

Florida Department of
Environmental Protection

Memorandum

To: Trina Vielhauer, Bureau of Air Regulation
Through: Jeff Koerner, New Source Review Section *JK*
From: Christy DeVore, New Source Review Section *CD*
Date: December 14, 2009
Subject: Draft Air Permit No. 1050004-026-AC
Extension and Revision of Air Permit No. 1050004-019-AC
City of Lakeland, C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project

Attached is a draft permit package to: extend the permit expiration date; establish a new nitrogen oxides emissions limitation for Unit 3; and clarify the sulfuric acid mist emissions testing and reporting requirements. The project is being constructed at the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida. I recommend your approval of the attached extension and permit revision.

Attachments

TLV/jfk/cd

P.E. CERTIFICATION STATEMENT

PERMITTEE

City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805


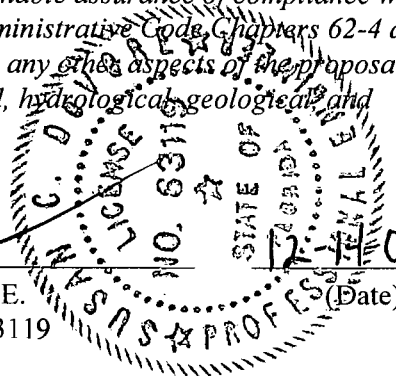
Draft Permit No. 1050004-026-AC
C.D. McIntosh, Jr. Power Plant
SCR Unit 3/Emissions Unit No. 006
Polk County, Florida

PROJECT DESCRIPTION

Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; and clarify the sulfuric acid mist emissions performance testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.18 lb/MMBtu of heat input based on a 12-month rolling CEMS average. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

This project is subject to the general preconstruction review requirements in Rule 62-212.300, Florida Administrative Code (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. The Department's full review of the project and rationale for issuing the draft permit is provided in the Technical Evaluation and Preliminary Determination.

I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code, Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).


S. Christine DeVore, P.E.
Registration Number 63119
12-4-09 (Date)




Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

December 15, 2009

Mr. Tom Trickey, Plant Manager
City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805

Re: Project No. 1050004-026-AC
City of Lakeland, Department of Electric Utilities
C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project, Permit Extension and Revision

Dear Mr. Trickey:

On September 28, 2009, you submitted an application requesting an extension of the expiration date for Permit No. 1050004-019-AC. The existing facility is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida. Enclosed are the following documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit (Public Notice); the Technical Evaluation and Preliminary Determination; and the Draft Permit Revision. The Public Notice is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Christy DeVore, at 850-921-8968.

Sincerely,

A handwritten signature in black ink that reads "Trina Vielhauer". The signature is written in a cursive, flowing style.

Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

TLV/jfk/cd

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805

Project No. 1050004-026-AC

C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project
Permit Extension and Revision
Polk County, Florida

Authorized Representative:
Tom Trickey, Plant Manager

Facility Location: The City of Lakeland, Department of Electric Utilities operates the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

Project: Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; and clarify the sulfuric acid mist emissions performance testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.18 lb/MMBtu of heat input based on a 12-month rolling continuous emission monitoring system average. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief
Bureau of Air Regulation

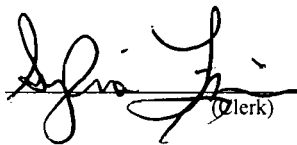
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit Revision) 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 12/15/09 to the persons listed below.

- Mr. Tom Trickey, Lakeland Electric (tom.trickey@lakelandelectric.com)
- Ms. Farzie Shelton, Lakeland Electric (farzie.shelton@lakelandelectric.com)
- Mr. Bret Galbraith, Lakeland Electric (bret.galbraith@lakelandelectric.com)
- Ms. Cindy Zhang-Torres, DEP SW District (cindy.zhang-torres@dep.state.fl.us)
- Mr. Mike Halpin, DEP Siting Office (mike.halpin@dep.state.fl.us)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@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.


(Clerk)

12/15/09
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation
Draft Air Construction Permit Extension and Revision
Project No. 1050004-026-AC
City of Lakeland, Department of Electric Utilities, C.D. McIntosh, Jr. Power Plant
Polk County, Florida

Applicant: The applicant for this project is City of Lakeland, Department of Electric Utilities. The applicant's authorized representative and mailing address is: Mr. Tom Trickey, Plant Manager, City of Lakeland, Department of Electric Utilities, C.D. McIntosh, Jr. Power Plant, 501 East Lemon Street, Lakeland, FL and 33801.

Facility Location: The City of Lakeland, Department of Electric Utilities operates the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

Project: Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; and clarify the sulfuric acid mist (SAM) emissions performance testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.18 lb/MMBtu of heat input based on a 12-month rolling continuous emission monitoring system average. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Bureau of Air Regulation in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site by entering draft permit number:
<http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft

(Public Notice to be Published in the Newspaper)

Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.



**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

APPLICANT

City of Lakeland, Department of Electric Utilities
501 East Lemon Street
Lakeland, FL 33801-5050

C.D. McIntosh, Jr. Power Plant
Facility ID No. 1050004

PROJECT

Project No. 1050004-026-AC
Revision of Permit No. 1050004-019-AC
Application for Minor Source Air Construction Permit
Fossil Fuel Steam Generator Unit 3
Emissions Unit ID No. 6

COUNTY

Polk County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review Section
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

December 14, 2009

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Facility Description and Location

C.D. McIntosh, Jr. Power Plant is an existing electric power plant, which is categorized under Standard Industrial Classification Code No. 4911. The existing C.D. McIntosh, Jr. Power Plant is located in Polk County at 501 East Lemon Street in Lakeland, Florida. The UTM coordinates of the existing facility are Zone 17, 409.0 km East, and 3106.2 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

Fossil Fuel Steam Generator Unit 3 (Emissions Unit No. 006) is a nominal 360 megawatt fossil fuel-fired steam generator that burns primarily coal or blends of coal and petroleum coke (petcoke) and small amounts of refuse derived fuel (RDF). The maximum heat input rate is 3640 million British thermal units (MMBtu) per hour. The steam generator is supplied by Babcock and Wilcox. It is a balance-draft “late 1970’s design” with 16 burners located on the front wall and 16 burners located on the back wall. The burners are fed by two coal pulverizers located on the front wall and two on the back wall. Particulate matter emissions are controlled by an existing electrostatic precipitator (ESP). Low-NO_x burners (LNBs) and over-fire air (OFA) systems control nitrogen oxides (NO_x) and a wet limestone scrubber reduces sulfur dioxide (SO₂) emissions. Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce NO_x emissions and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions.

On September 28, 2009, the Department received a request to extend the permit expiration date of Permit No. 1050004-019-AC from December 31, 2009 to December 31, 2010. The additional time is needed to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an

application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 5 tons per year or more of lead;
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_x); sulfur dioxide (SO₂); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM₁₀); volatile organic compounds (VOC); lead (Pb); fluorides (F); sulfuric acid mist (SAM); hydrogen sulfide (H₂S); total reduced sulfur (TRS), including H₂S; reduced sulfur compounds, including H₂S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO₂ and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m³, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

This project to revise Permit No. 1050004-019-AC will not increase emissions and is not subject to PSD

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

preconstruction review requirements.

3. DEPARTMENT REVIEW – PERMIT EXTENSION

Contingent on the conditions specified in the draft permit revision, the Department approves the applicant’s request and will extend the permit expiration date from December 31, 2009 to March 31, 2011.

4. DEPARTMENT REVIEW – NEW NO_x STANDARD

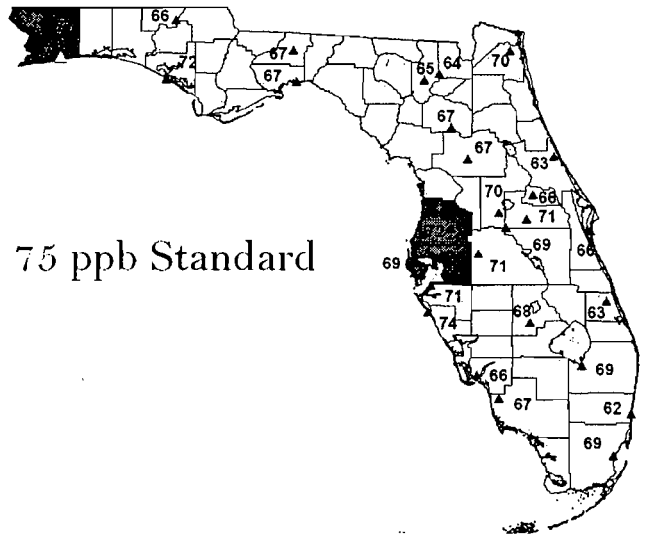
New National Ambient Air Quality Standard for Ozone

On March 12, 2008, the U.S. Environmental Protection Agency (EPA) promulgated a new National Ambient Air Quality Standard (NAAQS) for the pollutant ozone, the principle component of smog. Both the primary (protective of health) and secondary (protective of public welfare) standards were set as 0.075 parts per million (ppm), which is equivalent to 75 parts per billion (ppb). The averaging period for both standards is eight hours. Compliance with the standards is based on the three-year average of the 4th highest daily eight-hour average concentrations during each year.

Current data (2007-2009) shows two areas of the state with ozone averages values greater than 75 ppb. The Census Bureau has established the Core Based Statistical Areas (CBSA) that will likely be used to identify the geographic boundaries of any new nonattainment areas. EPA has not yet declared any nonattainment areas. If any monitor within a CBSA has a design value greater than the standard, then the entire CBSA will likely be considered nonattainment.

The following map shows current ozone design values at existing monitoring stations throughout Florida. The design values represent the three-year average of the 4th highest daily values. The following table shows the ozone values at the E.G. Simmons Park ozone monitor, which represents the highest values recorded in the Tampa-St. Petersburg-Clearwater area. The three-year average of the 4th highest values is 79 ppb, which is greater than the 2008 NAAQS.

E.G. Simmons Park Ozone Monitor				
Order	3-Year Average	Ordered Concentrations		
		2007	2008	2009
	07-09			
1 st	87	87	100	76
2 nd	83	85	90	76
3 rd	81	84	83	76
4th	79	83	82	73
5 th	77	80	82	71



On September 16, 2009, EPA announced it will likely reconsider the new NAAQS for ozone and propose a revised standard in December of 2009, which would be less than the 2008 standards.

Rule 62-4.080, F.A.C. - Modification of Permit Conditions

- (1) For good cause 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

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time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time.

For the purpose of this section, good cause shall include, but not be limited to, **any of the following**:

- (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.
 - (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.
 - (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.
 - (d) For discharges into State waters, a showing that new or changed classification of the water requires a modification of the discharge.
 - (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.
- (2) A permittee may request a modification of a permit by applying to the Department.
- (3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with paragraph 62-4.050(4)(1), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

Details of the New SCR NO_x Control System

The applicant chose to install an SCR system to control NO_x emissions and provide flexibility in complying with the federal CAIR program. The following summarizes the equipment specifications for the SCR system currently being installed.

- Baseline NO_x Loading: 0.30 to 0.36 lb/MMBtu (with new LNB and OFA systems);
- Target NO_x Emissions: 0.10 lb/MMBtu (annual average);
- Estimated control Efficiency: 67% to 72% reduction;
- Ammonia (NH₃) Slip: 2 parts per million by volume dry (ppmv) at 4% oxygen;
- Catalyst Type: high dust;
- Catalyst Configuration: vertical;
- Number of Reactors: 2;
- Number of Initial Catalyst Layers (Per Reactor): 3;
- Number of Spare Layers (Per Reactor): 1;
- Modules Per Layer (per Reactor): 9 x 5;
- Reactor Dimensions (Inside x Inside): 34'- 3" x 30'- 3";
- Full Load Gas Flow: 1,730,060 actual cubic feet per meter (acfm) at SCR inlet;
- Normal Operating Temperature: 640° F;

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- Superficial Velocity Through Catalyst: 15 to 16 feet per second;
- Pressure Drop Through Box and Ductwork: 10.0 inches water;
- NH₃ Consumption at Design Conditions: 415 lb/hour); and
- NH₃ Storage Required: 2 x 30,000 gallons = ~ 2 x 75 tons at 60° F.

The Department authorized this project as proposed by the applicant in Permit No. 1050004-019-AC and installation is almost complete.

Department's Proposed New NO_x Standard

Based on current ambient monitoring data for nearby Hillsborough County, this area is likely to be designated as nonattainment for the new federal ozone standard, 75 parts per billion (ppb). As previously mentioned, Rule 62-4.080, F.A.C. states, "For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions." For this project, good cause includes:

Good Cause: A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.

Rationale: The permittee chose to install the SCR system to provide flexibility in complying with the federal CAIR program. The Department fully expects the plant to operate the SCR system to generate NO_x allowances for use at the plant or for sale. The applicant's chosen technology is almost completely installed and it is reasonable for the Department to require its operation to reduce NO_x emissions which is a precursor to ozone. Since the applicant spent approximately between \$50 and 80 million (based on the application) on its chosen controls, it is not an unreasonable hardship to require its use.

Good Cause: A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S. For reference, the original numbering of each statute is maintained.

Rationale: The following provides several examples of the intent and purpose of Chapter 403, F.S.

403.011, F.S. Short Title. This act shall be known and cited as the "Florida Air and Water Pollution Control Act."

403.021, F.S. - Legislative Declaration; Public Policy.

- (3) It is declared to be the public policy of this state and the purpose of this act to achieve and maintain such levels of air quality as will protect human health and safety and, to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state, and facilitate the enjoyment of the natural attractions of this state. In accordance with the public policy established herein, the Legislature further declares that the citizens of this state should be afforded reasonable protection from the dangers inherent in the release of toxic or otherwise hazardous vapors, gases, or highly volatile liquids into the environment.
- (5) It is hereby declared that the prevention, abatement, and control of the pollution of the air and waters of this state are affected with a public interest, and the provisions of this act are enacted in the exercise of the police powers of this state for the purpose of protecting the health, peace, safety, and general welfare of the people of this state.
- (6) The Legislature finds and declares that control, regulation, and abatement of the activities which are causing or may cause pollution of the air or water resources in the state and which are or may be detrimental to human, animal, aquatic, or plant life, or to property, or unreasonably interfere with the comfortable enjoyment of life or property be increased to ensure conservation of natural resources; to ensure a continued safe environment; to ensure purity of air and water; to ensure domestic water supplies; to ensure protection and preservation of the public health, safety, welfare, and economic well-being; to ensure and provide for recreational and wildlife needs as the population increases and the economy expands; and to ensure a continuing growth of the economy and industrial development.

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403.061, F.S. - Department; Powers and Duties. The department shall have the power and the duty to control and prohibit pollution of air and water in accordance with the law and rules adopted and promulgated by it and, for this purpose, to:

- (8) Issue such orders as are necessary to effectuate the control of air and water pollution and enforce the same by all appropriate administrative and judicial proceedings.
- (9) Adopt a comprehensive program for the prevention, control, and abatement of pollution of the air and waters of the state, and from time to time review and modify such program as necessary.
- (35) Exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act, 42 U.S.C. ss. 7401 et seq. The department shall implement the programs required under that act in conjunction with its other powers and duties. Nothing in this subsection shall be construed to repeal or supersede any of the department's existing rules.

Therefore, in accordance with Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. To help mitigate prospective ozone problems in this area, the Department will establish a new NO_x limit in this permit pursuant to Rule 62-4.080, F.A.C. based on the following:

- The most stringent current NO_x emission limitation is 0.50 lb NO_x/MMBtu (early Acid Rain compliance).
- Based on CEMS data reported in the Annual Operating Reports, annual average NO_x emissions after implementing the newly installed LNB and OFA equipment were 0.38 lb/MMBtu in 2007 and 0.030 lb/MMBtu in 2008.
- The design of the new SCR system included a target annual NO_x emissions rate of 0.10 lb/MMBtu and an estimated actual control efficiency of 67% to 72% reduction.

Existing data shows that the LNB and OFA systems are capable of achieving 0.30 lb/MMBtu as designed and prior to control by the SCR system. The SCR system is designed for a target NO_x emissions level of 0.10 lb/MMBtu, which is a 67% reduction. To ensure that the SCR system is operated (ammonia injected), the Department will establish the following new NO_x limitation:

NO_x ≤ 0.18 lb/MMBtu of heat input based on a 12-month rolling CEMS average of all periods of operation, including startup, shutdown and malfunction. The permittee shall begin collecting and averaging data towards a demonstration of compliance with the new NO_x emissions limitation after completing shakedown of the SCR system, but no later than 180 days after first injecting ammonia.

This proposed NO_x standard represents a 40% reduction by the new SCR system over the current actual emissions (with LNB and OFA systems in place). In addition, SCR controls with ammonia injection will also have a co-benefit in controlling and reducing mercury emissions.

SAM Emissions Performance Testing

Original Permit No. 1050004-019-AC authorized the installation of SCR and sorbent injection systems on existing Unit 3 (EU-006). The SCR catalyst will convert additional sulfur compounds to SAM. Use of the new sorbent injection system is intended to mitigate and maintain SAM emissions below the PSD significant emissions rate (7 tons/year). Condition No. 15 in Section 3 of this permit requires initial performance tests to determine the amount of SAM control provided by the sorbent injection system under various operating scenarios. It requires the series of initial tests to be completed within 90 days of completing construction of the SCR system.

On November 4th, the Department received a request to delay some of the SAM emissions performance testing. As required by permit, the plant provided a test protocol in September detailing the series of tests that would be conducted to satisfy the requirements of Condition No. 15. The original test protocol identified nine individual locations for testing: a single location at the stack; and (because of split duct work) dual points before/after the

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SCR and before/after the electrostatic precipitator (ESP). Preliminary sampling indicated widely varying and inconsistent data. It is possible that the difficulties are due to heavy fly ash loading at some of the sampling points and/or erratic cyclonic flows caused by the arrangement of equipment and flow obstructions. The plant did not believe that this data would be useful in determining appropriate performance levels for the sorbent injection system. On November 6, 2009, the Department issued a letter authorizing an initial set of performance tests to be followed by subsequent testing, which would be clarified in Project No. 1050004-026-AC to extend the expiration date of original Permit No. 1050004-019-AC.

On November 6th, the Department received a request to revise the letter of authorization regarding initial SAM performance testing, which required sets of testing at four load conditions (65%, 75%, 85% and 95%). The primary concern was that the vendor of the sorbent injection system did not recommend injecting sorbent until the unit was at 69% or more. The vendor also provided recommended sorbent injection rates for three operating loads: 69%, 88% and 100%. On November 6, 2009, the Department revised the letter of authorization to reflect the vendor information.

As described in the letter of authorization, the Department will clarify the revised testing and reporting requirements in this permit extension. Condition No. 15 will be revised as follows:

15. Initial Performance Tests – Sorbent Injection for SAM Emissions Control. ~~Within 90 days of completing construction of the SCR system, the permittee shall conduct a series of initial performance tests to determine the SAM emissions rate under a variety of operating scenarios that documents the impact of sorbent injection on reducing SAM emissions and results in the development of correlation/curves between injection rates, operating conditions and emissions.~~

~~At permitted capacity and with no SCR bypass, the permittee shall conduct stack tests to determine the uncontrolled sulfuric acid mist emission rate, the controlled sulfuric acid mist emission rate, and actual control efficiency of the installed sorbent injection system. Tests shall consist of three, 1-hour test runs and be conducted while firing the fuel blend with the highest sulfur content. During each test run, the permittee shall continuously monitor and record the sorbent injection rate and total secondary power input to the electrostatic precipitator. The purpose of these tests is to determine actual control efficiency of the installed systems and to establish a minimum sorbent injection rate, which will be used to calculate the actual annual emissions.~~

~~a. Within 90 days of first injecting ammonia to the SCR system, the permittee shall conduct the following initial tests:~~

~~i. The permittee shall conduct at least two, 1-hour test runs at each of the following operating scenarios to determine SAM emissions:~~

Scenario	Load	Sorbent Injection
1A	100% load	Off
1B	100% load	ON
2A	88% load	Off
2B	88% load	ON
3A	69% load	Off
3B	69% load	ON

~~The operator shall use best efforts to obtain and maintain the approximate target unit load throughout the test run for each operating scenario.~~

~~2. All test runs shall be conducted while injecting ammonia for the control of nitrogen oxides (NO_x).~~

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3. The sorbent injection rate used for each operating scenario shall be determined by the equipment vendor.
4. For each SAM test run the operator shall:
 - a. Record the ammonia injection rate;
 - b. Record the sorbent injection rate;
 - c. Determine the fuel firing rate and heat input rate;
 - d. Use the stack CEMS to determine controlled NO_x and SO₂ emissions; and
 - e. Attempt to sample uncontrolled SO₂ emissions before the flue gas desulfurization system. If unable to gather meaningful uncontrolled SO₂ data for these initial tests, the permittee shall determine the uncontrolled SO₂ emissions by actual fuel flow and sulfur content.
5. Appropriate reference test methods shall be used to determine SAM and SO₂ emissions as necessary for the given operating conditions.
6. At a minimum, the permittee shall submit a test report within 45 days of completing the initial performance tests to include the following information for each SAM test run: the load, the heat input rate, the test method with any variations noted, the fuel blend fired and the average sulfur content, the actual sorbent injection rate, the controlled SO₂ emissions rate as determined by the CEMS, the uncontrolled SO₂ emissions rate as determined by stack test (if not available, then as determined by fuel flow and sulfur content), the ammonia injection rate for NO_x control by the SCR, the controlled NO_x emissions rate as determined by CEMS, the stack opacity as determined by the continuous opacity monitoring system (COMS). The report shall discuss the relative influence of operating parameters and how the sorbent injection rate will be adjusted for differing operating scenarios.
7. Until the test results are known, the permittee shall continue to operate the sorbent injection system based on the sorbent injection rate recommended by the equipment vendor. Once the test results are known, the permittee may begin to operate the sorbent injection system based on the performance indicated by the data collected during the initial tests such that SAM emissions increases from the project will be less than 7 tons/year. The permittee shall identify and monitor the operating conditions that would result in an adjustment of the sorbent injection rate.
- b. Within 60 days of conducting this initial round of performance tests, the permittee shall propose a new schedule and revised test protocol for conducting the originally proposed tests including the determination of the SAM conversion rate across the SCR catalyst. Within 120 days of submitting the test report for the initial tests, the permittee shall conduct the following additional tests:
 - a. 1) For each set of operating conditions being evaluated, the permittee shall conduct at least a 1-hour test run to determine SAM emissions. ~~At least nine such~~ Sufficient test runs shall be conducted to evaluate the effect on SAM emissions from such parameters as the SO₂ emission rate prior to the SCR catalyst (and FGD system), the unit load, the flue gas flow rate, the sorbent injection rate and the current catalyst oxidation rate.
 - b. 2) Tests shall be conducted under a variety of fuel blends and load rates that are representative of the actual operating conditions. Sufficient tests shall be conducted to establish the SAM emissions rates for the following scenarios: ~~bypass of the SCR reactor~~, SCR reactor in service

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~~(ammonia injection)~~ without sorbent injection, and SCR reactor in service ~~(ammonia injection)~~ under varying operating conditions and levels of sorbent injection.

- ~~e-3)~~ At least 15 days prior to initiating the performance tests, the permittee shall submit a test notification, preliminary test schedule and test protocol to the Bureau of Air Regulation and the Compliance Authority.
- ~~d-4)~~ Within 45 days following the last test run conducted, the permittee shall provide a report summarizing the emissions tests and results. All SAM emissions test data shall be provided with this report.
- ~~e-5)~~ Within 45 days following the submittal of the emissions test report and no later than 90 days following the last test run conducted, the permittee shall submit a project report summarizing the following:
- Identify each set of operating conditions evaluated;
 - ~~i~~Identify each operating parameter evaluated;
 - Identify the relative influence of each operating parameter, describe how the automated control system will adjust the sorbent injection rate based on the selected parameters;
 - Identify the frequency with which operational parameters will be reevaluated and adjusted within the automated control system;
 - Provide the algorithm used for the automated control system or a series of related performance curves; and
 - Provide details for calculating and estimating the SAM emissions rate based on the level of sorbent injection and operating conditions. The test results shall be used to adjust the sorbent injection control system and to conservatively estimate SAM emissions.

[Rules 62-4.070(3) and 62-212.300(1)(e), F.A.C.]

This adds the requirements in the letter of authorization to the original air construction permit. It also establishes a time frame to conduct the remaining SAM emissions performance tests. Condition No. 16 will also be clarified as follows:

16. Sorbent Injection for SAM Emissions Control. On an annual basis, the permittee must demonstrate that SAM emissions increases as a result of this project are less than 7 TPY. The permittee shall install and operate the sorbent injection system at a frequency and injection rate for SAM control to satisfy this requirement. An automated control system will be used to adjust the sorbent flow rate adjusted for the given set of operating conditions based on the most recent performance test results. SAM emissions rates shall be conservatively determined based on the operating conditions and sorbent injection rate for the period of operation.

[Rules 62-4.070(3) and 62-212.300(1)e, F.A.C.]

Because of the changes in timing to the initial SAM emissions performance tests, Condition Nos. 17 and 18 will also be revised as follows to reflect new deadlines.

17. Performance Tests. ~~Within 60 days of commencing operation~~ After completing shakedown of the SCR/sorbent injection system, but no later than 180 days after first injecting ammonia in the SCR reactor and after completing the performance tests required by Specific Condition 15, the permittee shall have the following tests conducted for the unit. At permitted capacity, the permittee shall conduct tests to determine the uncontrolled NO_x emissions rate, the controlled NO_x emission rate, and the actual maximum control efficiency of the installed SCR system. Tests shall consist of at least three, 1-hour test

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runs. Alternatively, the permittee may provide representative CEMS data for this demonstration. During each test run, the permittee shall continuously monitor and record the ammonia injection rate.

[Rule 62-297.310(7)(a)1, F.A.C.]

18. ~~Ammonia Slip Tests:~~ Compliance with the ammonia (NH₃) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320, or other methods approved by the Department. ~~This test shall be completed within 180 days after first injecting ammonia in the SCR reactor.~~

[Rule 62-4.070(3), F.A.C.]

5. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Christy DeVore is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

DRAFT PERMIT REVISION

PERMITTEE

City of Lakeland, Dept. of Electric Utilities
Lakeland Electric
501 East Lemon Street
Lakeland, FL 33801-5050

Authorized Representative:
Mr. Tom Trickey, Plant Manager

Air Permit No. 1050004-026-AC
Permit Expires: March 31, 2011

C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project
Permit Extension and Revision

PROJECT

This is the final air construction permit, which revises original Permit No. 1050004-019-AC to: extend the permit expiration date; establish a new nitrogen oxides emissions limitation for Unit 3; and clarify the sulfuric acid mist emissions testing and reporting requirements. The project is being constructed at the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions).

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

(DRAFT)

Joseph Kahn, Director
Division of Air Resource Management

(Date)

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 Revision) 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 _____ **(DRAFT)** _____ to the persons listed below.

- Mr. Tom Trickey, Lakeland Electric (tom.trickey@lakelandelectric.com)
- Ms. Farzie Shelton, Lakeland Electric (farzie.shelton@lakelandelectric.com)
- Mr. Bret Galbraith, Lakeland Electric (bret.galbraith@lakelandelectric.com)
- Ms. Cindy Zhang-Torres, DEP SW District (cindy.zhang-torres@dep.state.fl.us)
- Mr. Mike Halpin, DEP Siting Office (mike.halpin@dep.state.fl.us)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@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.

(DRAFT)

(Clerk)

(Date)

FACILITY DESCRIPTION

The facility is an existing power plant, which is categorized under Standard Industrial Classification Code No. 4911. The UTM coordinates are Zone 17, 409.0 km East and 3106.2 km North.

FACILITY REGULATORY CLASSIFICATION

- The facility is 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 operates units subject to the Clean Air Interstate Rule (CAIR).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PROPOSED PROJECT

Fossil Fuel Steam Generator Unit 3 (Emissions Unit No. 006) is a nominal 360 megawatt fossil fuel-fired steam generator that burns primarily coal or blends of coal and petroleum coke (petcoke) and small amounts of refuse derived fuel (RDF). The maximum heat input rate is 3640 million British thermal units (MMBtu) per hour. The steam generator is supplied by Babcock and Wilcox. It is a balance-draft "late 1970's design" with 16 burners located on the front wall and 16 burners located on the back wall. The burners are fed by two coal pulverizers located on the front wall and two on the back wall. Particulate matter emissions are controlled by an existing electrostatic precipitator (ESP). Low-NO_x burners (LNBs) and over-fire air (OFA) systems control nitrogen oxides (NO_x) and a wet limestone scrubber reduces sulfur dioxide (SO₂) emissions. Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce NO_x emissions and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions.

The permit extension is needed to complete miscellaneous construction activities conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit. Clarifications to the SAM emissions testing and reporting requirements are necessary to bridge the gap between the original permit requirements, the initial test protocol and the revised letter of authorization to conduct initial SAM performance tests.

The permittee is installing the new SCR system to provide flexibility to comply with the federal Clean Air Interstate (CAIR) program. However, based on current ambient monitoring data for nearby Hillsborough County, this area is likely to be designated as nonattainment for the new federal ozone standard (75 parts per billion). To help mitigate prospective ozone problems in this area, this permit specifies a new NO_x emissions limitation based on annual average NO_x emissions after implementing the newly installed LNB and OFA equipment and the SCR system design. In accordance with Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's air quality, which can be achieved with the installed equipment without unreasonable hardship.

SECTION 2. PERMIT REVISIONS (DRAFT)

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 shading.

Permit Being Modified: Permit No. 1050004-019-AC

Affected Emissions Units: McIntosh Unit 3 Fossil Fuel Fired Steam Generator (EU-006)

The expiration date is hereby extended from **December 31, 2009** to **March 31, 2011**. The purpose is to provide sufficient time to complete the work and submit an application to revise the Title V air operation permit.

Section 3, Specific Conditions 13, 15 and 16: These conditions are revised as follows.

EMISSION LIMITS AND STANDARDS

13. Emission Limits

a. CO Emission Limit Subject to Revision: (No other change to the CO emissions limit.)

b. NOx Emission Limit: NOx emissions from Unit 3 shall not exceed 0.18 lb/MMBtu of heat input based on a 12-month rolling CEMS average of all periods of operation, including startup, shutdown and malfunction. The permittee shall begin collecting and averaging data towards a demonstration of compliance with the new NOx emissions limitation after completing shakedown of the SCR system, but no later than 180 days after first injecting ammonia.

[Rules 62-4.080, 62-210.300 and 62-4.055, F.A.C.]

EMISSIONS PERFORMANCE TESTING

15. Initial Performance Tests – Sorbent Injection for SAM Emissions Control. Within 90 days of completing construction of the SCR system, ~~The permittee shall conduct a series of initial performance tests to determine the SAM emissions rate under a variety of operating scenarios that documents the impact of sorbent injection on reducing SAM emissions and results in the development of correlation/curves between injection rates, operating conditions and emissions.~~

At permitted capacity and with no SCR bypass, ~~The permittee shall conduct stack tests to determine the uncontrolled sulfuric acid mist emission rate, the controlled sulfuric acid mist emission rate, and actual control efficiency of the installed sorbent injection system. Tests shall consist of three, 1-hour test runs and be conducted while firing the fuel blend with the highest sulfur content. During each test run, the permittee shall continuously monitor and record the sorbent injection rate and total secondary power input to the electrostatic precipitator. The purpose of these tests is to determine actual control efficiency of the installed systems and to establish a minimum sorbent injection rate, which will be used to calculate the actual annual emissions.~~

a. Within 90 days of first injecting ammonia to the SCR system, the permittee shall conduct the following initial tests:

1. The permittee shall conduct at least two, 1-hour test runs at each of the following operating scenarios to determine SAM emissions.

<u>Scenario</u>	<u>Load</u>	<u>Sorbent Injection</u>
<u>1A</u>	<u>100% load</u>	<u>Off</u>
<u>1B</u>	<u>100% load</u>	<u>ON</u>
<u>2A</u>	<u>88% load</u>	<u>Off</u>
<u>2B</u>	<u>88% load</u>	<u>ON</u>

SECTION 2. PERMIT REVISIONS (DRAFT)

<u>Scenario</u>	<u>Load</u>	<u>Sorbent Injection</u>
<u>3A</u>	<u>69% load</u>	<u>Off</u>
<u>3B</u>	<u>69% load</u>	<u>ON</u>

The operator shall use best efforts to obtain and maintain the approximate target unit load throughout the test run for each operating scenario.

2. All test runs shall be conducted while injecting ammonia for the control of nitrogen oxides (NO_x).
3. The sorbent injection rate used for each operating scenario shall be determined by the equipment vendor.
4. For each SAM test run the operator shall:
 - a. Record the ammonia injection rate;
 - b. Record the sorbent injection rate;
 - c. Determine the fuel firing rate and heat input rate;
 - d. Use the stack CEMS to determine controlled NO_x and SO₂ emissions; and
 - e. Attempt to sample uncontrolled SO₂ emissions before the flue gas desulfurization system. If unable to gather meaningful uncontrolled SO₂ data for these initial tests, the permittee shall determine the uncontrolled SO₂ emissions by actual fuel flow and sulfur content.
5. Appropriate reference test methods shall be used to determine SAM and SO₂ emissions as necessary for the given operating conditions.
6. At a minimum, the permittee shall submit a test report within 45 days of completing the initial performance tests to include the following information for each SAM test run: the load; the heat input rate; the test method with any variations noted; the fuel blend fired and the average sulfur content; the actual sorbent injection rate; the controlled SO₂ emissions rate as determined by the CEMS; the uncontrolled SO₂ emissions rate as determined by stack test (if not available, then as determined by fuel flow and sulfur content); the ammonia injection rate for NO_x control by the SCR; the controlled NO_x emissions rate as determined by CEMS; the stack opacity as determined by the continuous opacity monitoring system (COMS). The report shall discuss the relative influence of operating parameters and how the sorbent injection rate will be adjusted for differing operating scenarios.
7. Until the test results are known, the permittee shall continue to operate the sorbent injection system based on the sorbent injection rate recommended by the equipment vendor. Once the test results are known, the permittee may begin to operate the sorbent injection system based on the performance indicated by the data collected during the initial tests such that SAM emissions increases from the project will be less than 7 tons/year. The permittee shall identify and monitor the operating conditions that would result in an adjustment of the sorbent injection rate.
 - b. Within 60 days of conducting this initial round of performance tests, the permittee shall propose a new schedule and revised test protocol for conducting the originally proposed tests including the determination of the SAM conversion rate across the SCR catalyst. Within 120 days of submitting the test report for the initial tests, the permittee shall conduct the following additional tests:
 - a. For each set of operating conditions being evaluated, the permittee shall conduct at least a 1-hour test run to determine SAM emissions. At least nine such Sufficient test runs shall be conducted to evaluate the effect on SAM emissions from such parameters as the SO₂ emission rate prior to the

SECTION 2. PERMIT REVISIONS (DRAFT)

SCR catalyst (and FGD system), the unit load, the flue gas flow rate, the sorbent injection rate and the current catalyst oxidation rate.

- b.2)** Tests shall be conducted under a variety of fuel blends and load rates that are representative of the actual operating conditions. Sufficient tests shall be conducted to establish the SAM emissions rates for the following scenarios: ~~bypass of the SCR reactor~~, SCR reactor in service (ammonia injection) without sorbent injection, and SCR reactor in service (ammonia injection) under varying operating conditions and levels of sorbent injection.
- e.3)** At least 15 days prior to initiating the performance tests, the permittee shall submit a test notification, preliminary test schedule and test protocol to the Bureau of Air Regulation and the Compliance Authority.
- e.4)** Within 45 days following the last test run conducted, the permittee shall provide a report summarizing the emissions tests and results. All SAM emissions test data shall be provided with this report.
- e.5)** Within 45 days following the submittal of the emissions test report and no later than 90 days following the last test run conducted, the permittee shall submit a project report summarizing the following:
- Identify each set of operating conditions evaluated;
 - ~~i~~Identify each operating parameter evaluated;
 - Identify the relative influence of each operating parameter, describe how the automated control system will adjust the sorbent injection rate based on the selected parameters;
 - Identify the frequency with which operational parameters will be reevaluated and adjusted within the automated control system;
 - Provide the algorithm used for the automated control system or a series of related performance curves; and
 - Provide details for calculating and estimating the SAM emissions rate based on the level of sorbent injection and operating conditions. The test results shall be used to adjust the sorbent injection control system and to conservatively estimate SAM emissions.

[Rules 62-4.070(3) and 62-212.300(1)(e), F.A.C.]

16. Sorbent Injection for SAM Emissions Control. On an annual basis, the permittee must demonstrate that SAM emissions increases as a result of this project are less than 7 TPY. The permittee shall install and operate the sorbent injection system at a frequency and injection rate for SAM control to satisfy this requirement. An automated control system will be used to adjust the sorbent flow rate adjusted for the given set of operating conditions based on the most recent performance test results. SAM emissions rates shall be conservatively determined based on the operating conditions and sorbent injection rate for the period of operation.

[Rules 62-4.070(3) and 62-212.300(1)e, F.A.C.]

17. Performance Tests. ~~Within 60 days of commencing operation~~ After completing shakedown of the SCR/sorbent injection system, but no later than 180 days after first injecting ammonia in the SCR reactor and after completing the performance tests required by Specific Condition 15, the permittee shall have the following tests conducted for the unit. At permitted capacity, the permittee shall conduct tests to determine the uncontrolled NO_x emissions rate, the controlled NO_x emission rate, and the actual maximum control efficiency of the installed SCR system. Tests shall consist of at least three, 1-hour test

SECTION 2. PERMIT REVISIONS (DRAFT)

runs. Alternatively, the permittee may provide representative CEMS data for this demonstration. During each test run, the permittee shall continuously monitor and record the ammonia injection rate.

[Rule 62-297.310(7)(a)1, F.A.C.]

18. Ammonia Slip Tests: Compliance with the ammonia (NH₃) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320, or other methods approved by the Department. This test shall be completed within 180 days after first injecting ammonia in the SCR reactor.

[Rule 62-4.070(3), F.A.C.]

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Tuesday, December 15, 2009 2:53 PM
To: 'tom.trickey@lakelandelectric.com'
Cc: 'farzie.shelton@lakelandelectric.com'; 'bret.galbraith@lakelandelectric.com'; Zhang-Torres; Halpin, Mike; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'oquendo.ana@epa.gov'; Gibson, Victoria; DeVore, Christy; Walker, Elizabeth (AIR); Koerner, Jeff
Subject: Lakeland Electric - C.D. McIntosh Jr. Power Plant; 1050004-026-AC
Attachments: 1050004-026-AC_Intent.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1050004.026.AC.D_pdf.zip

Owner/Company Name: LAKELAND ELECTRIC
Facility Name: C.D. MCINTOSH, JR. POWER PLANT
Project Number: 1050004-026-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: POLK
Processor: Christy DeVore

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Permit project documents addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation

Sylvia Livingston
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Galbraith, Bret [Bret.Galbraith@lakelandelectric.com]
Sent: Tuesday, December 15, 2009 4:06 PM
To: Livingston, Sylvia
Subject: RE: Lakeland Electric - C.D. McIntosh Jr. Power Plant; 1050004-026-AC

Ms. Livingston,

I received the permit file. Thank you.

Bret Galbraith, E.I. | Environmental Permitting | Lakeland Electric
501 E. Lemon St. | Lakeland, FL 33810 | office: 863-834-8180 cell: 813-351-0149 | fax: 863-834-8187 | e-mail: bret.galbraith@lakelandelectric.com

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Tuesday, December 15, 2009 2:53 PM
To: Trickey, Tom
Cc: Shelton, Farzie; Galbraith, Bret; Zhang-Torres; Halpin, Mike; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; Gibson, Victoria; DeVore, Christy; Walker, Elizabeth (AIR); Koerner, Jeff
Subject: Lakeland Electric - C.D. McIntosh Jr. Power Plant; 1050004-026-AC

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1050004.026.AC.D_pdf.zip

Owner/Company Name: LAKELAND ELECTRIC
Facility Name: C.D. MCINTOSH, JR. POWER PLANT
Project Number: 1050004-026-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: POLK
Processor: Christy DeVore

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Permit project documents addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any

Livingston, Sylvia

From: Trickey, Tom [Tom.Trickey@lakelandelectric.com]
To: Livingston, Sylvia
Sent: Tuesday, December 15, 2009 9:33 PM
Subject: Read: Lakeland Electric - C.D. McIntosh Jr. Power Plant; 1050004-026-AC

Your message

To: Tom.Trickey@lakelandelectric.com
Subject:

was read on 12/15/2009 9:33 PM.

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Monday, December 28, 2009 4:21 PM
To: 'jaspuru@ouc.com'
Cc: 'dstalls@ouc.com'; 'Scott_Osbourn@golder.com'; Shine, Caroline; 'lori.cunniff@ocfl.net'; 'jodi.dittell@ocfl.net'; Gibson, Victoria; Read, David; Linero, Alvaro; Walker, Elizabeth (AIR)
Subject: Re-send: Orlando Utilities Commission - Stanton Energy Center; 0950137-028-AC
Attachments: Final_Permit.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Final Permit** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0950137.028.AC.F_pdf.zip (This file was reposted to the website due to inadvertently posting the incorrect documents. Please confirm receipt of the zipped documents.)

Owner/Company Name: ORLANDO UTILITIES COMMISSION

Facility Name: STANTON ENERGY CENTER

Project Number: 0950137-028-AC

Permit Status: FINAL

Permit Activity: CONSTRUCTION

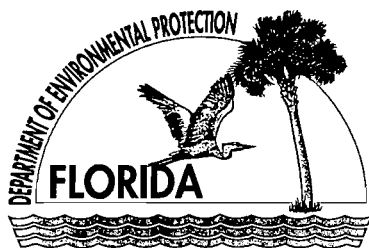
Facility County: ORANGE

Processor: David Read/ Al Linero

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Project documents that are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation at (850)488-0114.

Sylvia Livingston
Bureau of Air Regulation
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/921-9506
sylvia.livingston@dep.state.fl.us



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

June 2, 2010

Mr. Tom Trickey, Plant Manager
City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805

Re: Project No. 1050004-026-AC
City of Lakeland, Department of Electric Utilities
C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project, Permit Extension and Revision
Revised Draft Permit Package

Dear Mr. Trickey:

On September 28, 2009, you submitted an application requesting an extension of the expiration date for Air Permit No. 1050004-019-AC. This revised draft permit package replaces the package previously issued on December 15, 2010. The existing facility is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida. Enclosed are the following revised documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit (Public Notice); the Technical Evaluation and Preliminary Determination; and the Draft Permit Revision. The Public Notice is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Christy DeVore, at 850-921-8968.

Sincerely,

A handwritten signature in black ink that reads "Trina Vielhauer". The signature is fluid and cursive.

Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

TLV/jfk/scd

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805

Project No. 1050004-026-AC

C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project
Permit Extension and Revision
Polk County, Florida

Authorized Representative:
Tom Trickey, Plant Manager

Facility Location: The Department of Electric Utilities at the City of Lakeland operates the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

Project: Air Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; revise the ammonia slip requirement; and revise and clarify the sulfuric acid mist emissions testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.22 lb/MMBtu of heat input based on a calendar year average of all periods of operation, including startup, shutdown and malfunction. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality. The Department's full review of the project and rationale for issuing the draft permit is provided in the attached Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth

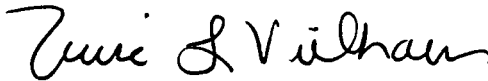
WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit Revision) 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 6/2/10 to the persons listed below.

- Mr. Tom Trickey, Lakeland Electric (tom.trickey@lakelandelectric.com)
- Ms. Farzie Shelton, Lakeland Electric (farzie.shelton@lakelandelectric.com)
- Mr. Bret Galbraith, Lakeland Electric (bret.galbraith@lakelandelectric.com)
- Ms. Cindy Zhang-Torres, DEP SW District (cindy.zhang-torres@dep.state.fl.us)
- Mr. Mike Halpin, DEP Siting Office (mike.halpin@dep.state.fl.us)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@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.



(Clerk)

6/2/10
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation
Draft Air Construction Permit Extension and Revision
Project No. 1050004-026-AC
City of Lakeland, Department of Electric Utilities, C.D. McIntosh, Jr. Power Plant
Polk County, Florida

Applicant: The applicant for this project is City of Lakeland, Department of Electric Utilities. The applicant's authorized representative and mailing address is: Mr. Tom Trickey, Plant Manager, City of Lakeland, Department of Electric Utilities, C.D. McIntosh, Jr. Power Plant, 501 East Lemon Street, Lakeland, Florida, 33801.

Facility Location: The Department of Electric Utilities at the City of Lakeland operates the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

Project: Air Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; revise the ammonia slip requirement; and revise and clarify the sulfuric acid mist emissions testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.22 lb/MMBtu of heat input based on a calendar year average of all periods of operation, including startup, shutdown and malfunction. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Bureau of Air Regulation in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site by entering draft permit number:
<http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C.

(Public Notice to be Published in the Newspaper)

The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

Florida Department of
Environmental Protection

Memorandum

To: Trina Vielhauer, Bureau of Air Regulation
Through: Jeff Koerner, New Source Review Section
From: Christy DeVore, New Source Review Section
Date: June 2, 2010
Subject: Revised Draft Air Permit No. 1050004-026-AC
Extension and Revision of Air Permit No. 1050004-019-AC
City of Lakeland, C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project Extension

Attached is the revised draft permit package to: extend the permit expiration date; revise the ammonia slip requirement; revise and clarify the sulfuric acid mist emissions testing and reporting requirements; and establish a new nitrogen oxides emissions limitation for Unit 3. The project is at the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida. I recommend your approval of the attached extension and permit revision.

Attachments

TLV/jfk/scd

P.E. CERTIFICATION STATEMENT

PERMITTEE

City of Lakeland, Department of Electric Utilities
3030 East Lake Parker Drive
Lakeland, Florida 33805

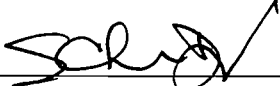
Draft Permit No. 1050004-026-AC
C.D. McIntosh, Jr. Power Plant
SCR Unit 3/Emissions Unit No. 006
Polk County, Florida

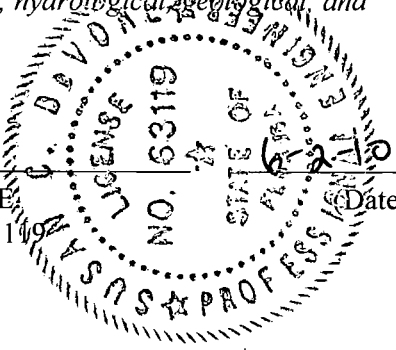
PROJECT DESCRIPTION

Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce emissions of nitrogen oxides (NO_x) and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions. The applicant requested: a one-year extension of the permit expiration date to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit; revise the ammonia slip requirement; and revise and clarify the sulfuric acid mist emissions testing and reporting requirements. The Department agrees to these permit changes as conditioned by the draft permit. Additional sulfuric acid mist performance tests are required when the average fuel sulfur level increases by 0.20% by weight higher than the maximum sulfur content previously tested.

In addition, pursuant to Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. Therefore, the draft permit includes the following new emissions standard for NO_x (a primary precursor of ozone): NO_x emissions from Unit 3 shall not exceed 0.22 lb/MMBtu of heat input based on a calendar year CEMS average of all periods of operation, including startup, shutdown and malfunction beginning January 1, 2011. This project does not result in any increase in emissions. Therefore, the project is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality. This project is subject to the general preconstruction review requirements in Rule 62-212.300, Florida Administrative Code (F.A.C.). The Department's full review of the project and rationale for issuing the draft permit is provided in the Technical Evaluation and Preliminary Determination.

I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).



S. Christine DeVore, P.E.
Registration Number 6319




**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

APPLICANT

City of Lakeland, Department of Electric Utilities
501 East Lemon Street
Lakeland, FL 33801-5050

C.D. McIntosh, Jr. Power Plant
Facility ID No. 1050004

PROJECT

Project No. 1050004-026-AC
Revision of Permit No. 1050004-019-AC
Application for Minor Source Air Construction Permit
Fossil Fuel Steam Generator Unit 3
Emissions Unit ID No. 6

COUNTY

Polk County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review Section
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

May 28, 2010

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Facility Description and Location

C.D. McIntosh, Jr. Power Plant is an existing electric power plant, which is categorized under Standard Industrial Classification Code No. 4911. The existing C.D. McIntosh, Jr. Power Plant is located in Polk County at 501 East Lemon Street in Lakeland, Florida. The UTM coordinates of the existing facility are Zone 17, 409.0 km East, and 3106.2 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

Fossil Fuel Steam Generator Unit 3 (Emissions Unit No. 006) is a nominal 364 megawatt fossil fuel-fired steam generator that burns primarily coal or blends of coal and petroleum coke (petcoke) and small amounts of refuse derived fuel (RDF). The maximum heat input rate is 3640 million British thermal units (MMBtu) per hour. The Draft Permit does not establish any new limits on the heat input rate. The steam generator is supplied by Babcock and Wilcox. It is a balance-draft “late 1970’s design” with 16 burners located on the front wall and 16 burners located on the back wall. The burners are fed by two coal pulverizers located on the front wall and two on the back wall. Particulate matter emissions are controlled by an existing electrostatic precipitator (ESP). Low-NO_x burners (LNBs) and over-fire air (OFA) systems control nitrogen oxides (NO_x) and a wet limestone scrubber reduces sulfur dioxide (SO₂) emissions. Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce NO_x emissions and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions.

On September 28, 2009, the Department received a request to extend the permit expiration date of Permit No. 1050004-019-AC from December 31, 2009 to December 31, 2010. The additional time is needed to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 5 tons per year or more of lead;
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_x); sulfur dioxide (SO₂); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM₁₀); volatile organic compounds (VOC); lead (Pb); fluorides (F); sulfuric acid mist (SAM); hydrogen sulfide (H₂S); total reduced sulfur (TRS), including H₂S; reduced sulfur compounds, including H₂S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO₂ and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m³, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

This project to revise Permit No. 1050004-019-AC will not increase emissions and is not subject to PSD

preconstruction review requirements.

3. DEPARTMENT REVIEW – PERMIT EXTENSION

Contingent on the conditions specified in the draft permit revision, the Department approves the applicant’s request and will extend the permit expiration date from December 31, 2009 to March 31, 2011.

4. DEPARTMENT REVIEW – PERMIT REVISIONS

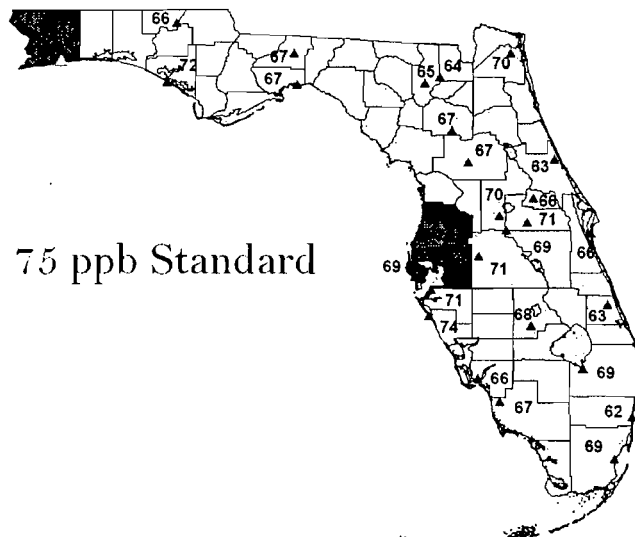
New National Ambient Air Quality Standard for Ozone

On March 12, 2008, the U.S. Environmental Protection Agency (EPA) promulgated a new National Ambient Air Quality Standard (NAAQS) for the pollutant ozone, the principle component of smog. Both the primary (protective of health) and secondary (protective of public welfare) standards were set as 0.075 parts per million (ppm), which is equivalent to 75 parts per billion (ppb). The averaging period for both standards is eight hours. Compliance with the standards is based on the three-year average of the 4th highest daily eight-hour average concentrations during each year.

Current data (2007-2009) shows two areas of the state with ozone averages values greater than 75 ppb. The Census Bureau has established the Core Based Statistical Areas (CBSA) that will likely be used to identify the geographic boundaries of any new nonattainment areas. EPA has not yet declared any nonattainment areas. If any monitor within a CBSA has a design value greater than the standard, then the entire CBSA will likely be considered nonattainment.

The following map shows current ozone design values at existing monitoring stations throughout Florida. The design values represent the three-year average of the 4th highest daily values. The following table shows the ozone values at the E.G. Simmons Park ozone monitor, which represents the highest values recorded in the Tampa-St. Petersburg-Clearwater area. The three-year average of the 4th highest values is 79 ppb, which is greater than the 2008 NAAQS.

E.G. Simmons Park Ozone Monitor				
Order	3-Year Average	Ordered Concentrations		
		2007	2008	2009
	07-09			
1 st	87	87	100	76
2 nd	83	85	90	76
3 rd	81	84	83	76
4 th	79	83	82	73
5 th	77	80	82	71



On September 16, 2009, EPA announced it will likely reconsider the new NAAQS for ozone and propose a revised standard in December of 2009, which would be less than the 2008 standards.

Rule 62-4.080, F.A.C. - Modification of Permit Conditions

- (1) For good cause 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

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time.

For the purpose of this section, good cause shall include, but not be limited to, **any of the following**:

- (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.
 - (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.
 - (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.
 - (d) For discharges into State waters, a showing that new or changed classification of the water requires a modification of the discharge.
 - (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.
- (2) A permittee may request a modification of a permit by applying to the Department.
- (3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with paragraph 62-4.050(4)(I), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

Details of the New SCR NO_x Control System

The applicant chose to install an SCR system to control NO_x emissions and provide flexibility in complying with the federal CAIR program. The following summarizes the equipment specifications for the SCR system currently being installed.

- Baseline NO_x Loading: 0.30 to 0.36 lb/MMBtu (with new LNB and OFA systems);
- Target NO_x Emissions: 0.10 lb/MMBtu (annual average);
- Estimated control Efficiency: 67% to 72% reduction;
- Ammonia (NH₃) Slip: 2 parts per million by volume dry (ppmv) at 4% oxygen;
- Catalyst Type: high dust;
- Catalyst Configuration: vertical;
- Number of Reactors: 2;
- Number of Initial Catalyst Layers (Per Reactor): 3;
- Number of Spare Layers (Per Reactor): 1;
- Modules Per Layer (per Reactor): 9 x 5;
- Reactor Dimensions (Inside x Inside): 34' - 3" x 30' - 3";
- Full Load Gas Flow: 1,730,060 actual cubic feet per meter (acfm) at SCR inlet;
- Normal Operating Temperature: 640° F;

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- Superficial Velocity Through Catalyst: 15 to 16 feet per second;
- Pressure Drop Through Box and Ductwork: ~10.0 inches water;
- NH₃ Consumption at Design Conditions: 415 lb/hour); and
- NH₃ Storage Required: 2 x 30,000 gallons = ~ 2 x 75 tons at 60° F.

The Department authorized this project as proposed by the applicant in Permit No. 1050004-019-AC and installation is almost complete.

Department's Proposed New NO_x Standard

Based on current ambient monitoring data for nearby Hillsborough County, this area is likely to be designated as nonattainment for the new federal ozone standard, 75 parts per billion (ppb). As previously mentioned, Rule 62-4.080, F.A.C. states, "For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions." For this project, good cause includes:

Good Cause: A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.

Rationale: The permittee chose to install the SCR system to provide flexibility in complying with the federal CAIR program. The Department fully expects the plant to operate the SCR system to generate NO_x allowances for use at the plant or for sale. The applicant's chosen technology is almost completely installed and it is reasonable for the Department to require its operation to reduce NO_x emissions which is a precursor to ozone. Since the applicant spent approximately between \$50 and 80 million (based on the application) on its chosen controls, it is not an unreasonable hardship to require its use.

Good Cause: A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S. For reference, the original numbering of each statute is maintained.

Rationale: The following provides several examples of the intent and purpose of Chapter 403, F.S.

403.011, F.S. Short Title. This act shall be known and cited as the "Florida Air and Water Pollution Control Act."

403.021, F.S. - Legislative Declaration; Public Policy.

- (3) It is declared to be the public policy of this state and the purpose of this act to achieve and maintain such levels of air quality as will protect human health and safety and, to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state, and facilitate the enjoyment of the natural attractions of this state. In accordance with the public policy established herein, the Legislature further declares that the citizens of this state should be afforded reasonable protection from the dangers inherent in the release of toxic or otherwise hazardous vapors, gases, or highly volatile liquids into the environment.
- (5) It is hereby declared that the prevention, abatement, and control of the pollution of the air and waters of this state are affected with a public interest, and the provisions of this act are enacted in the exercise of the police powers of this state for the purpose of protecting the health, peace, safety, and general welfare of the people of this state.
- (6) The Legislature finds and declares that control, regulation, and abatement of the activities which are causing or may cause pollution of the air or water resources in the state and which are or may be detrimental to human, animal, aquatic, or plant life, or to property, or unreasonably interfere with the comfortable enjoyment of life or property be increased to ensure conservation of natural resources; to ensure a continued safe environment; to ensure purity of air and water; to ensure domestic water supplies; to ensure protection and preservation of the public health, safety, welfare, and economic well-being; to ensure and provide for recreational and wildlife needs as the population increases and the economy expands; and to ensure a continuing growth of the economy and industrial development.

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403.061, F.S. - Department; Powers and Duties. The department shall have the power and the duty to control and prohibit pollution of air and water in accordance with the law and rules adopted and promulgated by it and, for this purpose, to:

- (8) Issue such orders as are necessary to effectuate the control of air and water pollution and enforce the same by all appropriate administrative and judicial proceedings.
- (9) Adopt a comprehensive program for the prevention, control, and abatement of pollution of the air and waters of the state, and from time to time review and modify such program as necessary.
- (35) Exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act, 42 U.S.C. ss. 7401 et seq. The department shall implement the programs required under that act in conjunction with its other powers and duties. Nothing in this subsection shall be construed to repeal or supersede any of the department's existing rules.

Therefore, in accordance with Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's ozone air quality, which can be achieved with the equipment authorized by original permit No. 1050004-019-AC without unreasonable hardship. To help mitigate prospective ozone problems in this area, the Department will establish a new NO_x limit in this permit pursuant to Rule 62-4.080, F.A.C. based on the following:

- The most stringent current NO_x emission limitation is 0.50 lb NO_x/MMBtu (early Acid Rain compliance).
- Based on CEMS data reported in the Annual Operating Reports, annual average NO_x emissions after implementing the newly installed LNB and OFA equipment were 0.38 lb/MMBtu in 2007 and 0.030 lb/MMBtu in 2008.
- The design of the new SCR system included a target annual NO_x emissions rate of 0.10 lb/MMBtu and an estimated actual control efficiency of 67% to 72% reduction.

Existing data shows that the LNB and OFA systems are capable of achieving 0.30 lb/MMBtu as designed and prior to control by the SCR system. The SCR system is designed for a target NO_x emissions level of 0.10 lb/MMBtu, which is a 67% reduction. To ensure that the SCR system is operated (ammonia injected), the Department will establish the following new NO_x limitation:

NO_x ≤ 0.22 lb/MMBtu of heat input based on a calendar year CEMS average of all periods of operation, including startup, shutdown and malfunction. The permittee shall begin collecting and averaging data towards a demonstration of compliance with the new NO_x emissions limitation January 1, 2011.

This proposed NO_x standard represents a 27% reduction by the new SCR system over the current actual emissions (with LNB and OFA systems in place). In addition, SCR controls with ammonia injection will also have a co-benefit in controlling and reducing mercury emissions.

Ammonia Slip

The applicant requested the following changes to the ammonia slip requirement.

~~12. Ammonia Emissions (Slip): Subject to the requirements of Condition 19 in this section, the SCR system shall be designed and operated for an ammonia slip target of less than 5 ppmv based on the average of three, 1-hour test runs. Ammonia slip measured at the stack downstream of all emissions control systems, shall not exceed 5 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted and corrective measures taken if measured values exceed 2 ppmv. [Rule 62-4.070(3), F.A.C.]~~

As shown in the Draft Permit, the Department revised the condition as requested. In addition, the Department does not collect Title V fees based on ammonia slip for units with SCR systems.

SAM Emissions Performance Testing

Original Permit No. 1050004-019-AC authorized the installation of SCR and sorbent injection systems on

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

existing Unit 3 (EU-006). The SCR catalyst will convert additional sulfur compounds to SAM. Use of the new sorbent injection system is intended to mitigate and maintain SAM emissions below the PSD significant emissions rate (7 tons/year). Condition No. 15 in Section 3 of this permit requires initial performance tests to determine the amount of SAM control provided by the sorbent injection system under various operating scenarios. It requires the series of initial tests to be completed within 90 days of completing construction of the SCR system.

On November 4th, the Department received a request to delay some of the SAM emissions performance testing. As required by permit, the plant provided a test protocol in September detailing the series of tests that would be conducted to satisfy the requirements of Condition No. 15. The original test protocol identified nine individual locations for testing: a single location at the stack; and (because of split duct work) dual points before/after the SCR and before/after the electrostatic precipitator (ESP). Preliminary sampling indicated widely varying and inconsistent data. It is possible that the difficulties are due to heavy fly ash loading at some of the sampling points and/or erratic cyclonic flows caused by the arrangement of equipment and flow obstructions. The plant did not believe that this data would be useful in determining appropriate performance levels for the sorbent injection system. On November 6, 2009, the Department issued a letter authorizing an initial set of performance tests to be followed by subsequent testing, which would be clarified in Project No. 1050004-026-AC to extend the expiration date of original Permit No. 1050004-019-AC.

On November 6th, the Department received a request to revise the letter of authorization regarding initial SAM performance testing, which required sets of testing at four load conditions (65%, 75%, 85% and 95%). The primary concern was that the vendor of the sorbent injection system did not recommend injecting sorbent until the unit was at 69% or more. The vendor also provided recommended sorbent injection rates for three operating loads: 69%, 88% and 100%. On November 6, 2009, the Department revised the letter of authorization to reflect the vendor information.

As shown in the Draft Permit, the Department revised and clarified the testing and reporting requirements in this permit extension for Condition Nos. 12, 13, 15, 16, 17 and 18.

Based on initial SAM performance tests, the sorbent injection system may not be needed for some load and fuel sulfur operating conditions. Depending on future needs, the plant may choose to remove the control system. The Department added Condition No. 24 to notify the plant that an air construction permit is needed to install or re-install an air pollution control system.

5. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Christy DeVore is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

DRAFT PERMIT REVISION

PERMITTEE

City of Lakeland, Department of Electric Utilities
Lakeland Electric
501 East Lemon Street
Lakeland, FL 33801-5050

Authorized Representative:
Mr. Tom Trickey, Plant Manager

Air Permit No. 1050004-026-AC
Permit Expires: March 31, 2011

C.D. McIntosh, Jr. Power Plant
Unit 3 SCR Project
Permit Extension and Revision

PROJECT

This is the final air construction permit, which revises original Permit No. 1050004-019-AC to: extend the permit expiration date; establish a new nitrogen oxides emissions limitation for Unit 3; and clarify the sulfuric acid mist emissions testing and reporting requirements. The project is being constructed at the existing C.D. McIntosh, Jr. Power Plant, which is located in Polk County at 3030 East Lake Parker Drive in Lakeland, Florida.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions).

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

(DRAFT)

Joseph Kahn, Director
Division of Air Resource Management

(Date)

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 Revision) 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 _____ **(DRAFT)** _____ to the persons listed below.

- Mr. Tom Trickey, Lakeland Electric (tom.trickey@lakelandelectric.com)
- Ms. Farzie Shelton, Lakeland Electric (farzie.shelton@lakelandelectric.com)
- Mr. Bret Galbraith, Lakeland Electric (bret.galbraith@lakelandelectric.com)
- Ms. Cindy Zhang-Torres, DEP SW District (cindy.zhang-torres@dep.state.fl.us)
- Mr. Mike Halpin, DEP Siting Office (mike.halpin@dep.state.fl.us)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@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.

(DRAFT)

(Clerk)

(Date)

FACILITY DESCRIPTION

The facility is an existing power plant, which is categorized under Standard Industrial Classification Code No. 4911. The UTM coordinates are Zone 17, 409.0 km East and 3106.2 km North.

FACILITY REGULATORY CLASSIFICATION

- The facility is 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 operates units subject to the Clean Air Interstate Rule (CAIR).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PROPOSED PROJECT

Fossil Fuel Steam Generator Unit 3 (Emissions Unit No. 006) is a nominal 364 megawatt fossil fuel-fired steam generator that burns primarily coal or blends of coal and petroleum coke (petcoke) and small amounts of refuse derived fuel (RDF). The maximum heat input rate is 3640 million British thermal units (MMBtu) per hour. The steam generator is supplied by Babcock and Wilcox. It is a balance-draft "late 1970's design" with 16 burners located on the front wall and 16 burners located on the back wall. The burners are fed by two coal pulverizers located on the front wall and two on the back wall. Particulate matter emissions are controlled by an existing electrostatic precipitator (ESP). Low-NO_x burners (LNBs) and over-fire air (OFA) systems control nitrogen oxides (NO_x) and a wet limestone scrubber reduces sulfur dioxide (SO₂) emissions. Permit No. 1050004-019-AC authorized the installation of a selective catalytic reduction (SCR) system to reduce NO_x emissions and a sorbent injection system to reduce sulfuric acid mist (SAM) emissions.

The permit extension is needed to complete miscellaneous construction activities, conduct performance testing, review and submit test results and submit an application for a revised Title V air operation permit to incorporate the applicable requirements of the air construction permit. Clarifications to the SAM emissions testing and reporting requirements are necessary to bridge the gap between the original permit requirements, the initial test protocol and the revised letter of authorization to conduct initial SAM performance tests.

The permittee is installing the new SCR system to provide flexibility to comply with the federal Clean Air Interstate (CAIR) program. However, based on current ambient monitoring data for nearby Hillsborough County, this area is likely to be designated as nonattainment for the new federal ozone standard (75 parts per billion). To help mitigate prospective ozone problems in this area, this permit specifies a new NO_x emissions limitation based on annual average NO_x emissions after implementing the newly installed LNB and OFA equipment and the SCR system design. In accordance with Rule 62-4.080, F.A.C., the Department determines that a higher degree of treatment is necessary to improve the area's air quality, which can be achieved with the installed equipment without unreasonable hardship.

SECTION 2. PERMIT REVISIONS (DRAFT)

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 shading.

Permit Being Modified: Permit No. 1050004-019-AC

Affected Emissions Units: McIntosh Unit 3 Fossil Fuel Fired Steam Generator (EU-006)

The expiration date is hereby extended from **December 31, 2009** to **March 31, 2011**. The purpose is to provide sufficient time to complete the work and submit an application to revise the Title V air operation permit.

Section 3, Specific Conditions 12, 13, 15, 16, 17, 18 and new 24: These conditions are revised as follows.

EMISSION LIMITS AND STANDARDS

~~12. Ammonia Emissions (Slip). Subject to the requirements of Condition 19 in this section, the SCR system shall be designed and operated for an ammonia slip target of less than 5 ppmv based on the average of three, 1-hour test runs. Ammonia slip measured at the stack downstream of all emissions control systems, shall not exceed 5 parts per million by volume (ppmv). Annual testing of ammonia slip shall be conducted and corrective measures taken if measured values exceed 2 ppmv. [Rule 62-4.070(3), F.A.C.]~~

~~13. Emission Limits.~~

~~a. CO Emission Limit Subject to Revision: (No other change to the CO emissions limit).~~

~~b. NOx Emission Limit: NOx emissions from Unit 3 shall not exceed 0.22 lb/MMBtu of heat input based on a calendar year average of all periods of operation, including startup, shutdown and malfunction. The permittee shall begin collecting and averaging data towards a demonstration of compliance with the new NOx emissions limitation beginning January 1, 2011.~~

~~[Rules 62-4.080, 62-210.300 and 62-4.055, F.A.C.]~~

EMISSIONS PERFORMANCE TESTING

~~15. Initial SAM Performance Tests and Sorbent Injection for SAM Emissions Control. Within 90 days of completing construction of the SCR system, the permittee shall conduct a series of initial performance tests to determine the SAM emissions rate under a variety of operating scenarios that documents the impact of sorbent injection on reducing SAM emissions and results in the development of correlation/curves between injection rates, operating conditions and emissions.~~

~~At permitted capacity and with no SCR bypass, the permittee shall conduct stack tests to determine the uncontrolled sulfuric acid mist emission rate, the controlled sulfuric acid mist emission rate, and actual control efficiency of the installed sorbent injection system. Tests shall consist of three, 1-hour test runs and be conducted while firing the fuel blend with the highest sulfur content that will be fired in the unit. During each test run, the permittee shall continuously monitor and record the sorbent injection rate and total secondary power input to the electrostatic precipitator. The purpose of these tests is to determine actual control efficiency of the installed systems and to establish the correlation between SAM emissions and the a minimum sorbent injection rate, which will be used to calculate the actual annual emissions.~~

~~a. Within 90 days of first injecting ammonia to the SCR system, the permittee shall conduct the following initial tests:~~

~~b) The permittee shall conduct at least two, 1-hour test runs at each of the following operating scenarios to determine SAM emissions:~~

SECTION 2. PERMIT REVISIONS (DRAFT)

Scenario	Load	Sorbent Injection
1A	100% load	Off
1B	100% load	ON
2A	88% load	Off
2B	88% load	ON
3A	69% load	Off
3B	69% load	ON

The operator shall use best efforts to obtain and maintain the approximate target unit load throughout the test run for each operating scenario.

- 2) All test runs shall be conducted while injecting ammonia for the control of nitrogen oxides (NO_x).
- 3) The sorbent injection rate used for each operating scenario shall be determined by the equipment vendor.
- 4) For each SAM test run the operator shall:
 - a) Record the ammonia injection rate;
 - b) Record the sorbent injection rate;
 - c) Determine the fuel firing rate and heat input rate;
 - d) Use the stack CEMS to determine controlled NO_x and SO₂ emissions; and
 - e) Attempt to sample uncontrolled SO₂ emissions before the flue gas desulfurization system. If unable to gather meaningful uncontrolled SO₂ data for these initial tests, the permittee shall determine the uncontrolled SO₂ emissions by actual fuel flow and sulfur content.
- 5) Appropriate reference test methods shall be used to determine SAM and SO₂ emissions as necessary for the given operating conditions.
- 6) At a minimum, the permittee shall submit a test report within 45 days of completing the initial performance tests to include the following information for each SAM test run: the load; the heat input rate; the test method with any variations noted; the fuel blend fired and the average sulfur content; the actual sorbent injection rate; the controlled SO₂ emissions rate as determined by the CEMS; the uncontrolled SO₂ emissions rate as determined by stack test (if not available, then as determined by fuel flow and sulfur content); the ammonia injection rate for NO_x control by the SCR; the controlled NO_x emissions rate as determined by CEMS; the stack opacity as determined by the continuous opacity monitoring system (COMS). The report shall discuss the relative influence of operating parameters and how the sorbent injection rate will be adjusted for differing operating scenarios.
- 7) Until the test results are known, the permittee shall continue to operate the sorbent injection system based on the sorbent injection rate recommended by the equipment vendor. Once the test results are known, the permittee may begin to operate the sorbent injection system based on the performance indicated by the data collected during the initial tests such that SAM emissions increases from the project will be less than 7 tons/year. The permittee shall identify and monitor the operating conditions that would result in an adjustment of the sorbent injection rate.
 - b. Within 60 days of conducting this the initial round of performance tests, the permittee shall propose a new schedule and revised test protocol for conducting the originally proposed tests including the determination

SECTION 2. PERMIT REVISIONS (DRAFT)

of the SAM conversion rate across the SCR catalyst. Within 120 days of submitting the test report for the initial tests, the permittee shall conduct the following additional tests:

- a.1) For each set of operating conditions being evaluated, the permittee shall conduct at least a 1-hour test run to determine SAM emissions. At least nine such test runs shall be conducted to evaluate the effect on SAM emissions from such parameters as the SO₂ emission rate prior to the SCR catalyst (and FGD system), the unit load, the flue gas flow rate, the sorbent injection rate and the current catalyst oxidation rate.
- b.2) Tests shall be conducted under a variety of fuel blends and load rates that are representative of the actual operating conditions. Sufficient tests shall be conducted to establish the SAM emissions rates for the following scenarios: ~~bypass of the SCR reactor;~~ SCR reactor in service ~~(ammonia injection)~~ without sorbent injection; and SCR reactor in service ~~(ammonia injection)~~ under varying operating conditions and levels of sorbent injection.
- e.3) At least 15 days prior to initiating the performance tests, the permittee shall submit a test notification, preliminary test schedule and test protocol to the Bureau of Air Regulation and the Compliance Authority.
- d.4) Within 45 days following the last test run conducted, the permittee shall provide a report summarizing the emissions tests and results. All SAM emissions test data shall be provided with this report.
- e.5) Within 45 days following the submittal of the emissions test report and no later than 90 days following the last test run conducted, the permittee shall submit a project report summarizing the following:
 - a) Identify each set of operating conditions evaluated;
 - b) Identify each operating parameter evaluated;
 - c) Identify the relative influence of each operating parameter, describe how the automated control system will adjust the sorbent injection rate based on the selected parameters;
 - d) Identify the frequency with which operational parameters will be reevaluated and adjusted within the automated control system;
 - e) Provide the algorithm used for the automated control system or a series of related performance curves; and
 - f) Provide details for calculating and estimating the SAM emissions rate based on the level of sorbent injection and operating conditions. The test results shall be used to adjust the sorbent injection control system and estimate SAM emissions.

c. Within 45 days of firing a fuel blend with a sulfur content that is 0.20% sulfur by weight (based on a 14-operational day rolling average) higher than the maximum sulfur content previously tested, the permittee shall conduct the following additional SAM performance tests:

- 1) Conduct the SAM performance tests in accordance with the requirements of paragraph "b" of this condition, or
- 2) If the sorbent injection system is removed or is determined to be unnecessary for a given coal blend, conduct at least three, 1-hour test runs at permitted capacity to determine the SAM emissions rate.

The permittee shall use the data collected to calculate the actual SAM emissions when operating under the given conditions, including the period of time from first fire of the fuel blend until the performance test results are known.

[Rules 62-4.070(3) and 62-212.300(1)(e), F.A.C.]

SECTION 2. PERMIT REVISIONS (DRAFT)

16. ~~Determining Actual SAM Emissions Sorbent Injection for SAM Emissions Control.~~ On an annual basis, the permittee must demonstrate that SAM emissions increases as a result of this project are less than 7 TPY. The permittee shall ~~install and~~ operate the sorbent injection system at a frequency and injection rate for SAM control to satisfy this requirement. An automated control system will be used to adjust the sorbent flow rate ~~adjusted~~ for the given set of operating conditions based on the most recent performance test results. ~~Actual SAM emissions shall be calculated using the information available for the given operating conditions (e.g., the sulfur content of fuel blend, the SO₂ emission rate prior to the SCR catalyst, the unit load, the flue gas flow rate, the sorbent injection rate and the current catalyst oxidation rate).~~ ~~If performance testing shows that it is unnecessary to operate the sorbent injection system for a given coal blend or the sorbent injection system is removed, the permittee shall determine actual SAM emissions based on emissions factors developed through the performance tests.~~

[Rules 62-4.070(3) and 62-212.300(1)e, F.A.C.]

17. ~~Performance Tests. Within 60 days of commencing operation After completing shakedown of the SCR/sorbent injection system, but no later than 180 days after first injecting ammonia in the SCR reactor and after completing the performance tests required by Specific Condition 15,~~ the permittee shall have the following tests conducted for the unit. At permitted capacity, the permittee shall conduct tests to determine the uncontrolled NO_x emissions rate, the controlled NO_x emission rate, and the actual control efficiency of the installed SCR system. Tests shall consist of ~~at least~~ three, 1-hour test runs. Alternatively, the permittee may provide representative CEMS data for this demonstration. During each test run, the permittee shall continuously monitor and record the ammonia injection rate.

[Rule 62-297.310(7)(a)1, F.A.C.]

18. ~~Ammonia Slip Tests. Initial and annual c~~Compliance with the ammonia (NH₃) slip limit shall be determined using EPA conditional test method (CTM-027), EPA method 320, or other methods approved by the Department. ~~The initial test shall be completed within 180 days after first injecting ammonia in the SCR reactor. If the tested ammonia slip rate exceeds 5 ppmv during the test, the permittee shall:~~

- ~~(a). Begin testing and reporting the ammonia slip for each subsequent calendar quarter;~~
- ~~(b). Before the ammonia slip exceeds 7 ppmv, take corrective actions that result in lowering the ammonia slip to less than 5 ppmv, and~~
- ~~(c). Test and demonstrate that the ammonia slip is less than 5 ppmv within 30 days after completing the corrective actions;~~

~~Corrective actions may include, but are not limited to, adding catalyst, replacing catalyst, or other SCR system maintenance or repair. After demonstrating that the ammonia slip level is less than 5 ppmv, testing and reporting shall resume on an annual basis.~~

[Rule 62-4.070(3), F.A.C.]

Add the following new condition:

24. ~~New Control Equipment. In accordance with Rule 62-210.300(1)(a), F.A.C., if the sorbent injection system is removed, the permittee shall obtain an air construction permit to install new acid mist mitigation equipment or to reinstall the sorbent injection system if required to maintain SAM emissions below a 7 TPY increase above the baseline emissions, which were estimated at 136 TPY. [Rule 62-210.300(1)(a), F.A.C.]~~

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Wednesday, June 02, 2010 12:15 PM
To: 'tom.trickey@lakelandelectric.com'
Cc: 'farzie.shelton@lakelandelectric.com'; 'bret.galbraith@lakelandelectric.com'; Zhang-Torres; Halpin, Mike; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'oquendo.ana@epa.gov'; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: CITY OF LAKELAND - C.D. MCINTOSH, JR. POWER PLANT; 1050004-026-AC - Revised Draft
Attachments: 1050004-026-AC-RV_Signatures.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1050004.026.AC.R_pdf.zip

Owner/Company Name: LAKELAND ELECTRIC
Facility Name: C.D. MCINTOSH, JR. POWER PLANT
Project Number: 1050004-026-AC
Permit Status: REV DRAFT
Permit Activity: CONSTRUCTION
Facility County: POLK
Processor: Christy DeVore

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

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Sylvia Livingston
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

Livingston, Sylvania

From: Trickey, Tom [Tom.Trickey@lakelandelectric.com]
Sent: Wednesday, June 02, 2010 1:45 PM
To: Livingston, Sylvania
Subject: RE: CITY OF LAKELAND - C.D. MCINTOSH, JR. POWER PLANT; 1050004-026-AC - Revised Draft

Received by Tom Trickey

From: Livingston, Sylvania [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Wednesday, June 02, 2010 12:15 PM
To: Trickey, Tom
Cc: Shelton, Farzie; Galbraith, Bret; Zhang-Torres; Halpin, Mike; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
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Sylvia Livingston

Livingston, Sylvia

From: Galbraith, Bret [Bret.Galbraith@lakelandelectric.com]
Sent: Wednesday, June 02, 2010 12:36 PM
To: Livingston, Sylvia
Subject: RE: CITY OF LAKELAND - C.D. MCINTOSH, JR. POWER PLANT; 1050004-026-AC - Revised Draft

Sylvia,
I have received the attachments, thank you.

Bret Galbraith, E.I. | Environmental Permitting| Lakeland Electric
501 E. Lemon St. | Lakeland, FL 33810 |office: 863-834-8180 cell: 813-351-0149 |fax: 863-834-8187 |e-mail: bret.galbraith@lakelandelectric.com

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Wednesday, June 02, 2010 12:15 PM
To: Trickey, Tom
Cc: Shelton, Farzie; Galbraith, Bret; Zhang-Torres; Halpin, Mike; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
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problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation

Sylvia Livingston
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
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The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

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