Title V Air Operation Permit Revision
Permit No. 1050233-028-AV

APPLICANT

The applicant for this project is Tampa Electric Company. The applicant's responsible official and mailing address are: Karen Sheffield, Director Polk Power Station, Tampa Electric Company, Polk Power Station, Post Office Box 111, Tampa, Florida 33601-0111.

FACILITY DESCRIPTION

The regulated emissions units (EU) at this existing solid fuel gasification facility include a 260 megawatt (MW) combined cycle combustion turbine (EU 001) which fires syngas or No. 2 fuel oil; an auxiliary boiler (EU 003) which fires No. 2 fuel oil; a sulfuric acid plant (EU 004); a solid fuel handling system (EU 005); a solid fuel gasification system (EU 006); two nominal 165 MW simple cycle gas turbines firing either natural gas or No. 2 fuel oil (EU 009 and 010); and two nominal 165 MW simple cycle gas turbines firing only natural gas (EU 011 and 012).

PROJECT DESCRIPTION

The purpose of this project is to revise Title V air operation Permit No. 1050233-026-AV by removing the visible emissions (VE) monitoring requirements associated with the sulfuric acid plant; changing the No. 2 diesel fuel oil sulfur monitoring requirements for the auxiliary boiler; clarifying the petcoke fed rate restriction to the solid fuels gasification plant; and revising the NO_X emission monitoring requirements for the oil and natural gas fired simple cycle combustion turbines. Other minor changes associated with these changes will also be made for consistency. These revisions require changing several permit conditions in previously issued Prevention of Significant Deterioration (PSD) permits. Specifically, changes to Specific Conditions in PSD permit Nos. PSD-FL-194, PSD-FL-194A, PSD-FL-194H and PSD-FL-263 were required. These changes were accomplished through a concurrent air construction permit revision (DEP File No. 1050233-029-AC) and are explained in the associated Technical Evaluation and Preliminary Determination document included as part of the concurrent air construction permit package.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

- Application for a Title V Air Operation Permit Revision was received on February 28, 2012.
- A request to incorporate a concurrent air construction permit revision in the original request was received on March 8, 2010.
- Issued draft/proposed Title V Air Operation Permit revision package and draft Air Construction Permit revision package on April 23, 2012.

PRIMARY REGULATORY REQUIREMENTS

The existing facility is subject to:

Title III: The facility is not 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 or "major source" of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C).

PSD: The facility is a PSD-major facility pursuant to Rule 62-212, 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, 011 and 012 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

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for Hazardous Air Pollutants for Stationary Combustion Gas Turbines) because the facility is not a major source of HAP.

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 Site Certification PA92-32.

CAM: The facility is not subject to compliance assurance monitoring (CAM). 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 a CAM plan is not required. Water injection for NO_X control is the only add on pollution control device used at the facility.

PROJECT REVIEW

The purpose of this permitting action is to revise the Title V permit for the above referenced facility which reflects the standards and requirements to be established in the concurrently issued air construction permit No. 1050233-029-AC/PSD-FL-194J. Further details are included in the Technical Evaluation and Preliminary Determination document accompanying the draft air construction permit.

In addition, pursuant to a resolution of an objection from the EPA dated January 22, 1999, daily monitoring of visible emissions (VE) from the sulfuring acid plant was required in the original Title V permit (DEP File No. 1050233-001-AV). This resolution was not part of any PSD air construction permit. The applicant has requested that this requirement be removed from the current Title V permit. This request is discussed below.

VE – Sulfuric Acid Plant (EU 004)

Applicants' Request

In the current Title V permit Specific Condition C.10 states:

C.10. Monitoring - Visible Emission Observation. The owner or operator shall observe and record a quantified visible emission observation, six minutes in duration, for the sulfuric acid plant on a daily basis, for the purpose of periodic monitoring. [Rule 62-213.440(1)(b)1.b. (Periodic Monitoring), F.A.C. {Resolution of objection from USEPA dated 01/22/1999.}]

The applicant has requested that this requirement be removed and submitted daily VE measurements from the emission point of the sulfuric acid plant during the period of 2009 to 2011. For this period, all measurements were in compliance with the 10% opacity limit and actually showed zero percent (%) opacity.

Department Response

The original purpose of the daily VE monitoring from the sulfuric acid plant was to provide to EPA reasonable assurance of compliance with the sulfur dioxide and sulfuric acid mist emissions limits. This resolved an objection by EPA. According to the applicant, since daily VE testing of the acid plant has been required, observed VE has always been zero percent opacity. The Department discussed the requested change with EPA Region 4 and, based on comments from EPA, revised this condition as follows.

C.10. Monitoring - Visible Emission Observation. Upon issuance of this final Title V air operation permit, the permittee shall conduct a visible emissions observation in accordance with EPA Method 9 at least once each calendar quarter for a period of at least 12 minutes. If the test results of eight consecutive quarters show no visible emissions above 5% opacity based on a 6-minute average, the permittee may discontinue these quarterly observations. If there is a subsequent exceedance of the visible emissions standard, the permittee shall begin the quarterly observations until eight consecutive quarters show no visible emissions above 5% opacity based on a 6-minute average. ~~The owner or operator shall observe and record a quantified visible emission observation, six minutes in duration, for the sulfuric acid plant on a daily basis, for the purpose of periodic monitoring.~~ [Rule 62-213.440(1)(b)1.b. (Periodic Monitoring), F.A.C. {Resolution of objection from USEPA dated 01/22/1999 and revised (date).}] [Reserved]

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CONCLUSION

This project revises Title V air operation permit (DEP File No. 1050233-026-AV), which was issued on November 24, 2009. This Title V Air Operation Permit Revision 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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