Tampa Electric Company
Polk Power Station
Title V Air Operation Permit Renewal
Permit No. 1050233-039-AV

APPLICANT

The applicant for this project is Tampa Electric Company (TEC). The applicant's responsible official and mailing address are: Karen Sheffield, Director Polk Power Station, TEC, Polk Power Station, Post Office Box 111, Tampa, Florida 33600-0111.

FACILITY DESCRIPTION

The applicant operates the existing Polk Power Station (PPS), which is located in Polk County at 9995 State Route 37 South, Mulberry, Florida.

The regulated emissions units (EU) include a 260 megawatt (MW) combined cycle combustion turbine (CCCT, EU 001) which fires syngas or natural gas; an auxiliary boiler (EU 003) which fires natural gas; a sulfuric acid plant (SAP, EU 004); a solid fuel handling system (EU 005); and, a solid fuel gasification system (EU 006). The SAP and solid fuel gasification system have burners that are fired with natural gas. These emission units comprise Unit 1 at the facility. In addition, the facility has: two nominal 165 MW simple cycle gas turbines (EU 009 and 010) firing either natural gas or No. 2 fuel oil which comprise Units 2 and 3; and two nominal 165 MW simple cycle gas turbines (EU 013 and 014) firing only natural gas which comprise Units 4 and 5. The facility also includes emergency generators and fire pumps (EU 007) and miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit for the above referenced facility and to incorporate the minor changes to the excess emissions conditions established in permit No. 1050233-040-AC/PSD-FL-194L.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received April 23, 2014.
Draft Title V Air Operation Permit Issued July 14, 2014.
Request for Extension of Time to File a Petition for Administrative Hearing received July 28, 2014.
Replacement Draft/Proposed Title V Permit Issued August 12, 2014.
Public Notice Published in the Lakeland Ledger on August 25, 2014.
Minor comments received from applicant on September 8, 2014.
EPA's proposed permit review period ended October 9, 2014.
Final permit distributed on November 7, 2014.
Renewed permit effective on January 1, 2015.

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.

New Source Performance Standards (NSPS): EU 003 is subject to 40 Code of Federal Regulations (CFR) 60, subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. EU 005 is subject to 40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation Plants. EU 001, 009, 010, 013 and 014 are subject to 40 CFR 60, subpart GG (Standards of Performance for Stationary Gas Turbines).

NESHAP: The combustion turbines are not subject to 40 CFR 63, subpart YYYY (National Emissions Standard for Hazardous Air Pollutants for Stationary Combustion Gas Turbines) because the facility is not a major source of HAP. The emergency equipment is subject to 40 CFR 63, Subpart ZZZZ (National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines).

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

Siting: This plant is subject to certain requirements of Chapter 403, Part II, Florida Statutes, Electric Power Plant and Transmission Line Siting, including a modification of the conditions pursuant to Site Certification PA92-32.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility. Water injection for nitrogen oxides (NO_X) control is the only add on pollution control device used at the facility; however, the units are not subject to CAM provisions because continuous emissions monitors (CEMS) are used to demonstrate compliance with the applicable standards for nitrogen oxides (NO_X) for EU 001, 009, 010, 011 and 012. Therefore, a CAM plan is not required.

GHG: The facility is identified as a major source of greenhouse gas (GHG) pollutants.

PROJECT REVIEW

Miscellaneous minor changes from the previous Title V air operation permit were made as part of this renewal project. The changes are briefly described below and are highlighted in yellow within the draft permit:

1. Interactive hyperlinks were inserted into the Table of Contents to aid navigation throughout the permit.
2. Facility-wide conditions FW6 and FW7 were replaced by a new condition FW6 to reflect recent regulatory changes related to the combining of the Annual Operating Report and Annual Emissions fee submission. The remainder of the conditions were renumbered accordingly.
3. Specific Conditions were reformatted as necessary to provide a consistent style throughout the permit. The rule citations were also updated as necessary to properly reflect the underlying applicable requirements for each condition.
4. A specific Condition A.9. was added in Subsection III.A. to reflect the future emissions limits pursuant to 40 CFR 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units. The entire Subpart UUUUU has also been added to the Appendix section to incorporate all of the applicable requirements for this new federal rule that becomes effective on April 16, 2015. The facility is currently working to meet the requirements for classification as a Low Emitting Electric Generating Unit (LEE), which will change which requirements the unit will have to comply with pursuant to Subpart UUUUU. The permit will be revised to more explicitly impose the applicable emissions limits and compliance requirements from Subpart UUUUU the next time the permit is opened after the LEE status has been resolved.
5. To incorporate the provisions of permit No. 1050233-040-AC/PSD-FL-194L, Specific Condition 1, for allowable excess emissions due to fuel switching, a new Specific Condition A.11. has been added.
6. The provisions of Rule 62-297.310(7)(a)8., F.A.C. were included as a new Specific Condition A.18. to not require annual visible emissions testing in years in which the combustion turbine does not operate for more than 400 hours.
7. The testing frequency for sulfuric acid mist (SAM) from Unit 1 was reduced from semi-annually to annually, since the five-year period of semi-annual testing imposed by the underlying air construction permit has lapsed.
8. A permitting note has been added to the testing requirements (following Specific Condition A.20.) to clarify that testing shall be performed using the fuel, or fuel blend, necessary to achieve 90% or greater of design capacity and that results in the highest level of actual emissions.

9. To incorporate the provisions of permit No. 1050233-040-AC/PSD-FL-194L, Specific Condition 2, for keeping records of excess emissions due to fuel switching, Specific Condition A.26. has been revised accordingly.
10. Subsection III.F. was updated as necessary to reflect the current permitting style and latest underlying applicable requirements from 40 CFR 63, Subpart ZZZZ for the emergency engines.
11. The allowance in previous Specific Condition G.12.a. to exclude CEMS data during tuning events was moved to a stand-alone condition (new Specific Condition G.15.) and the applicable requirement citation was changed to reflect the establishment of this condition in permit No. 1050233-040-AC, issued concurrently with this renewed permit.
12. A permitting note was added following the Fuel Oil Monitoring requirement in Subsection III.G. to clarify that the applicant has the option to demonstrate compliance with the fuel oil sulfur limit either through the use of vendor delivery receipts OR through on-site sampling. (See item 6, below.) It should be noted that if the vendor receipt does not clearly show compliance with the fuel oil sulfur limit, then on-site sampling is required.
13. The annual compliance testing requirements in Subsection III.G. (new Specific Condition G.26.) were revised to reflect the provisions in Rule 62-297.310(7)(a)8, F.A.C., that provides relief from an annual visible emissions test for CTs that operating less than 400 hours during a given year.
14. The wording of Specific Condition G.28. was revised to better reflect the remaining non-obsolete requirements for periodic testing established in Specific Condition 28 of permit No. PSD-FL-263. To clarify the intent of the PSD permit, a permitting note was added following this condition to explain that "initial" tests shall be repeated (on both fuels) after any changes to control equipment, such as change or tuning of combustors. The note also clarifies that annual compliance testing is required only for the fuels actually fired during a given federal fiscal year; however, at least one test shall be performed on each fuel prior to renewing the permit.
15. A permitting note was added following Specific Condition H.16. to clarify that meeting less than 95% monitor availability during a calendar quarter is not immediately interpreted as a permit violation; however, failing to submit the required report and to take appropriate corrective action during the following quarter could result in an enforcement action. (See item 9, below.)
16. The Acid Rain and CAIR forms were replaced with the latest versions included in the application.
17. The referenced appendices were removed from the body of the permit and co-located into a separate document that includes interactive hyperlinks to aid in navigation. Several of the referenced federal rules were replaced by electronic links to the federal eCFR web page to ensure that the most up to date version of the rules is always available from within the electronic version of the permit.
18. Appendix I – List of Insignificant Emissions Units and/or Activities, was updated to reflect the actual insignificant activities currently in use at the facility.
19. Appendices RR – Facility-wide Reporting Requirements and TV – Title V General Conditions were updated with the latest versions.
20. Appendix U – List of Unregulated Emissions Units and/or Activities was deleted from the permit. The group of miscellaneous heating units and general purpose internal combustions engines previously grouped together as Unregulated Emissions Unit 008 have been individually listed and described in Appendix I - List of Insignificant Emissions Units and/or Activities.
21. 40 CFR 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units was added to the appendix section to ensure that all of the new requirements contained in Subpart UUUUU that are applicable to this facility are an enforceable part of the renewed permit.
22. Table H was revised and updated to list past projects in permit number order.
23. Summary Tables 1 and 2 were removed at applicant request.

The following changes were requested by the applicant, but were not granted as part of this renewal:

1. The applicant requested that most of the testing requirements be removed from Unit 1. This request was not granted due to the fact that the pollutant limitations were established pursuant to a best available control

technology (BACT) determination, which specifically imposed compliance testing for the limited pollutants to provide the necessary reasonable assurance that emissions unit continues to comply with the imposed BACT limits. In addition, the requested revisions to the testing requirements are not consistent with the requirements of the Department's rules.

2. For the sulfuric Acid plant in Subsection III.C., the applicant requested that the permit recognize the use of the "Rick Davis" method of determining stack flow. This request was not able to be evaluated, as no background information was provided for this unknown method.
3. The applicant requested that the words "on an as needed basis" be inserted into Specific Condition D.2. This request was not granted, as this condition is a description of the dust suppression system required by the PSD permit and inserting the requested language could change the intent of the original requirement.
4. The request to delete the requirement to monitor the solid fuel input to the gasification system in Subsection III.E. was not granted, as this is a requirement of the underlying PSD permit.
5. The request to remove the option from Subsection III.G. to demonstrate compliance with the fuel sulfur limit through on-site analyses was not granted as this condition reflects language that was specifically requested by TEC to be inserted into the permit during the most recent revision to PSD-FL-263 as part of permit No. 1050233-032-AC/PSD-FL-263B. (See item 9, above.)
6. The request to delete the initial testing requirements condition from Subsection III.G. was not granted, as repeating the "initial" tests following non-modification component replacement and/or major tuning events is a requirement of the underlying PSD permit. Explanatory permitting notes were added following Specific Conditions G.28. and G.31.
7. The requested creation of an allowance in Subsection III.G. for temporary replacement turbines during maintenance activities was not granted for these larger units as has been allowed for some smaller units that can be more easily transported. It has been the Department's experience that units of this size cannot be easily transported and that required maintenance is performed on-site.
8. The request to insert language from Appendix CEMS into the CEMS Data Requirements condition in Subsection III.H. was not granted, as the requested language is not appropriate for units subject to NSPS and Acid Rain monitoring requirements. (See item 11, above.)

CONCLUSION

This project renews Title V air operation permit No. 1050233-026-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, 62-213 and 62-214, F.A.C.