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PERMITTEE

City of Lakeland, Lakeland Electric
501 East Lemon Street
Lakeland, FL 33801-5079

Authorized Representative:
Mr. Ronald Kremann, Plant Manager

Permit No. 1050004-034-AC
C.D. McIntosh, Jr. Power Plant
Project: NOx Emissions Limit for Unit 1
Polk County

PROJECT

This is the final air construction (AC) permit, which establishes a NOx emissions limit for Unit 1 at the C.D. McIntosh, Jr. Power Plant for purposes of Florida's Regional Haze State Implementation Plan.

The C.D. McIntosh, Jr. Power Plant is an existing electrical generation plant categorized under Standard Industrial Classification Number (No.) 4911. The existing facility is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida. The UTM Coordinates are: Zone 17, 409.0kilometers (km) East and 3106.2 km North. Latitude is: 28° 04' 50" North; and, Longitude is: 81° 55' 32" West.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit. 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

for: Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/dlr/sms

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this final air permit package (including the Final Determination and Final Permit with 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, LE: ron.kremann@lakelandelectric.com
Mr. Nedin Bahtic, LE: nedin.bahtic@lakelandelectric.com
Ms. Cindy Mulkey, DEP OBP: cindy.mulkey@dep.state.fl.us
Ms. Kelley M. Boatwright, DEP SWD: kelley.m.boatwright@dep.state.fl.us
Ms. Heather Ceron, U.S. EPA Region 4: ceron.heather@epa.gov
Ms. Katy R. Forney, U.S. EPA Region 4: forney.kathleen@epa.gov
Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@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.

FACILITY DESCRIPTION

This *existing* facility consists of three fossil fuel fired steam generators, three diesel powered engines, and two gas turbines. Fossil fuel fired steam generator Unit 1 is fired with natural gas, No. 6 fuel oil or on-specification used oil generated by the City of Lakeland. Fossil fuel fired steam generator Unit 2 is fired with natural gas, propane, No. 2 fuel oil or No. 6 fuel oil. Fossil fuel fired steam generator 3 is fired with coal, natural gas and petroleum coke. Gas Turbine Peaking Unit 1 is primarily fired with natural gas or No. 2 fuel oil with a maximum sulfur content of 0.5 percent by weight. McIntosh Unit 5, a 370 MW combined cycle stationary combustion turbine, is fired with natural gas, or No. 2 or superior grade fuel oil with a maximum sulfur content of 0.05 percent by weight. The three diesel engines are: a 25 horsepower non-emergency Lister Coal Tunnel Sump diesel engine; a 300 horsepower emergency Fire Water UPS Diesel No. 32 engine; and a 500 horsepower black-start CT Startup Diesel engine. Also included at the facility are miscellaneous unregulated/insignificant emissions units and/or activities.

PROPOSED PROJECT

The applicant applied on March 19, 2014, to the Department for a minor source air construction (AC) permit. The minor source AC permit is for the NOx emissions limit for Unit 1 at the C.D. McIntosh, Jr. Power Plant. The AC permit establishes a NOx emissions limit for Unit 1 for purposes of Florida's Regional Haze State Implementation Plan.

This project affects the following emissions units (E.U.):

Facility ID No. 1050004	
E.U. ID No.	**E.U. Brief Description**
001	McIntosh Unit 1 - Fossil Fuel Fired Steam Generator

FACILITY REGULATORY CLASSIFICATION

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

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Southwest District at: 13051 N. Telecom Parkway, Temple Terrace, Florida 33637-0926, Telephone: (813) 632-7600, Fax: (813) 632-7665.

3. Appendices: The following Appendices are attached as a part of this permit and the permittee must comply with the requirements of the appendices:

   Appendix CC Common Conditions;

   Appendix CF Citation Formats and Glossary of Common Terms;

   Appendix CTR Common Testing Requirements; and,

   Appendix GC General Conditions.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:
   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]

8. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation.

   The permittee shall apply for the Title V permit revision within 180 days of U.S. EPA's approval of the amendment to Florida's Regional Haze State Implementation Plan (SIP).

   To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The

application shall be submitted to the appropriate Permitting Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

9. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

   {Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

10. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. General reasonable precautions include the following: a. Paving and maintenance of roads, parking areas and yards; b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulates from becoming airborne; e. Landscaping or planting of vegetation; f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g. Confining abrasive blasting where possible; and h. Enclosure or covering of conveyor systems.
    [Rule 62-296.320(4)(c), F.A.C.]

A. Federally Enforceable NOx Emissions Limit - Boiler No. 1 (E.U. ID No. 001)

This subsection of the permit addresses the following emissions unit:

E.U. ID No.	Brief Description
001	McIntosh Unit 1 - Fossil Fuel Fired Steam Generator

McIntosh Unit 1 is a forced draft boiler rated at a nominal load of 90 megawatts (MW). The unit is fired with natural gas at a maximum heat input rate of 985 million Btu per hour (approximately 970 million cubic feet per hour), or No. 6 fuel oil, having a maximum sulfur content of 2.5 percent by weight, at a maximum heat input rate of 950 million Btu per hour (approximately 6,300 gallons per hour). This unit is also permitted to burn on-specification used oil generated by the City of Lakeland, at a maximum heat input rate of 950 million Btu per hour. McIntosh Unit 1 began commercial service in February, 1971. The stack parameters are: height, 150 feet: diameter, 9.0 feet; exit temperature, 277 degrees F; and, actual stack gas flow rate, 310,000 acfm.

The unit currently has no air pollution control devices installed. Best operating practices are followed during combustion.

{Permitting note(s): The emissions unit is regulated under Acid Rain, Phase II; Rule 62-296.405(1), F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input; and, Rule 62-296.470, F.A.C., Clean Air Interstate Rule (CAIR).}

This subsection of the permit adds new specific conditions relevant to Florida's Regional Haze State Implementation Plan into an AC permit.

Applicant Request, Permit No. 1050004-034-AC.

Several new specific conditions are established in this permit which read as follows:

1. No physical changes to Unit 1 are authorized under this permit. [Rules 62-4.070(1)&(3), F.A.C.; and, Permit No. 1050004-034-AC.]

Nitrogen Oxides (NOx) Requirements

NO_X Emissions Limit

2. NO_X Emissions Limit. Effective no later than U.S. EPA's approval of the amendment to Florida's Regional Haze State Implementation Plan (SIP), when combusting all permitted fuels for Unit 1 (natural gas, No. 6 fuel oil, used oil), NOx emissions from Unit 1 shall not exceed 0.46 1b/MMBtu of heat input, based on a 30-operating day rolling average.

[Applicant Request; and, Permit No. 1050004-034-AC.]

Air Pollution Control Technologies & Measures

3. Combustion Controls. The permittee shall use best operating practices for good combustion in accordance with the manufacturer's recommended operating procedures and/or the plant's established procedures to control and minimize NOx emissions. [Rules 62-4.070(1)&(3), F.A.C.; and, Permit No. 1050004-034-AC.]

Continuous Monitoring Requirements

4. Continuous Compliance with the NOx Emission Limit. Continuous compliance with the NOx emission limit shall be demonstrated with the NOx CEMS based on a 30-operating day rolling average. [Applicant Request; and, Permit No. 1050004-034-AC.]

5. Continuous Monitoring System. The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40 CFR 75. [Applicant Request; and, Permit No. 1050004-034-AC.]