Title V Air Operation Permit Renewal
Permit No. 1050352-005-AV
Renewal of Title V Air Operation Permit No. 1050352-002-AV

APPLICANT

The applicant for this project is Lakeland Electric. The applicant's responsible official and mailing address are: Thomas J. Trickey, Plant Manager, Lakeland Electric, Winston Peaking Station, 501 E. Lemon Street, Lakeland, FL 33801.

FACILITY DESCRIPTION

The applicant operates the Winston Peaking Station, which is located at 1200 Airport Road, Lakeland, Polk County.

This facility consists of twenty nominal 2.5-MW GM EMD 20/645/E4B diesel engines, one 350-kW Volvo TAD1232GE emergency diesel engine generator set and one 294,000-gallon No. 2 fuel oil storage tank. Each of the twenty nominal 2.5 MW diesel engines uses selective catalytic reduction, oxidation catalyst, and an air/fuel ratio regulator for its emission reduction control. The engines are fired on No. 2 distillate fuel oil or natural gas with 6% diesel fuel for ignition. Fuel oil will contain a maximum sulfur content of 0.05 percent. These twenty nominal 2.5 MW units are designed for peaking service and are capable of providing a nominal 50 MW (55-MW at peak load) of electrical power. The emergency diesel generator set is categorically exempt from the requirement to obtain an air construction permit with the fuel limitation of 32,000 gallons per year in the unit. Also included in this permit are 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 Construction Permit Project No. 1050352-006-AC.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Initial Title V Air Operation Permit issued 03/17/2005
Application for a Title V Air Operation Permit Renewal received 07/21/2009
Additional Information Request dated 09/16/2009
Additional Information Response received 12/15/2009
Additional Information Request dated 01/13/2010
Additional Information Response received 09/13/2010
Additional Information Request dated 10/19/2010
Additional Information Response received 11/04/2010

PRIMARY REGULATORY REQUIREMENTS

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

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 an existing Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C. The facility used to be a synthetic PSD-minor facility with the NO_x emissions from Emission Unit Nos. 001-020 limited to 249.4 tpy. The facility added an emergency diesel generator that was categorically exempt from the requirements to obtain an air construction permit by limiting the fuel usage to 32,000 gallons per year of diesel (roughly equivalent to 10 tpy of NO_x emission) in the unit. The addition of this emergency diesel generator made the facility a PSD major facility with the potential NO_x emissions of 259.4 tpy.

NSPS: The facility does not operate emission units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates emission units (E.U. Nos. 001-021) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63, Subpart ZZZZ.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to Units 001-020. Emission Units 001-020 are subject to CAM for the regulated emissions of Nitrogen Oxide (NO_x) which are controlled by selective catalytic reduction (SCR), oxidation catalyst, and an air/fuel ratio regulator.

PROJECT REVIEW

The Title V Air Operation Permit Renewal Project is to:

a) renew Title V Air Operation Permit No. 1050352-002-AV
b) add a regulated Emission Unit, EU 021
c) incorporate the conditions of the air construction permit No. 1050352-006-AC and,
d) include the requirements of 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) for E.U. Nos. 001-020 and for the emergency diesel engine generator set E.U. No. 021.

DISCUSSION OF REASONS

1. The 350-kW emergency diesel generator added to the facility was categorically exempt from the requirements to obtain a construction permit per 62-210.300(3)(a), F.A.C. provided they never burn more than 32,000 gallons diesel fuel per year in the unit. It is not exempt from the Title V permitting requirements since it is subject to the unit specific requirements of 40 CFR 63, Subpart ZZZZ.
2. NSPS Requirements of 40 CFR 60, Subpart Kb is not applicable for the diesel fuel oil storage tank as the vapor pressure for the diesel fuel is less than 3.5 kilo pascal (kPa), and the tank volume is greater than 151 m^3 (0.05 kilo pascal (kPa) and 1,113 m^3 respectively).
3. Revision to 40 CFR 63, Subpart ZZZZ became final on May 3, 2010 with the final compliance date of May 3, 2013 for compression ignition (CI) reciprocating internal combustion engine (RICE) emission units.

CONCLUSION

This project renews Title V air operation permit No. 1050352-002-AV which was issued on 03/02/2005. 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, 62-213, F.A.C.