Florida Department of Environmental Protection

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Governor

Carlos Lopez-Cantera
Lt. Governor

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Secretary

PERMITTEE

Lakeland Electric
3030 East Lake Parker Drive
Lakeland, FL and 33805

Authorized Representative:
Ronald Kremann, Production Manager

Air Permit No. 1050003-020-AC/PSD-FL-166F
Permit Expires: December 31, 2017
Minor Air Construction Permit
Charles Larsen Memorial Power Plant
CEMS Compliance Authorization

PROJECT

This is the final air construction permit, which authorizes the permittee to utilize the continuous emissions monitoring system (CEMS) that meets the requirements of 40 CFR 75 for compliance with the nitrogen oxides (NO_X) emission standards for Larsen Unit No. 8. The proposed work will be conducted at the existing Charles Larsen Memorial Power Plant, which is a power plant categorized under Standard Industrial Classification No. 4911. The existing facility is in Polk County at 2002 Highway 92 East in Lakeland, Florida. The UTM coordinates are Zone 17, 408.9 kilometers (km) East and 3102.5 km North.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions). As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

David Lyle Read, P.E.

David Lyle Read, P.E.
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For:

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Permit Revision, Technical Evaluation and Preliminary Determination, Final Determination, and Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Ronald Kremann, Lakeland Electric: ron.kremann@lakelandelectric.com
Mr. Nedin Bahtic, P.E., Lakeland Electric: nedin.bahtic@lakelandelectric.com
Mr. Salahuddin K. Mohammad, P.E., Golder Associates, Inc.: smohammad@golder.com
Southwest District Permitting Office: SWD_Air_Permitting@dep.state.fl.us
Southwest District Compliance Office: SWD_AIR@dep.state.fl.us
EPA Region 4: R4TitleVFL@epa.gov
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us
Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Lynn Scearce

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FACILITY DESCRIPTION

The existing facility is a power plant, which will consist/consists of the following emissions units and activities: one primary electrical generating unit, two secondary electrical generating units, two black start engines and one emergency engine. Combustion Turbine (CT) No. 8 is the primary electrical generating unit with a nominal generating capacity of 120 megawatts (MW). This unit can operate in simple cycle or combined cycle mode using an unfired heat recovery steam generator (HRSG). During times of high electrical demand, this unit may also operate in a peaking mode for a limited time. To reduce NO_X emissions, CT No. 8 is equipped with low-NO_X burners and water injection. A CEMS is used to continuously monitor NO_X emissions. CT Nos. 2 and 3 are the secondary electrical generating units with a nominal generating capacity of 11.5 MW per turbine (23 MW total). These CTs operate in simple-cycle peaking and intermittent-duty modes during periods of high electrical demand. Emissions are uncontrolled and unmonitored. All three CTS are capable of firing natural gas and distillate oil.

The Startup Diesel Engines for CT Nos. 2 and 3 are diesel-fired, black start, compression ignition (CI) engines rated at 430 horsepower (HP). These engines are used to startup CT Nos. 2 and 3. The Emergency Engine for Site Lighting is a propane-fired, spark ignition (SI) engine rated at 94.5 HP. This engine provides power for emergency lighting at the facility.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PROPOSED PROJECT

Lakeland Electric requested that the Acid Rain CEMS be used for compliance with NO_X emissions standards in lieu of water-to-fuel ratio monitoring for Larsen No. 8 and that testing and monitoring provisions be modified to reflect this method of compliance. This permit will revise Permit Nos. AC 53-190437/PSD-FL-166, 1050003-012-AC/PSD-FL-166D and 1050003-016-AC/PSD-FL-166E.

The following permit conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight. Except for the modified conditions noted below, all other previously established permits and conditions remain in effect.

Permit Being Modified: Permit No. AC 53-190437/PSD-FL-166

Affected Emissions Units: EU-008

Specific Condition 15: This condition is revised as follows.

15. Water injection shall be utilized for NO_X control. ~~The water to fuel ratio at which compliance is achieved shall be incorporated into the permit and shall be continuously monitored.~~ As an alternative to operating the continuous water-to-fuel monitoring system, the permittee may use a NO_X CEMS that meets the requirements of 40 CFR 75 to meet NSPS monitoring requirements and demonstrate compliance with NO_X emissions standards in this permit. If the NO_X CEMS is used for compliance, during times of CEMS unavailability, the water fuel ratio shall be monitored to show continuous compliance with the NO_X emission limit. In addition, the Permittee shall install a duct module suitable for future installation of SCR equipment. [Rule 62-4.070(3), F.A.C.; 40 CFR 60.334(a) & (b)(3)(iii); and Applicant Request]

Affected Emissions Units: EU-008

Permit Being Modified: Permit Nos. 1050003-012-AC/PSD-FL-166D and 1050003-016-AC/PSD-FL-166E

Affected Emissions Units: EU-008

Subsection 3A, Specific Condition 7: This condition is revised as follows.

7. Nitrogen Oxides (NO_X): ~~NO_X emissions shall be determined by conducting EPA Reference Method 7 or 7E, "Determination of Nitrogen Oxides Emissions from Stationary Sources." Annual compliance testing shall be performed for each fuel fired for 400 hours or more during the federal fiscal year.~~ Annual emissions testing is not required. The NO_X CEMS certified in accordance with 40 CFR 75 and the Relative Accuracy Test Audit (RATA) test data, performed pursuant to 40 CFR 75, shall satisfy the annual compliance requirements for NO_X emissions testing. [Rules 62-4.070(3) & 62-297.310(~~7~~8)a.5.b., F.A.C.]