

STATEMENT OF BASIS

Duke Energy Florida, Inc.
Tiger Bay Cogeneration Facility
Title V Air Operation Permit Renewal
Permit No. 1050223-018-AV

APPLICANT

The applicant for this project is Duke Energy Florida, Inc. The applicant's responsible official and mailing address are: Mr. Anthony Salvarezza, General Manager, Duke Energy Florida, Inc., Tiger Bay Cogeneration Facility, 3219 State Road 630 West, Ft. Meade, Florida 33841.

FACILITY DESCRIPTION

The applicant operates the existing Tiger Bay Cogeneration Facility, which is located in Polk County at 3219 State Road 630 West in Ft. Meade, Florida.

This existing facility consisting of one combined-cycle combustion turbine (CT) and a heat recovery steam generator (HRSG). The CT is permitted to combust natural gas (primary fuel), the CT was manufactured by General Electric (Model MS7221 FA), produces a nominal 184 megawatts (MW) and exhausts through the HRSG, which produces another 86 MW, for a combined total of 270 MW. Air pollutant emissions from the CT are controlled by the use of dry low-NO_x (DLN 2.6) burners when firing natural gas. The stack parameters are: height, 180 feet; diameter, 19.0 feet; exit temperature, 210 degrees Fahrenheit (°F); and, actual stack gas flow rate, 1,072,000 actual cubic feet per minute (acfm). Temperature and exhaust flow rate will vary with CT load, fuel type and ambient conditions. The facility began commercial operation on July 20, 1994.

The facility also has an emergency diesel generator (EU 004) rated at 415 horsepower (HP) and an emergency diesel-fired fire pump engine (EU 005) rated at 210 HP which are regulated under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) adopted in Rule 62-204.800(11)(b), F.A.C.

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

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V air operation permit No. 1050223-015-AV for the above referenced facility, and to incorporate the terms and conditions of air construction permit No.1050223-017-AC (PSD-FL-190F), issued concurrently with this project.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

05/16/2014 Received the application for an air construction permit revision to be processed concurrently with Title V air operation permit renewal, application complete.

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.

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

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

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 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).

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

PROJECT REVIEW

As part of the project to renew the Title V air operation permit, the applicant requested a concurrent air construction permit modification to change several underlying construction permit conditions related to distillate fuel oil burning and excess emissions for the CT/HRSG. The applicant indicated in the renewal application that the Auxiliary Boiler (Emissions Unit ID No. 003) was shutdown in September 2007 and has not been maintained in operational condition. The auxiliary boiler previously provided steam during periods of non-operation of the CT/HRSG unit to U.S. Agrichemicals which permanently ceased operations in November 2005.

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

1. Incorporation of updated requirements established in concurrently processed air construction permit No. 1050223-017-AC (PSD-FL-190F), for the CT/HRSG (EU 001), related to distillate fuel oil burning and excess emissions. The facility will no longer use No. 2 distillate fuel oil as backup fuel source for the Combustion Turbine. Therefore, the authorization to fire fuel oil has been removed in Title V air operation permit renewal as described in the concurrent air construction permit.

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

- a. Specific Conditions has been deleted: **A.2.b., A.3.b., A.5., A.7., A.9., A.10, A.12., A.14, A.16., A.18., A.24.b., A.31., A.32., and A.41.**
 - b. Specific Conditions has been modified: **A.3.a., A.4., A.6., A.20. and A.27.**
2. Modification of the summary of emission units table to list EUs 004 and 005 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.
 3. Removal of the Auxiliary Boiler (EU 003), from the permit, this unit was taken out of service, the previously included requirements from NSPS 40 CFR 60, Subpart Dc within the emissions unit section of the permit for the Natural Gas-Fired Auxiliary Boiler, were removed.
 4. Creation of a new updated Subsection III. - Emissions Units and Specific Conditions, Subsection B in the Title V air operating permit to accommodate the applicable requirements for the two existing emergency reciprocating internal combustion engines for the Emergency Diesel Generator (EU 004) and the Emergency Diesel Fire Pump Engine (EU 005).
 5. 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.
 6. Updated the Title V air operation permit to include the newest Acid Rain and Clean Air Interstate Rule Part (CAIR) forms.

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7. Consolidation of updated Table 1, Table 2, Table H, Appendix I, Appendix BOP and Appendix U into the Appendices section.
8. 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.

See draft air construction permit No. 1050223-017-AC (PSD-FL-190F) for details of the changes that are being made to the Title V air operation permit. The Technical Evaluation and Preliminary Determination for that project summarize the requested changes made to the underlying air construction permit conditions. These changes, which are summarized above, have been reflected in the renewal draft/proposed Title V air operation permit.

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. 1050223-015-AV, which was effective on January 1, 2010. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (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.