Duke Energy Florida, Inc.
Suwannee River Power Plant

Title V Air Operation Permit Renewal
Permit No. 1210003-010-AV

APPLICANT

The applicant for this project is Duke Energy Florida, Inc. The applicant's responsible official and mailing address are: Mr. Brian V. Powers, Plant Manager, Duke Energy Florida, Inc., Suwannee River Power Plant, 4037 River Road, Live Oak, Florida 32060-8746.

FACILITY DESCRIPTION

The applicant operates the existing Suwannee River Power Plant, which is located in Suwannee County at 4037 River Road, Live Oak, Florida.

The existing facility is a nominal 345 megawatt (MW) electrical generation facility comprised of three gas fired steam generators, Boiler Nos. 1, 2 and 3, these emission units are designated as EU 001, EU 002 and EU 003, There are no air pollution control devices associated with the boilers. The only fuel allowed to be fired in these boilers is natural gas, as well as the potential use of propane (LP) gas as an igniter fuel. The facility also has three combustion turbine peaking (CTP) units, CTP1, CTP2 and CTP3, each CTP unit is comprised of two identical simple cycle aero-derivative combustion turbine engines (PA and PB) and one common electrical generator, these emission units are designated as EU 004, EU 005 and EU 006. The CTP units fire natural gas or No. 2 fuel oil. Nitrogen oxide (NO_X) emissions from each CTP are controlled by using water injection for both fuel oil and natural gas. The facility also has an emergency diesel generator (EU 009) rated at 190 horsepower (HP), and an emergency diesel fire pump engine (EU 010) rated at 155 HP.

The facility is comprised of the following regulated emission units (EU)

EU No.	Brief Description
001	Gas fired Steam Generator, Unit No. 1
002	Gas fired Steam Generator, Unit No. 2
003	Gas fired Steam Generator, Unit No. 3
004	Combustion Turbine Peaking Unit, CTP1 (P1A and P1B)
005	Combustion Turbine Peaking Unit, CTP2 (P2A and P2B)
006	Combustion Turbine Peaking Unit, CTP3 (P3A and P3B)
009	Emergency Diesel Generator
010	Emergency Diesel Fire Pump Engine

This facility also includes miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V permit renewal application received May 16, 2014 this facility is not a major source of hazardous air pollutants (HAP).

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V air operation permit No. 1210003-007-AV for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received May16, 2014.

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PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 4911 - Electrical Generation.

North American Industry Classification System (NAICS): 221112 - Fossil Fuel Electric Power Generation.

HAP: The facility is not identified as a major source of hazardous air pollutants (HAP).

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

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

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

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60. The below listed emission units are subject to the following NSPS requirements.

Regulation	EU No(s).
40 CFR 60, Subpart A, New Stationary Source Performance Standards (NSPS) General Provisions	004, 005 & 006
40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines	

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63. The below listed emission units are subject to the following NESHAP requirements.

Regulation	EU No(s).
40 CFR 63, Subpart A, General Provisions	009 & 010
40 CFR 63, Subpart ZZZZ - NESHAP	

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

Siting: This facility does not operate units subject to the power plant siting provisions of Chapter 62-17, F.A.C.

CAM: This facility operates units subject to Compliance Assurance Monitoring (CAM).

GHG: The facility is not identified as a major source of green house gas (GHG) pollutants.

PROJECT REVIEW

The applicant indicated in the renewal application that:

- Removal of all references to oil firing capability for the three fossil fuel fired steam generator units, Boiler Nos. 1, 2 and 3 (EU001, EU002 and EU003), upon the applicant commitment to exclusive use of natural gas, this facility will no longer be a major source of HAPs, and removal of the requirement to operate continuous opacity monitoring systems (COMS) from the Title V operating permit, as these units are now defined as "gas-fired" units.
- Revision to the permit language to clarify that, the 1,500 operating hour limit for combustion turbine peaking (CTP) Unit Nos. 1, 2 and 3 (EU004, EU005 and EU006), applies to each combustion turbine (CT) engine in the twin-pacs.

The following changes/revisions were made as part of this renewal, the key differences compared with the previous Title V air operation permit are:

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1. Changes were made in the permit format, to reflect the current permit style of this renewed Title V air operation permit.

2. The facility will no longer use No. 2 distillate fuel oil as a fuel source for the three fossil fuel fired steam generator units, Boiler Nos. 1, 2 and 3 (EU 001, EU 002 and EU 003). Therefore, the authorization to fire fuel oil has been removed in Title V air operation permit renewal, and the description of these units has been changed to gas fired steam generator units within the Title V air operation permit.

   The affected Specific Conditions from previous Title V air operation permit are:

   a. Specific Conditions has been deleted: **A.6.**, **A.8.**, **A.9.**, **A.15.**, **A.16.**, **A.18.**, **A.21.**, **A.22.**, **A.16.**, **A.23.**, **A.26.**, **A.30.**, and **A.33.**
   b. Specific Conditions has been modified: **A.1.**, **A.3.**, **A.10.**, **A.17.**, **A.19.**, **A.24.**, **A.25.**, **A.27.**, and **A.31.**

3. Removal of the requirement to operate Continuous Opacity Monitoring Systems (COMS), for Boiler Nos. 1, 2 and 3 from the Title V air operating permit, as these units are now defined as only gas fired emission units.

4. Clarification of the permit language with respect to the description of the three CTP units (CTP1, CTP2 and CTP3). These units are currently designated as EU 004, EU 005 and EU 006 in Subsection B of the current TV permit. Each CTP unit is comprised of two identical simple cycle aero-derivative combustion turbine engines (PA and PB) and one common electrical generator. The heat input rating, MW output rating and the mass emission rates (pounds per hour and tons per year) are representative of the CTP unit (PA and PB), the hours of operation is restricted to 1,500 hours per year for each combustion turbine PA or PB.

5. Modification of the summary of emission units table to list the Emergency Diesel Generator (EU 009) and the Emergency Diesel Fire Pump Engine (EU 010) as regulated emission units, since these units are now subject to the federal requirements for stationary reciprocating internal combustion engines, NESHAP, Subpart ZZZZ - applicable requirements.

6. Creation of a new updated Subsection III. - Emissions Units and Specific Conditions, Subsection C in the Title V air operating permit to accommodate the applicable requirements for the two existing emergency reciprocating internal combustion engines EU 009 and EU 010.

7. Removal of the Emergency Diesel Generator and the Emergency Diesel Fire Pump Engine from Appendix I - List of Insignificant Emissions Units and/or Activities. These units are now regulated emission units in Subsection C of the Title V air operation permit.

8. Replacement of Appendix TV, Title V General Conditions, Appendix TR, Facility-Wide Testing Requirements and Appendix RR, Facility-wide Reporting Requirements with the latest versions.

9. Updated the Title V air operation permit to include the newest Acid Rain and Clean Air Interstate Rule Part (CAIR) forms.

10. Consolidation of updated Table 1, summary of air pollutant standards and terms and Table 2, summary of compliance requirements into the Appendix section.

11. Incorporation of updated Appendix I, list of insignificant emissions units and/or activities into the Appendix section.

12. Incorporation of Table H, permit history into the Appendix section.

13. Incorporation of Appendix BOP, best operational practices for startup and shutdown into the Appendix section.

14. Incorporation of Appendix CAM, compliance assurance monitoring. Emissions Units 004, 005 and 006 are subject to the CAM requirements for the controlled of NO_X emissions.

15. Inclusion of Appendix CP, compliance plan for emission Unit 005 (CTP2) into the Appendix section to provide enforceable requirements to submit the initial compliance performance test for this unit.

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16. Update the applicant name from Florida Power Corporation d/b/a Progress Energy Florida, Inc. to Duke Energy Florida, Inc. (DEF), a name change was submitted to the Florida Department of Environmental Protection in April 18, 2013.

These documents along with all other associated documents related to this project can be accessed by entering the permit number listed above into the permit number field at the following web link: http://www.dep.state.fl.us/air/emission/apds/default.asp

CONCLUSION

This project renews Title V air operation permit No. 1210003-007-AV, which was effective on January 1, 2010. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C. In accordance with the terms and conditions of this permit, the above named permittee is hereby authorized to operate the facility as shown on the application and approved drawings, plans, and other documents, on file with the permitting authority.

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