 and 3 were shutdown on June 1, 2009. The allowances for SO<sub>2</sub> that were allocated for Units 1, 2 and 3 are preserved by the facility and are allocated for new Units 4 and Unit 5, if constructed. Retired Unit exemption forms for Units 1, 2 and 3 are included in the permit as part of the Acid Rain Application.

4. *Table of Contents, Section VI – Appendices*: Several of the Appendices list Emission Units (EU) No. 042 and 043. EU 042 and 043 refer to the unconstructed fifth CT (simple-cycle) and auxiliary boiler, respectively; these emission units have not been built and should not be included in the Title V Air Operation Permit. Furthermore, no emission units subject to 40 CFR Part 60 Subpart GG are located at the P.L. Bartow Power Plant, therefore any reference to this subpart should be removed throughout the permit. As a result the following changes are requested:

VI. Appendices

Appendix NESHAP, Subpart A – General Provisions. (E.U. 038, 039, 040, 041 ~~and 042~~)

~~Appendix NSPS, Subpart GG. (E.U. 005, 006, 007 and 008)~~

Appendix NSPS, Subpart A – General Provisions. (E.U. 038, 039, 040, 041, ~~042, 043, 044~~ and 046)

Appendix NSPS, Subpart KKKK. (E.U. 038, 039, 040, 041 ~~and 042~~)

5. *Section I, Subsection C – Applicable Regulations*: 40 CFR Part 60, Subpart A (NSPS – General Provisions) and 40 CFR Part 60, Subpart GG (NSPS - Stationary Combustion Turbines) do not apply to the Emission Unit (EU) Nos. -005, -006, -007 or -008. Therefore, please remove Appendix GG from the permit and make the requested changes as follows:

<i>Federal Rule Citations</i>	
40 CFR 60, Subpart A, NSPS General Provisions	<del>005, 006, 007, 008</del> , 038, 039, 040, 041
40 CFR 60, NSPS Subpart KKKK	038, 039, 040, 041
<del>40 CFR 60, NSPS Subpart GG</del>	<del>005, 006, 007, 008</del>
40 CFR 60, NSPS Subpart IIII	046
40 CFR 63, Subpart A, NESHAP General Provisions	038, 039, 040, 041
40 CFR 63, Subpart YYYY	038, 039, 040, 041
40 CFR 75 Acid Rain Monitoring Provisions	038, 039, 040, 041

6. *Section III, Subsection A – Emission Limitation and Standards:* There is reference to an averaging time regarding Specific Condition A.6 which restricts the sulfur content of the fuel oil and there is not an annual averaging time associated with this permit condition. Therefore, the requested change is as follows:

Unless otherwise specified, the averaging times for Specific Conditions **A.5 - A.6** are based on the specified averaging time of the applicable test method.

7. *Section III, Subsection A, Specific Condition A.15 – DEP Method 9:* This condition appears to be incorrectly numbered; therefore, the requested change is as follows:

**A.15.** DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

- a. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.
- 2b. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
  - a 1. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.
  - b 2. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

8. *Section III, Subsection C, Specific Condition C.4 – Hours of Operation:* The requested clarification would clearly define “engine-hours” as the summation of the hours of operation of the 3 diesel generators. Therefore, the requested clarification is as follows:

The total hours of operation expressed as “engine-hours” shall not exceed 2,970 hours in any consecutive 12-month period. The total hours of operation expressed as “engine-hours” shall be the summation of the individual hours of operation of each generator.

9. *Section III, Subsection C, Specific Condition C.9 - Fuel Sulfur Analysis:* The requested change corrects the reference to other permit conditions. Therefore, the requested clarification is as follows:

The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or permittee upon each fuel delivery. See specific conditions **C.3.**, **C.6.** and **C.1415**.

10. *Section III, Subsection C, Specific Condition C.13 – Compliance Test Prior to Renewal:* The requested change is the addition of a sentence to address the scenario in which the unit is not operated within the 5-year life of the permit. Therefore, the requested change is as follows:

Compliance Tests Prior To Renewal. Compliance tests shall be performed for visible emissions once every 5 years. The tests shall occur prior to obtaining a renewed operating permit to demonstrate compliance with the emission limits in Specific Condition C.5. No VE is required if the units have not been relocated to the site during the 5-year permit cycle of the Title V Operating permit.

11. *Section III, Subsection C, Specific Condition C.18 – Reporting Schedules:* The requested change is in the table column titled “Related Condition(s)” to reflect the correct Specific Condition. Therefore, the requested clarification is as follows:

Report	Reporting Deadline	Related Condition(s)
Notice of Malfunctions	Quarterly, If Requested	<del>C.19</del> C.20
Notice of Relocations	15 Days Prior to Relocation	<del>C.23</del> C25

12. *Section III, Subsection D – Facility Description:* The description presented here is not entirely clear, particularly the description of which stacks include CO and NOX CEMS. Therefore, the requested changes/clarifications are as follows:

Emissions Unit 4 consists of four (“4-on-1”) Siemens SGT6-50100F gas turbine-electrical generator set (Units 4A-4D) with a generating capacity of 215 MW (each) for gas firing at ISO conditions when practicing power (steam) augmentation. Exhaust from each gas turbine passes through a separate supplementary 500 MMBtu/hr gas fired heat recovery steam generator (HRSG). Steam from each HRSG is delivered to the 420 MW single steam turbine-electrical generator (STG).

Each combustion turbine (CT) has ~~2 a single stack~~ stacks that ~~is~~ are equipped with continuous emissions monitoring systems (CEMS) to measure and record CO in simple-cycle and CO and NOX emissions in combined-cycle, as well as flue gas oxygen or carbon dioxide content. Each CT within the combined-cycle unit system is permitted to operate in simple-cycle by directing the exhaust to a bypass stack instead of the respective heat recovery steam generator (HRSG) exhaust stack. All 8 stacks measure approximately 120 feet in height. Each CT is capable of firing backup low sulfur (<0.05% S) distillate fuel oil for the equivalent of 1,000 hours per year (hr/yr). All CTs are equipped with evaporative coolers to condition incoming air at high ambient temperatures. Emissions of CO, PM/PM<sub>10</sub>, SAM, SO<sub>2</sub> and VOC are controlled by the efficient combustion of natural gas and restricted firing of low sulfur distillate fuel oil. NOX emissions are controlled by Dry Low-NOX (DLN) combustion technology for gas firing and water injection for oil firing.

The total generating capacity of Power Block 4, which includes 4 combined-cycle CTs and STG, the units is ~~1,475~~ 1,280 MW. These units commenced operation in November and December 2008.

13. *Section III, Subsection D, Specific Condition D.14.b – Restricted Operation:* The requested change is an effort to accurately reflect the number of emission units constructed. Therefore, the requested change is as follows

Distillate oil firing is limited to ~~4,000~~ 5,000 hours total aggregate for all ~~four~~ five CTs (based on an average of 1,000 hours per CT) during any consecutive 12-month period.

14. *Section III, Subsection D, Specific Condition D.14 – Restricted Operation:* The requested change is an effort to clarify Specific Condition D.14.e. Therefore, the requested change is as follows

Other than startup, shutdown, fuel switching or documented malfunction, simple cycle CT operations shall be at a load not less than 45% or that load at which compliance was demonstrated during the initial compliance test at ~~initial~~, whichever is higher.

15. *Section III, Subsection D, Specific Condition D.15 – Method of Operation:* The requested change is an effort to clarify Specific Condition D.15. Units 1, 2 and 3 have been retired and will not be operated in the future. The units are also tentatively slated for demolition over the course of the next 12 months. Therefore, this portion of the condition is no longer required and the requested change is as follows:

Subject to the restrictions and requirements of this permit, the CTs may commence commercial operation and thereafter operate under the following methods of operation ~~after Units 1, 2 and 3 cease commercial operation~~

~~(Commence commercial operation means to have begun to generate electricity for sale, including the sale of test generation.):~~

16. *Section III, Subsection D, Specific Condition D.17 – Best Available Control Technology (BACT) Emissions Standards for CO and VOC:* The requested change is an effort to clarify Specific Condition D.17.c and is as follows:

CEMS for CO are required only on the HRSG stacks. Other than startup, shutdown, fuel switching or documented malfunction, simple cycle CT operations shall be at a load not less than 45% or that load at which compliance was demonstrated during the initial compliance test at initial, whichever is higher.

17. *Section III, Subsection D, Specific Condition D.23 – Excess Emissions Allowed and Allowable Data Exclusions:* The requested change is to eliminate Specific Condition D.23.d. As interpreted by PEF the specific conditions included under the section title “Excess Emissions” only applies to carbon monoxide (CO) emissions. Specific Condition, D.23.d applies to the simple-cycle mode of operation and the simple-cycle exhaust stacks (i.e. bypass stacks) do not have CO CEMS installed. Therefore, the requested change is as follows:

~~*Simple Cycle CT Startup.* For startup of a CT for the purpose of operation in simple cycle mode, up to 1 hour or 60 minutes of CEMS data in any 24 hour period of excess emissions can be excluded.~~

18. *Section III, Subsection D, Specific Condition D.25 – ULN Tuning:* The requested change is an effort to clarify Specific Condition D.25. Therefore, the requested change is as follows:

CEMS data collected during initial or other major DULN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” ~~may~~ 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, where the intent is to exclude data from the CEMS compliance demonstration, the permittee shall provide the Compliance Authority with an advance notice of at least 7 days that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.

19. *Section III, Subsection D, Specific Condition D.31 – Annual Compliance Tests:* The requested change is an effort to clarify this condition. Carbon monoxide (CO) CEMs are only installed on the combine-cycle stacks and, therefore would be the only mode for which RATA data would be used to demonstrate compliance with CO standards. Therefore, the requested change is as follows:

During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), each CT shall be tested to demonstrate compliance with the emission standards for visible emissions. Combined-cycle CO emissions data collected during the required continuous monitor Relative Accuracy Test Audits (RATAs) may be used to demonstrate compliance with the CO standards. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. NOX emissions recorded by the CEMS shall be reported for each ammonia slip test run. Annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions. The Department retains the right to require VOC testing for the reasons such as exceedance of the CO limit or those given in Appendix TR, Special Compliance Tests.

20. *Section III, Subsection E, header at the top of pages 29 and 30 of 33 – Subsection E. Auxiliary Boiler and Process Heaters:* The requested change is an effort to eliminate an emission unit that has not been constructed at the site. Therefore, the requested change is as follows:

**Subsection E. ~~Auxiliary Boiler and~~ Process Heaters (E.U. 044)**

21. *Section III, Subsection E – Emission Limitations and Standards:* This requested change corrects the applicability of an “averaging time” to 2 specific conditions. Specific Condition E.7 restricts the sulfur content of the natural gas authorized to be combusted and there is not an averaging time associated with this permit condition; however, Specific Condition E.5 does have a specific average time associated with it. Therefore, the recommended change is as follows:

Unless otherwise specified, the averaging times for Specific Conditions E.5 & E.6. ~~& E.7.~~ are based on the specified averaging time of the applicable test method.

22. *Section III, Subsection E, Specific Condition E.12 – Annual Compliance Test Required:* The requested change is to provide the option of providing the Manufacturer’s Certification to comply with this requirement. This option was initially provided for in the Air Construction Permit but has been removed. Note that this requested change will also require the modification of Table 2-1, Summary of Compliance requirements for EU 044 on Page 5 of 6. Therefore, the requested change is as follows:

Annual Compliance Tests Required. During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), each emissions unit shall be tested to demonstrate compliance with the emissions standards for visible emissions and carbon monoxide. Manufacturer certification may be provided to the Department in lieu of actual testing.

23. *Section III, Subsection E, Specific Condition E.13 – Reporting Schedule:* The requested change is in the table column titled “Related Condition(s)” to reflect the correct specific condition. Therefore, the requested clarification is as follows:

Report	Reporting Deadline	Related Condition(s)
Notice of Malfunctions	Quarterly, If Requested	<del>E.16</del> E.15
Fuel Usage	Annually	<del>E.17</del> E.16

24. *Section III, Subsection G, Specific Condition G.3 – Methods of Operation – Fuel:* The requested change is an effort to clarify Specific Condition G.3. Therefore, the requested change is as follows:

This unit shall fire low sulfur fuel oil (or superior fuel); i.e., no more than 0.05% sulfur by weight.

25. *Section IV, Acid Rain Part:* The requested change is an effort to correct the referenced EPA ID Number for the 4 new combustion turbines (units 4A, 4B, 4C and 4D) identified in the table on Page 34 of 53. Therefore, the requested changes are as follows:

E.U. ID No.	Brief Description
-001	No. 1 Unit, Fossil Fuel Fired Steam Generator with Electrostatic Precipitator (Retired 6/1/09)
-002	No. 2 Unit, Fossil Fuel Fired Steam Generator (Retired 6/1/09)
-003	No. 3 Unit, Fossil Fuel Fired Steam Generator (Retired 6/1/09)
-038	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # <del>TPCT</del> 4A)
-039	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # <del>TPCT</del> 4B)
-040	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # <del>TPCT</del> 4C)
-041	Gas turbine with supplementary-fired heat recovery steam generator (EPA ID # <del>TPCT</del> 4D)

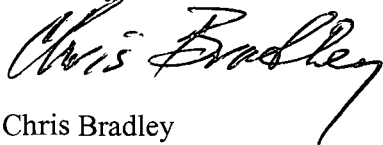


26. E.U. ID No. 045 (2 3.5-million gallon diesel tanks) are currently listed as “regulated” emission units in the permit. However, the tanks are exempt from the NSPS Subpart Kb and there are no specific applicable requirements. In addition, the potential emissions are such that they can be categorized as “insignificant” units (see comment below).
27. *Appendix U and Appendix I* – PEF has calculated the estimated emissions in a manner consistent with the reporting method applied in the annual operating reports and believes that the units currently on the *List or Unregulated Emission Units* should be more appropriately summarized in the *List of Insignificant Emission Units*. Therefore, PEF requests that the Department revise the permit to move E.U. ID Nos. 010, 011, 015, 016, 017, 018, 019, 020, 021, 023, 037 and 045 from the *List or Unregulated Emission Units* and/or Activities to the *List of Insignificant Emission Units*.

Finally, although not applicable to this permitting action, PEF believes that the current Bartow Power Plant site is no longer a major source of HAPs. The primary source of HAP emissions from the site were the since-retired fossil fuel-fired steam unit nos. 1, 2 and 3. This may be a significant issue if the NESHAP Subpart YYYY were in effect and the new combined cycle power block were to exceed 1,000 hr/yr of actual oil-firing hours. PEF would like to discuss this issue further with the Department and follow up with further permitting action, if necessary.

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

Sincerely,



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

cc: Ms. Teresa Heron, Permitting Engineer – DEP/DARM  
Mr. Tom Callaghan, Plant Manager – BR 44