

**Adams, Patty**

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**From:** Harvey, Mary  
**Sent:** Tuesday, February 20, 2007 10:01 AM  
**To:** Adams, Patty  
**Subject:** FW: Lakeland Unit 3 Draft Permit - DEP File #1050004-018

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**From:** Bachand, Timothy [mailto:Timothy.Bachand@lakelandelectric.com]  
**Sent:** Monday, February 19, 2007 6:20 PM  
**To:** Harvey, Mary  
**Subject:** RE: Lakeland Unit 3 Draft Permit - DEP File #1050004-018

Documents received.

Timothy L. Bachand, P.E.  
Manger of Engineering - Production

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**From:** Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]  
**Sent:** Friday, February 16, 2007 2:56 PM  
**To:** Bâchand, Timothy; Shelton, Farzie; Nasca, Mara; kkosky@golder.com  
**Cc:** Mulkey, Cindy; Adams, Patty; Gibson, Victoria  
**Subject:** Lakeland Unit 3 Draft Permit - DEP File #1050004-018

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

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. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

**Adams, Patty**

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**From:** Harvey, Mary  
**Sent:** Monday, February 19, 2007 7:44 AM  
**To:** Adams, Patty; Mulkey, Cindy  
**Subject:** FW: Lakeland Unit 3 Draft Permit - DEP File #1050004-018

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**From:** Nasca, Mara  
**Sent:** Friday, February 16, 2007 5:24 PM  
**To:** Harvey, Mary  
**Cc:** Zhang-Torres  
**Subject:** RE: Lakeland Unit 3 Draft Permit - DEP File #1050004-018

Thanks Mary,  
Will you please replace me with Cindy Zhang-Torres for permit routing....thanks !  
Mara

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**From:** Harvey, Mary  
**Sent:** Friday, February 16, 2007 2:56 PM  
**To:** 'timothy.bachand@lakelandelectric.com'; 'farzie.shelton@lakelandelectric.com'; Nasca, Mara; 'kkosky@golder.com'  
**Cc:** Mulkey, Cindy; Adams, Patty; Gibson, Victoria  
**Subject:** Lakeland Unit 3 Draft Permit - DEP File #1050004-018

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Thank you,

DEP, Bureau of Air Regulation

**Adams, Patty**

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**From:** Harvey, Mary  
**Sent:** Friday, February 16, 2007 3:04 PM  
**To:** 'little.james@epa.gov'  
**Cc:** Mulkey, Cindy; Adams, Patty  
**Subject:** FW: Lakeland Unit 3 Draft Permit - DEP File #1050004-018  
**Attachments:** 387DraftPermit - DEP File #1050004-018-AC-DRAFT.PDF; 387Intent - DEP File #1050004-018-AC-DRAFT.PDF; 387PublicNotice - DEP File #1050004-018-AC-DRAFT.PDF; 387TE - DEP File #1050004-018-AC-DRAFT.PDF; Signed Documents - DEP File #1050004-018-AC-DRAFT.pdf

Jim there are five files in the attachment box. Please click on the down arrow for the file that said Signed Documents etc.

Thanks,  
Mary

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**From:** Harvey, Mary  
**Sent:** Friday, February 16, 2007 2:56 PM  
**To:** 'timothy.bachand@lakelandelectric.com'; 'farzie.shelton@lakelandelectric.com'; Nasca, Mara; 'kkosky@golder.com'  
**Cc:** Mulkey, Cindy; Adams, Patty; Gibson, Victoria  
**Subject:** Lakeland Unit 3 Draft Permit - DEP File #1050004-018

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The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

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Thank you,

DEP, Bureau of Air Regulation

**Harvey, Mary**

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**From:** Mulkey, Cindy  
**Sent:** Friday, February 16, 2007 1:59 PM  
**To:** Harvey, Mary  
**Cc:** Adams, Patty; Linero, Alvaro  
**Subject:** Lakeland Unit 3 Draft Permit  
**Attachments:** 387TE.doc; 387Intent.DOC; 387PublicNotice.doc; 387DraftPermit.doc

Mary,  
Attached are the documents for the Lakeland draft permit to be issued today.  
I did not send the cover letter because you will be scanning it for the signature anyway.  
Let me know if you need anything else.

Thanks!  
Cindy

Cindy Mulkey  
Engineering Specialist  
Bureau of Air Regulation  
South Permitting Section  
(850) 921-8968  
FAX (850)921-9533  
SC 291-8968



# 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

February 16, 2007

*Electronically sent – Received Receipt requested.*

Mr. Timothy Bachand, Director, Energy Supply  
Lakeland Electric  
5010 East Lemon Street  
Lakeland, Florida 33805

Re: DEP File No. 1050004-018-AC (PSD-FL-387)  
C.D. McIntosh, Jr. Power Plant – Unit 3

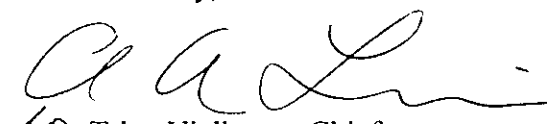
Dear Mr. Bachand:

Enclosed is one copy of the Draft Air Construction Permit authorizing the installation of Low NO<sub>x</sub> burners and an overfire air system on Unit 3 at the existing C.D. McIntosh Plant in Lakeland in Polk County. The Department's Intent to Issue PSD Permit, the Technical Evaluation and Preliminary Determination, and the Public Notice of Intent to Issue Air Construction Permit are also included.

The Public Notice must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to the requirements of Chapter 50, Florida Statutes. Proof of publication, such as a newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in denial of the permit modification.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, Program Administrator, at the letterhead address. If you have any questions regarding this matter, please contact Tom Cascio at (850)921-9526 or Mr. Linero at (850)921-9523.

Sincerely,

  
for Trina Vielhauer, Chief  
Bureau of Air Regulation

TLV/aal

Enclosures

In the Matter of an  
Application for Permit by:

Lakeland Electric  
501 East Lemon Street  
Lakeland, Florida 33805

*Authorized Representative:*

Mr. Timothy Bachand, Director Energy Supply

DEP File No. 1050004-018-AC  
Draft Permit No. PSD-FL-387  
C.D. McIntosh Jr. Power Plant Unit 3  
Low NO<sub>x</sub> Burners and Overfire Air  
Polk County, Florida

### **INTENT TO ISSUE PSD PERMIT**

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit pursuant to the rules for the Prevention of Significant Deterioration of Air Quality (PSD Permit), copy of DRAFT Permit attached, for the proposed project as detailed in the application specified above and the enclosed Technical Evaluation and Preliminary Determination for the reasons stated below.

Lakeland Electric (the Company) operates the C.D. McIntosh, Jr. Power Plant located at 3030 East Lake Parker Drive, Lakeland, Polk County, Florida. The Company applied for a permit to install of Low NO<sub>x</sub> burners and overfire air equipment in the furnace of the existing Unit 3 at the plant.

The Department has permitting jurisdiction under the provisions of Chapter 403.087, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. This action is not exempt from permitting procedures. The Department has determined that a PSD permit is required.

The Department intends to issue this PSD permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting 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 Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 30 days from the date of publication of Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee,

Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the construction permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within 14 days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 14 days of publication of the public notice or within 14 days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen 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 will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (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; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the construction permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

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Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

  
for Trina L. Vielhauer, Chief  
Bureau of Air Regulation

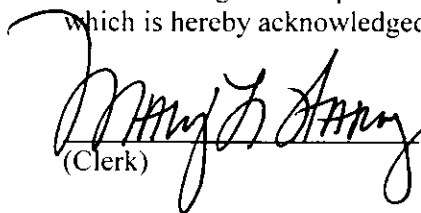
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Draft PSD Permit, Technical Evaluation and Preliminary Determination, Intent to Issue PSD Permit, and Public Notice of Intent to Issue PSD Permit, and all copies were sent electronically (with Received Receipt) before the close of business on 2/16/07 to the person(s) listed below.

Timothy Bachand, Authorized Representative: [timothy.bachand@lakelandelectric.com](mailto:timothy.bachand@lakelandelectric.com)  
Farzie Shelton, Lakeland Electric: [farzie.shelton@lakelandelectric.com](mailto:farzie.shelton@lakelandelectric.com)  
Mara Nasca, Southwest District Office: [mara.nasca@dep.state.fl.us](mailto:mara.nasca@dep.state.fl.us)  
Kennard F. Kosky, P.E., Golder Associates, Inc.: [kkosky@golder.com](mailto:kkosky@golder.com)  
Jim Little, EPA Region 4: [little.james@epa.gov](mailto:little.james@epa.gov)

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED,**  
on this date, pursuant to §120.52, Florida Statutes,  
with the designated Department Clerk, receipt of  
which is hereby acknowledged.

  
(Clerk) 2/16/07  
(Date)

**PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 1050004-018-AC, PSD-FL-387

Lakeland Electric  
C.D. McIntosh, Jr. Power Plant

Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit under the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit) to Lakeland Electric for the C.D. McIntosh, Jr. Power Plant located at 3030 East Lake Parker Drive, Lakeland, Polk County, Florida. The permit authorizes installation of Low NO<sub>x</sub> burners (LNBs) and an overfire air (OFA) system on the Unit 3 fossil fuel-fired steam generator. A Best Available Control Technology (BACT) determination was required for emissions of carbon monoxide (CO) pursuant to Rule 62-212.400(10)(c), Florida Administrative Code (F.A.C.). The company's name and address are: Lakeland Electric, 501 East Lemon Street, Lakeland, Florida 33805.

The Lakeland Electric (the Company) C.D. McIntosh Jr. facility includes three fossil fuel fired steam generators, two diesel powered generators, and two gas turbines. Fossil fuel fired steam generator Unit 3 is primarily fired with coal and lesser amount of petroleum coke and refuse derived fuel. Nitrogen oxides (NO<sub>x</sub>) emissions are controlled by earlier vintage LNBs. Particulate matter (PM/PM<sub>10</sub>) is controlled by an electrostatic precipitator (ESP). Sulfur dioxide (SO<sub>2</sub>) emissions are controlled by a wet limestone scrubber.

The Company proposes to install a newer generation set of LNBs, an overfire air (OFA) system and, at a later date, a selective catalytic reduction (SCR) system on Unit 3. The program will be conducted in at least two phases. The first will occur during an outage in early 2007 during which the new LNBs and the OFA system will be installed. A subsequent permitting review will address the future SCR system. The primary purpose of the project will be to decrease nitrogen oxides (NO<sub>x</sub>) emissions from Unit 3.

Under the first phase, the Company will install 32 complete Advanced Burner Systems (ABS) Opti-Flow LNB assemblies that accommodate the existing igniters and flame scanners and a complete OFA system including wind boxes on the front and rear walls with interconnecting ductwork to the existing secondary air.

One effect of the project is that it will cause increases of carbon monoxide (CO) emissions. The Department conducted a BACT determination and is proposing a limit of 0.20 pounds of CO per million British Thermal Units of heat input to the furnace (lb/mmBtu). The Department requires installation of a continuous emission monitoring system (CEMS) for determination of compliance with the BACT limit on a 30-day averaging basis.

Because the LNB and OFA installation is part of a phased project, the Department will reassess the BACT determination after reviewing data collected after the first phase. The review will be incorporated into the permit review conducted for the second phase of the overall project.

The Department conducted an ambient air modeling analysis and concluded that the present phase of the project will not cause or contribute to any violation of the ambient air quality standards for CO.

The Department will issue the Final PSD Air Construction Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within 14 days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 14 days of publication of the public notice or within 14 days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen 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 will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (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; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
Suite 4, 111 S. Magnolia Drive  
Tallahassee, Florida, 32301  
Telephone: 850/488-0114  
Fax: 850/922-6979

Department of Environmental Protection  
Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, Florida 33673-0926  
Phone: (813) 632-7600  
Fax: (813) 632-7665

The complete project file includes the permit application, draft air construction permit, technical evaluation, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project, Tom Cascio at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or [Tom.Cascio@dep.state.fl.us](mailto:Tom.Cascio@dep.state.fl.us), or call 850/921-9526 for additional information. Key documents may also be viewed at: [www.dep.state.fl.us/Air/permitting/construction.htm](http://www.dep.state.fl.us/Air/permitting/construction.htm) and clicking on Lakeland Electric C.D. McIntosh, Jr. Unit 3 in the power plant category.

**TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION**

Lakeland Electric  
C.E. McIntosh, Jr. Power Plant

Unit 3 Low NO<sub>x</sub> Burners and Overfire Air

Polk County

DEP File No. 1050004-018-AC



Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
Permitting South

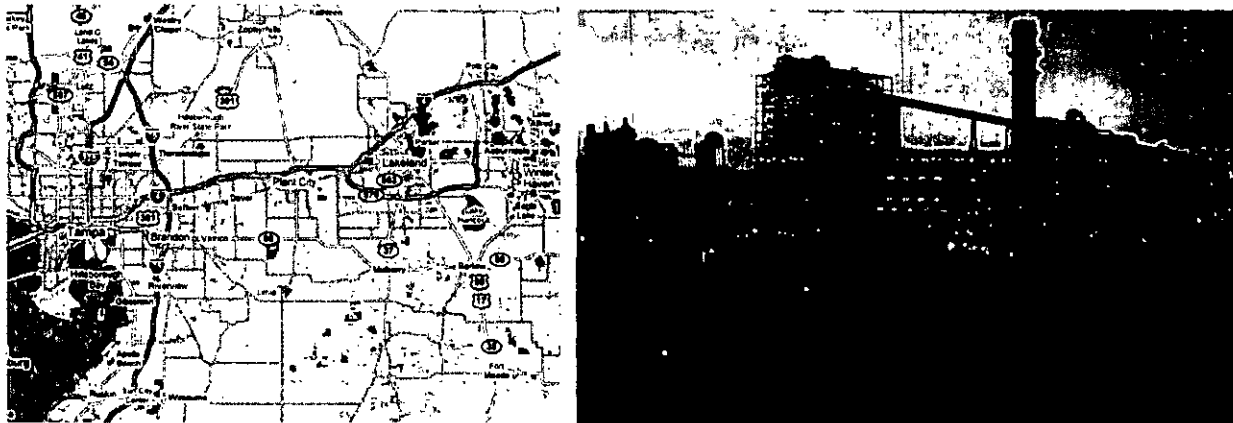
February 16, 2007

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 1. GENERAL PROJECT INFORMATION

### Facility Description and Location

This facility consists of three fossil fuel fired steam generators, two diesel powered generators, and two gas turbines. This existing facility is located at 3030 East Lake Parker Drive, Lakeland, Polk County; UTM Coordinates: Zone 17, 409.0 km East and 3106.2 km North; Latitude: 28° 04' 50" North and Longitude: 81° 55' 32" West. The location of the plant is shown in the map in the following figure. The photograph in the figure is Unit 3, which is the subject of this review.



**Figure 1. Location of Lakeland Electric and Photograph of C.D. McIntosh Jr. Unit 3.**

This site is in an area that is in attainment with (or designated as unclassifiable for) all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

### Major Regulatory Categories

The key regulatory provisions applicable to Unit 3 are:

*Title I, Part C, Clean Air Act (CAA):* The facility is located in an area that is designated as “attainment”, “maintenance”, or “unclassifiable” for each pollutant subject to a National Ambient Air Quality Standard. It is classified as a “fossil fuel-fired steam electric plant of more than 250 million BTU per hour of heat input”, which is one of the 28 Prevention of Significant Deterioration (PSD) Major Facility Categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year, therefore the facility is classified as a “major stationary source” of air pollution with respect to Rule 62-212.400 F.A.C., Prevention of Significant Deterioration of Air Quality.

*Title I, Section 111, CAA:* Units 3 is subject to Subpart D (Standards of Performance for Fossil Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971) of the New Source Performance Standards in 40 CFR 60.

*Title I, Section 112, CAA:* The facility is a “Major Source” of hazardous air pollutants (HAPs).

*Title IV, CAA:* The facility operates units subject to the Acid Rain provisions of the Clean Air Act.

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*Title V, CAA:* The facility is a Title V or "Major Source of Air Pollution" in accordance with Chapter 62-213, F.A.C. because the potential emissions of at least one regulated pollutant exceed 100 tons per year. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC).

*CAIR:* The facility is subject to the Federal Clean Air Interstate Rule (CAIR) in accordance with the Final Department Rules issued pursuant to CAIR as implemented by FDEP in Rule 62-296.470, Florida Administrative Code (FAC).

*CAMR:* The facility is subject to the Federal Clean Air Mercury Rule (CAMR) implemented by the Department in Rule 62-296.480, F.A.C.

### **Application Processing Schedule**

12/29/06: Received application to construct; incomplete.

01/23/07: Requested additional information.

01/29/07: Received additional information.

02/17/07: Distributed Intent to Issue Permit.

### **Description of Unit 3**

Unit 3 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 steam generator is supplied by Babcock and Wilcox. It is a "late 70's design" with a balanced draft design with 16 burners located on the front wall, and 16 located on the back wall. The burners are fed by two pulverizers located on the front wall and two on the back wall.

The air pollution control system presently on Unit 3 consists of: older vintage Low NO<sub>x</sub> burners (LNBS) to control nitrogen oxides (NO<sub>x</sub>); an electrostatic precipitator (ESP) to remove particulate matter (PM/PM<sub>10</sub>) including fly ash; and a wet limestone scrubber to reduce sulfur dioxide (SO<sub>2</sub>) emissions.

The most stringent of the key emission limitations applicable when combustion solid fuels are: 0.50 lb NO<sub>x</sub>/mmBtu (early Acid Rain compliance); 0.718 lb SO<sub>2</sub>/mmBtu (when burning petcoke); and 0.044 lb PM/mmBtu (when burning petcoke). There is no limitation on emissions of carbon monoxide (CO).

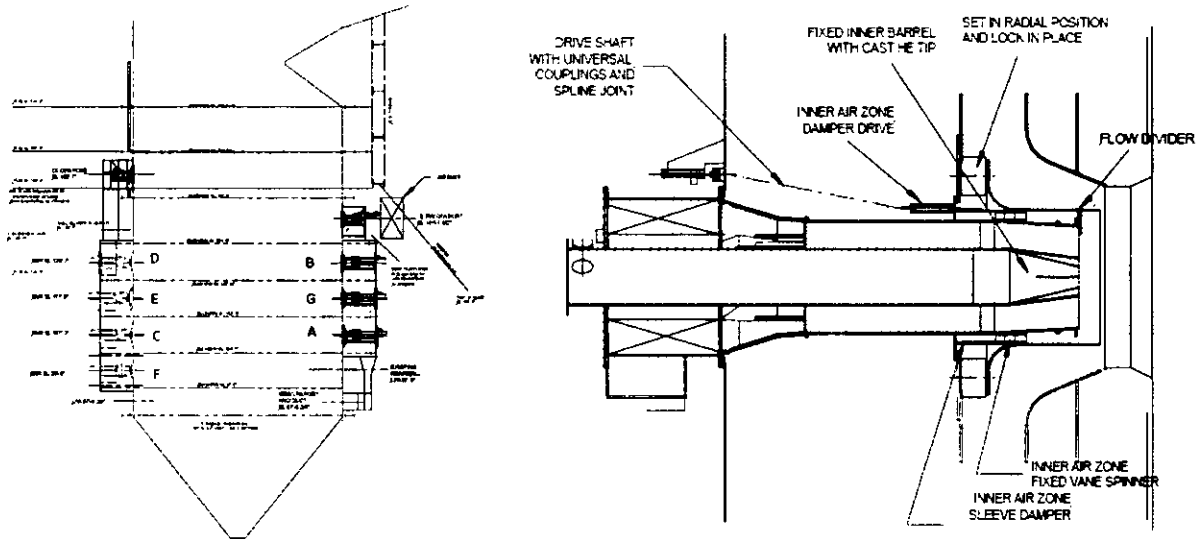
### **Purposed Project**

To provide full flexibility in implementing the federal cap and trade program for nitrogen oxides (NO<sub>x</sub>) under the Clean Air Interstate Rule (CAIR), the applicant proposes to install a newer generation set of Low NO<sub>x</sub> burners (LNBS), an overfire air (OFA) system and a selective catalytic reduction (SCR) system on Unit 3. The program will be conducted in at least two phases. The first will occur during an outage in early 2007 during which the new LNBS and the OFA system will be installed. A subsequent action will address the future SCR system.

Lakeland Electric will install 32 complete Advanced Burner Systems (ABS) Opti-Flow LNB assemblies that accommodate the existing igniters and flame scanners and a complete OFA system including wind boxes on the front and rear walls with interconnecting ductwork to the existing secondary air.

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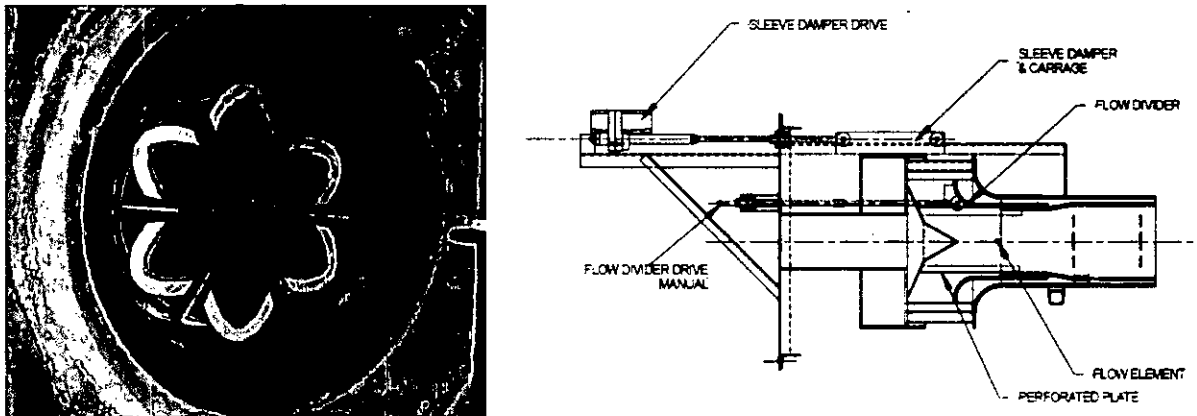
Figure 2 shows a typical front and rear wall-fired furnace arrangement as well as an igniter assembly. The igniter and burner levels are indicated by the symbols A through F in the arrangement shown for a furnace with similarities to Lakeland Unit 3.



**Figure 2. Key Components of a Wall-Fired Burner and Overfire Air System (Conn, 2006)**

The LNBs will allow minimization of  $\text{NO}_x$  by creation of localized oxygen starved conditions during the early phases of combustion in the lower furnace. The OFA system (above the level of the highest burners) then supplies additional air needed to promote fuel burnout.

Figure 3 includes a photograph of an Opti-Flow LNB for wall-fired units and a diagram of an Opti-Flow OFA port.



**Figure 3. Photograph of Opti-Flow LNB and Overfire Air Port (Conn, 2006)**

### Phasing of LNB/OFA and SCR Projects

The LNB/OFA and SCR projects are the two key components of steps in Lakeland Electric's CAIR strategy. Lakeland Electric submitted the two parts in a single application. However they will be constructed in two distinct phases during separate planned outages in 2007 and 2008. Following is the strategy employed by Lakeland Electric as explained in documentation to its governing Utility Commission Meeting of September 18, 2006.

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**Phase 1:** *Install low NO<sub>x</sub> burners and over-fired air system on Unit 3 in 2007 to reduce NO<sub>x</sub> emissions to approximately 0.3 lb/mmBtu. This will result in future savings of ammonia over the remaining service life of the unit and scope [SIC] reduction in Phase 2 described below; current estimated annual savings range from \$700k to \$1.2M per year depending on price of ammonia. The objective of this project will be to purchase and install all equipment in the Spring 2007.*

**Phase 2:** *Design and install a selective catalytic reduction (SCR) system for Unit 3 at an estimated cost of \$50 to 80 million. The SCR can be made smaller due to the NO<sub>x</sub> reduction gained in Phase 1.*

*The LNB and OFA project is designed to reduce NO<sub>x</sub> emissions from Unit 3 to low levels. The reductions are not actually required however they defray the costs of allowances required by the CAIR program that would need to be held or purchased by the utility.*

At this time the engineering and design is much clearer for the LNB/OFA project than for the SCR project. Although the environmental benefits are clear, the environmental effects of the second phase and of the two phases together are more difficult to assess at this time than the first phase. The Department has with Lakeland Electric's concurrence broken down the evaluation and permitting into separate actions. The present evaluation will be limited to Phase 1.

### 2. EFFECTS ON EMISSIONS FROM THE PROPOSED PROJECT

Clearly emissions of NO<sub>x</sub> will be reduced by the LNB/OFA project. For reference, in 2005 NO<sub>x</sub> emissions from Unit 3 were 0.44 lb/mmBtu. The plan to reduce emissions by the LNB/OFA to 0.3 lb/mmBtu is reasonable. For example, a similar LNB/OFA project at Tampa Electric Big Bend Station Unit 4 reduced emissions from approximately the same values registered at McIntosh Unit 3 to 0.20 lb/mmBtu in 2005.

Operating the burners with lesser amounts of air in the lower furnace will tend to increase the formation of carbon monoxide (CO). The presence of CO is one of the key drivers in reducing NO<sub>x</sub> formation in conventional power plants. The OFA compensates for the lesser air during initial combustion. However the total time of turbulent contact and the temperature will be reduced and less carbon burnout will be achieved compared with the present arrangement.

According to the supplier, Advanced Burner Technologies (a Siemens company):

*Average NO<sub>x</sub> emissions levels are expected to be in the 0.30 lb/mmBtu range following the installation of the Low NO<sub>x</sub> burners and OFA system.*

*In addition, average CO emission levels are not expected to exceed 200 ppm, or 50 ppm greater than the current operating level, whichever is greater.*

*VOC emission levels and particulate levels are not expected to change from the current levels following the installation of the new Low NO<sub>x</sub> burners and OFA system.*



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For reference, the CO values cited are approximately equal to 0.20 lb/mmBtu and 0.05 lb/mmBtu. Therefore, according to the manufacturer future CO emissions will be the greater of 0.20 lb/mmBtu or the present value plus 0.05 lb/mmBtu. The Department accepts the conclusions regarding the VOC and particulate matter. The increase in CO, however subjects the project to further review as described below.

### 3. HISTORICAL OPERATIONAL AND CO EMISSIONS INFORMATION

Table 1 is a summary of the heat input to Unit 3 reported in the Annual Operating Report (AOR) for the period 2001 through 2005. Year-to-year heat input and the fuel mix vary. In 2005 petcoke constituted about 9 percent (%) of the fuel mix while coal accounted for almost all of the remainder. No municipal solid waste (MSW) was reported in 2005.

<b>Table 1</b>					
<b>McIntosh Unit 3 Annual Heat Input, 2001-2005</b>					
Heat Input (mmBtu/yr)					
Year	Coal	Oil/Gas	Petcoke	MSW	Total
2005	24,739,432	88,531	2,202,682	0	27,030,645
2004	18,727,073	149,795	398,533	0	19,275,401
2003	23,556,583	170,380	541,898	62,413	24,331,274
2002	19,914,927	284,194	3,012,015	135,529	23,346,665
2001	22,521,423	480	3,868,418	261,180	26,651,501

Note: Heat Input values are calculated from Annual Operating Reports (AORs), based on fuel use and heat content.

Table 2 is a summary of the annual emissions reported in the AORs for the years 2001 through 2005 for CO.

<b>Table 2</b>				
<b>McIntosh Unit 3 Annual CO Emissions Reported in AORs, 2001-2005</b>				
Year	Pollutant	Tons	2-year Average Tons	Time Period
2005	CO	136	115	2004-2005
2004	CO	93	111	2003-2004
2003	CO	130	144	2002-2003
2002	CO*	157	177*	2001-2002
2001	CO	196		

Note: Data are taken from Annual Operating Reports. \*Indicates maximum 2-year average values.

Using the reported average emissions in tons per year and average heat input rates for baseline years 2001-2002, CO emissions are estimated to be approximately 0.014 lb/mmBtu. This is an extremely low value. According to the applicant, the value associated with the baseline estimate of 177 tons per year (TPY) is based on a single test conducted in 2001.

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It is possible that typical values are greater than recorded during the single test and that annual emissions have been underestimated. It is noted that Unit 3 is not subject to a CO limit or annual test requirement.

Using the emission factors from the supplier, annual CO emissions will be the greater of:

$$(0.20 \text{ lb/mmBtu}) \times (25,000,000 \text{ Btu/yr}) \times (1 \text{ ton}/2000 \text{ lb}) = 2,500 \text{ TPY or}$$

$$(0.05 + 0.014 \text{ lb/mmBtu}) \times (25,000,000 \text{ Btu/yr}) \times (1 \text{ ton}/2000 \text{ lb}) = 800 \text{ TPY}$$

Either value greatly exceeds the baseline value of 177 TPY.

CO data from conventional power plants are much less reliable than sulfur dioxide (SO<sub>2</sub>) and NO<sub>x</sub> data that are continuously monitored and periodically reported to the U.S. EPA for the purposes of the Acid Rain Program and, in the future, the CAIR Program.

### **4. REGULATIONS THAT APPLY TO THE PROJECT**

#### **State Regulations**

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code. These include: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards); and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures).

#### **General PSD Applicability**

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) program in accordance with Rule 62-212.400, F.A.C. A PSD review is required in areas currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit: 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 28 PSD Major Facility Categories defined in Rule 62-210.200, F.A.C.; or 5 tons per year of lead.

For new projects at existing PSD-major sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the "Significant Emission Rates" defined in Rule 62-210.200, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and applicants must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant, and evaluate the air quality impacts.

Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several regulated pollutants that exceed the Significant Emission Rates.

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## **PSD Applicability for the Project**

The C.D. McIntosh, Jr. Power Plant is a major facility under Department Rules. Because there will be a physical change with the addition of the LNBs and the OFA system causing an increase in CO emissions greater than 100 TPY a review pursuant to the Rules for the Prevention of Significant Deterioration (PSD) and a BACT determination are required for this project.

It is noted that since 1992 and until 2005 there was an exemption from PSD Review for increases in emissions of pollutants caused by installation of "Pollution Control Projects" (PCPs). The purpose of the exemption as applied to power plants was primarily to exempt from the PSD rules increases caused by projects intended to reduce emissions of SO<sub>2</sub> and NO<sub>x</sub> such as required for compliance with the Acid Rain regulations.

It was generally agreed that as long as PCPs were on balance "environmentally beneficial" and no national ambient air quality standards were exceeded and substantial decreases in acid rain pollutants were realized, then significant emissions of collateral emissions such as CO were allowable. Therefore during that period of time quite a number of PCPs were conducted that caused significant collateral increases of CO and (in the case of SCR projects) sulfuric acid mist that were not subjected to PSD or a BACT determination.

Also during the same period, very few conventional power projects were subjected to PSD in any manner and very few new coal-fired units were built. Almost all new projects were gas-fueled combustion turbines that operate in simple cycle or combined cycle modes. Therefore little effort was made to gather and assess CO data from conventional units. Also the New Source Performance Standards applicable to power plants do not regulate CO.

## **4. BACT DETERMINATION FOR THE LNB/OFA PROJECT**

### **BACT Methodology.**

A determination of the "Best Available Control Technology (BACT)" is required for each of these pollutants, which is defined in Rule 62-212.200, F.A.C. as:

*An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account:*

- 1. Energy, environmental and economic impacts, and other costs;*
- 2. All scientific, engineering, and technical material and other information available to the Department; and*
- 3. The emission limiting standards or BACT determinations of Florida and any other state; determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.*

*If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.*

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*Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.*

*In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63.*

### **CO BACT Evaluation Provided by the Applicant**

The following discussion is the evaluation provided by the applicant:

*The CO emissions result from incomplete combustion of the fuel. CO emissions are controlled by good combustion practices. The furnace is currently operated for high-combustion efficiency, which will inherently minimize the production of CO. After the implementation of the project, the operation of the boilers will continue to maximize combustion efficiency while reducing CO emissions.*

*Theoretically, CO emissions can be reduced by passing the flue gas over an oxidation catalyst at a suitable temperature (900 to 1,000°F). In practice, this technology has several unknowns and disadvantages, including the following:*

- 1. No utility pulverized coal-fired boilers are operating with catalytic CO control systems and it would be difficult to locate an oxidation catalyst in the proper temperature zone in a boiler.*
- 2. Oxidation catalyst can convert up to 70 percent of SO<sub>2</sub> to SO<sub>3</sub>.*
- 3. There is a lack of experience with large-scale operation of this technology using particulate-laden gases from coal-fired boilers. Oxidation catalysts can be easily eroded and fouled by silica and trace metals in the flue gas.*
- 4. The temperature profile of the flue gas does not match the temperature requirements of typical catalysts which would have to be installed within the boiler make such application extremely difficult.*
  - a. Use of an undemonstrated catalyst technology would reduce the availability and reliability of the plant (e.g., catalyst plugging).*
  - b. The high costs to install and operate the system (additional pressure drop, catalyst replacement and disposal, etc.) are without corresponding demonstrated needs or benefits. Design and operation of the boilers to efficiently combust the fuel will minimize CO emissions. The additional costs to further lower emissions are not justified.*

*A review of the BACT/LAER (best available control technology/lowest achievable emission rate) Clearinghouse and individual permits from states indicates that BACT emission limits established over the last 5 years range from 0.10 to 0.16 lb/mmBtu for new units. Combustion control is the primary method used to control CO emissions.*

*Efficiently burning the coal represents BACT for control of CO emissions although Unit 3 is not a new unit. A CO emission rate for the existing Unit 3 pulverized coal boiler of 0.20 lb/mmBtu limit is proposed as BACT. Although recently permitted projects have lower limits, the project does not include the construction of a new boiler, but the addition of new burners, OFA and SCR.*

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*CO formation is a function of combustion efficiency, boiler design, and residence time and as such the BACT limits of new construction boilers are not directly applicable to the project. As an existing boiler, the proposed limit of 0.20 lb/mmBtu heat input is proposed as BACT. In addition, air quality impacts of the proposed project are not significant.*

### **Department Evaluation**

The Department does not necessarily agree with the evaluation of the applicant. To make a thorough BACT determination would require that Lakeland Utilities conduct a CO test program to more accurately quantify present CO emissions and to obtain data from plants that have already implemented LNB/OFA projects.

Some of the same arguments regarding oxidation catalyst erosion and conversion of SO<sub>2</sub> to SO<sub>3</sub> are typically made for SCR systems such as planned for Phase 2. The Department does not necessarily agree with those arguments and solutions are often found to mitigate the claimed effects. However the Department agrees that oxidation catalyst is not indicated for this project.

Further structural changes can also be made to increase the residence time after addition of OFA and before some of the convective passes. Those changes are not indicated for this project.

The Department does not rule out consideration of greater burn out residence times or oxidation catalyst on modifications in general or on new units. However in the special case of units previously subject to the PCP exemption and implementing projects pursuant to CAIR, it is reasonable to limit the scope of technologies and options in a BACT review. Therefore the Department will consider "Good Combustion Practices" as the technology to achieve BACT limits for this project.

In very recent years, a number of BACT determinations have been made for new units by other state agencies. However they often, although not always, are based on supplier statements (such as those submitted for the Lakeland Unit 3 LNB/OFA project) and there is usually little or no supporting data. There has not been consistency in the associated averaging time.

For example, a recently issued permit for the Longleaf Project in West Virginia included a CO BACT limitation of 0.11 lb/mmBtu on a 3-hour average based on proper boiler design and good combustion. A more recent determination was made for the Longleaf Project in Georgia with a two-tier BACT determination of 0.15 lb/mmBtu on a 3-hour basis and 0.30 lb/mmBtu on a 30-day basis. Notably, the reported CO emissions from Unit 3 are much less than either of these values.

Because of the phased nature of the project and the need to collect additional data, the Department will conduct its BACT review as provided by the PSD rules as applied to phased projects. The Department will set an initial limit of 0.20 lb/mmBtu on a 30-day basis.

The Department will require installation of a continuous emission monitoring system (CEMS). CEMS have been used throughout the industry as a cost-effective means for documenting compliance with BACT limits. There will be a requirement for the CEMS to be calibrated and used to demonstrate compliance by October 1, 2007. Based upon additional data, the Department may adjust the CO limits in Phase 2.

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One high CO BACT determination of 0.55 lb/mmBtu (30-day basis, CEMS) was recently set for an OFA project at two 615 MW cyclone burner units in Missouri that are fueled with Powder River Basin Coal (PRB). In its review, the agency was very sympathetic to the applicant's circumstances due to the decision by the Washington DC Circuit Court that vacated the PCP provisions. The EPA Region commented:

*Therefore, we recommend that the department supplement the record with additional analysis that explains why the New Madrid units are incapable of meeting 0.45, 0.40, 0.35 or some lower threshold for CO. Any engineering analysis, vendor studies, or other information from similar retrofit units would be a useful supplement to the record.*

It is noted that a final optimization of the degree to which Lakeland Electric will rely on the LNB/OFA system versus the SCR system will not be made until completion of Phase 2. The optimization is also important because operating the furnace with very high CO emissions can cause the fly ash to contain excessive carbon as indicated by greater "loss on ignition" (LOI) properties. This can have ramifications on the salability of the fly ash and the fate of any additional mercury collected on the higher LOI fly ash.

The Department will require submittal of additional information including the data collected during initial operation of Phase 1 to adjust the CO BACT determination for Phase 2. The Department notes that this approach will not be followed in general and is not intended for reviews at new units. It is intended strictly for projects previously subject to the previously discussed PCP exemption and making retrofits for CAIR.

### 5. AIR QUALITY IMPACT ANALYSIS

#### Introduction

The proposed project will increase emissions of carbon monoxide (CO) at levels in excess of PSD significant amounts. CO is a criteria pollutant and has Ambient Air Quality Standards (AAQS), significant impact levels and de minimis monitoring levels defined for it.

#### Major Stationary Sources in Polk County

The current largest stationary sources of CO in Polk County are listed below. The information is from annual operating reports submitted to the Department.

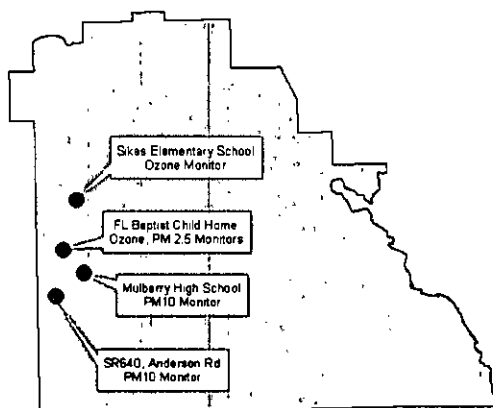
**Table 3. Largest Sources of CO in Polk County (2005)**

<u>Owner</u>	<u>Site Name</u>	<u>TPY</u>
<b>Lakeland Electric</b>	<b>C.D. McIntosh, Jr. Power Plant (after LNB/OFA)</b>	<b>3188</b>
Cutrale Citrus Juices USA	Cutrale Citrus Juices USA, Inc	787
Wheelabrator Ridge	Ridge Generating Station	493
Citrosuco North America	Citrosuco North America	383
Citrus World	Citrus World	308
<b>Lakeland Electric</b>	<b>C.D. McIntosh, Jr. Power Plant (existing)</b>	<b>204</b>

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## Air Quality and Monitoring in the Polk County

The Florida Department of Environmental Protection Southwest District operates five monitors at four sites measuring PM<sub>10</sub>, PM<sub>2.5</sub> and ozone. The 2006 monitoring network is shown in the figure below.



**Figure 4. Southwest District Polk County Ambient Air Monitoring Network**

No CO monitors are operated by the Department in Polk County. However, a CO monitor is operated by the Hillsborough County Environmental Protection Commission in nearby Plant City. Measured ambient air quality information is summarized in the following table.

**Table 3. Ambient Air Quality Concentrations Nearest to Project Site (2005)**

Pollutant	Location	Averaging Period	Ambient Concentration				
			High	2nd High	Mean	Standard	Units
PM <sub>10</sub>	Lakeland	24-hour	44	40		150 <sup>a</sup>	ug/m <sup>3</sup>
		Annual			21	50 <sup>b</sup>	ug/m <sup>3</sup>
SO <sub>2</sub>	Plant City	3-hour	15	13		500 <sup>a</sup>	ppb
		24-hour	6	5		100 <sup>a</sup>	ppb
		Annual			2	20 <sup>b</sup>	ppb
NO <sub>2</sub>	Plant City	Annual			7	53 <sup>b</sup>	ppb
CO	Plant City	1-hour	2	2		35 <sup>a</sup>	ppm
		8-hour	2	2		9 <sup>a</sup>	ppm
Ozone	Lakeland	1-hour	.099	.096		0.12 <sup>c</sup>	ppm
		8-hour	.085	.078		0.08 <sup>c</sup>	ppm

\* The Mean does not satisfy summary criteria due to missing data.

a - Not to be exceeded more than once per year

b - Arithmetic mean

c - Not to be exceeded on more than an average of one day per year over a three-year period

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The highest measured values of all pollutants, including CO, are all less than the respective National Ambient Air Quality Standards (NAAQS).

### Air Quality Impact Analysis

#### Significant Impact Analysis

Significant Impact Levels (SILs) are defined for CO. A significant impact analysis is performed on CO to determine if the proposed project can cause an increase in ground level concentrations greater than the SILs.

In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. The models used in this analysis and any required subsequent modeling analyses are described below. The highest predicted short-term concentrations predicted by this modeling are compared to the appropriate SILs for the PSD Class II Areas (everywhere except the Chassahowitzka National Wildlife Refuge).

For the Class II analysis a combination of fence line, near-field and far-field receptors were chosen for predicting maximum concentrations in the vicinity of the project. The fence line receptors consisted of discrete Cartesian receptors spaced at 50-meter intervals around the facility fence line. The remaining receptor grid consisted of densely spaced Cartesian receptors at 100 meters apart starting at the property line and extending to 1.5 kilometers. Beyond 1.5 kilometers, Cartesian receptors with a spacing of 150 meters were used out to 3 kilometers from the facility.

If this modeling at worst-load conditions shows ground-level increases less than the SILs, the applicant is exempted from conducting any further modeling. If the modeled concentrations from the project exceed the SILs, then additional modeling including emissions from all major facilities or projects in the region (multi-source modeling) is required to determine the proposed project's impacts compared to the AAQS or PSD increments.

The applicant's initial CO air quality impact analyses for this project indicated that maximum predicted impacts from all pollutants are less than the applicable SILs for the Class II area (i.e. all areas except CNWR). These values are tabulated in the tables below and are compared with existing ambient air quality measurements from the local ambient monitoring network.

**Table 4. Maximum Projected Air Quality Impacts from C.D. McIntosh for Comparison to the PSD Class II Significant Impact Levels**

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	Significant Impact Level (ug/m <sup>3</sup> )	Baseline Concentrations 2005 Data (ug/m <sup>3</sup> )	Ambient Air Standards (ug/m <sup>3</sup> )	Significant Impact?
CO	8-Hour	63	500	2,300	10,000	NO
	1-Hour	165	2000	2,300	40,000	NO

Maximum predicted impacts from the project for CO are much less than the respective AAQS and the baseline concentrations in the area. CO concentrations are also less than the respective significant impact levels that would otherwise require more detailed modeling efforts.



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## Preconstruction Ambient Monitoring Requirements

A preconstruction monitoring analysis is done for those pollutants with listed de minimis impact levels. These are levels, which, if exceeded, would require pre-construction ambient monitoring. For this analysis, as was done for the significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. As shown in the following table, the maximum predicted impacts for CO with a listed de minimis impact level was less than this level. Therefore, no pre-construction monitoring is required for CO.

**Table 5. Maximum Air Quality Impacts for Comparison to the De Minimis Ambient Impact Levels.**

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	De Minimis Level (ug/m <sup>3</sup> )	Baseline Concentrations (ug/m <sup>3</sup> )	Impact Greater Than De Minimis?
CO	8-hour	63	575	2,300	NO

Based on the preceding discussions, the only additional air quality analysis required is for impacts on soils, vegetation, visibility, and of growth-related air quality modeling impacts.

## Models and Meteorological Data Used in the Air Quality Analysis

**PSD Class II Area:** The AERMOD modeling system was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area. The AERMOD modeling system incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including the treatment of both surface and elevated sources, and both simple and complex terrain. AERMOD contains two input data processors, AERMET and AERMAP. AERMAP is the terrain processor and AERMET is the meteorological data processor.

A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

AERMET meteorological data prepared by the Department used in the AERMOD model consisted of a concurrent 5-year period of hourly surface weather observations from the Tampa International Airport and twice-daily upper air soundings from the National Weather Service at Ruskin. The 5-year period of meteorological data was from 2001 through 2005. These stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

In reviewing this permit application, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in *NRDC v. Thomas*, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification should EPA revise the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## Additional Impacts Analysis

### Impact on Soils, Vegetation, and Wildlife:

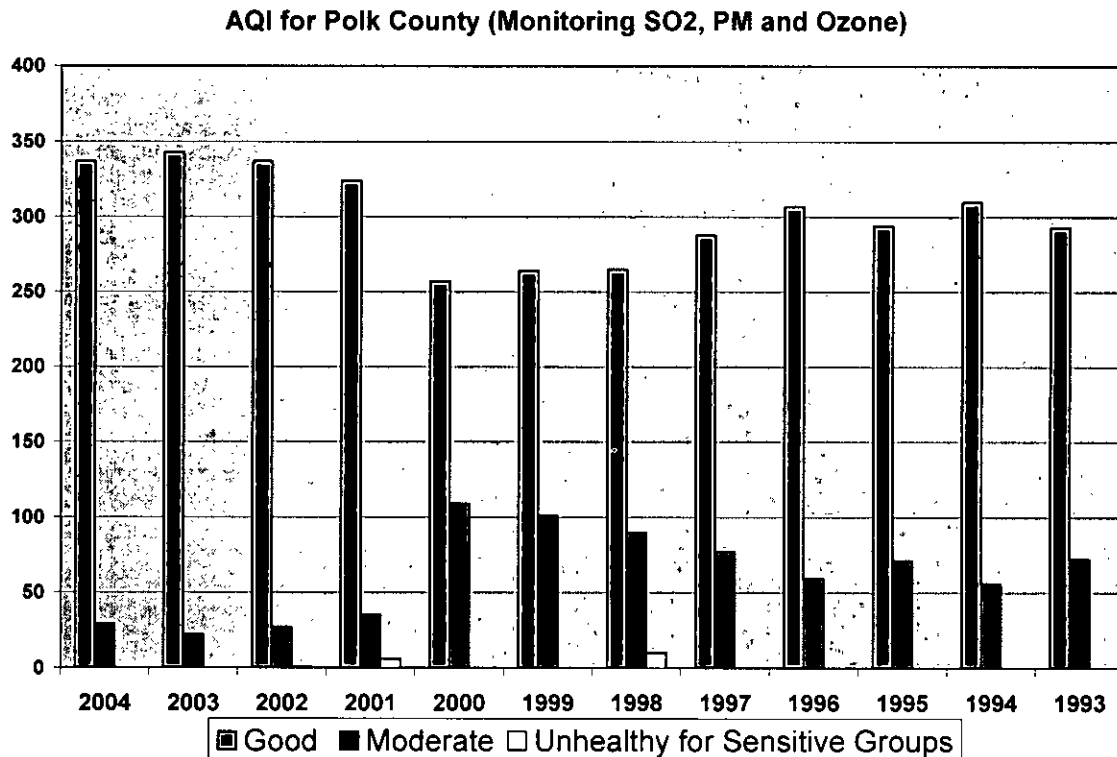
Emissions reductions for NO<sub>x</sub> will improve the current impact on soils, vegetation and wildlife from the C.D. McIntosh facility. Lower NO<sub>x</sub> emissions, an ozone precursor, will improve facility ozone impacts. The maximum ground-level concentrations predicted to occur for CO as a result of the proposed project will be considerably less than the respective AAQS and, according to the applicant, will be orders of magnitude less than levels of CO documented to have an adverse impact on vegetation.

### Growth-Related Impacts Due to the Proposed Project:

There will be short-term increases in the labor force to construct the project. According to the applicant, several dozens of additional workers will be needed over a limited amount of time. These temporary increases will not result in significant commercial and residential growth near the project.

### Growth-Related Air Quality Impacts since 1977:

According to the Census, the population of Polk County has increased from 321,652 in 1980 to 483,924 in 2000. In 2000, Polk County was the 9<sup>th</sup> most populous county in Florida. Despite population growth, the air quality has improved. The chart below shows the Air Quality Index, an index of daily air quality, for Polk County over twelve years. Since 2001, there has been an increase in the number of "Good" days and a decrease in the number of "Moderate" days. There has been no more than 1 day in the "Unhealthy" categories since 2001.



**Figure 5. Polk County Air Quality Index**

# **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

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## **4. 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. Tom Cascio 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.

**PERMITTEE:**

Lakeland Electric  
501 East Lemon Street  
Lakeland, Florida 33805

*Authorized Representative:*

Mr. Timothy Bachand, Director, Energy Supply

DEP File No. 1050004-018-AC, PSD-FL-387  
C.D. McIntosh, Jr. Power Plant  
Fossil Fuel Steam Generator Unit 3  
Low NO<sub>x</sub> Burners & Overfire Air  
Polk County, Florida  
Expires: June 1, 2008

**PROJECT AND LOCATION**

This permit authorizes the installation of low NO<sub>x</sub> burners (LNB) and an overfire air (OFA) system on the Unit 3 fossil fuel fired steam generator (EU 006) at Lakeland Electric's C.D. McIntosh, Jr. Power Plant. The facility is located at 3030 East Lake Parker Drive, Lakeland, Polk County, Florida.

**STATEMENT OF BASIS**

The applicant elects to install the Low NO<sub>x</sub> burners and overfire air system to provide full flexibility in implementing the federal cap and trade program for nitrogen oxides under the Clean Air Interstate Rule (CAIR). Because CAIR affords a regulated-facility the flexibility to evaluate market conditions to determine whether it will install controls, operate existing controls, or purchase allowances generated by other plants, the Department does not require the installation of this equipment nor its operation. This 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.). The Company is authorized to perform the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Draft

Joseph Kahn, Director  
Division of Air Resource Management

**SECTION I. GENERAL INFORMATION**

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**FACILITY DESCRIPTION**

The existing facility consists of three fossil fuel fired steam generators, two diesel powered generators, and two gas turbines. There are storage and handling facilities for solid and liquid fuels, ash and limestone. A wastewater treatment facility is also located on site.

**PROJECT DESCRIPTION**

This project includes a newer generation set of Low NO<sub>x</sub> burners (LNBs) and an overfire air (OFA) system on Unit 3 as the first phase of a project to provide full flexibility in implementing the federal cap and trade program for nitrogen oxides (NO<sub>x</sub>) under the Clean Air Interstate Rule (CAIR).

Lakeland Electric will install of 32 complete Advanced Burner Systems Opti-Flow LNB assemblies that accommodate the existing igniters and flame scanners and a complete OFA system including windboxes on the front and rear walls with interconnecting ductwork to the existing secondary air.

The applicant elects to install the Low NO<sub>x</sub> burners and overfire air system to provide full flexibility in implementing the federal cap and trade program for nitrogen oxides under the Clean Air Interstate Rule (CAIR). Because CAIR affords a regulated facility the flexibility to evaluate market conditions to determine whether it will install controls, operate existing controls, or purchase allowances generated by other plants, the Department does not require the installation of this equipment nor its operation.

**EMISSIONS UNITS**

This permit addresses the following emissions unit:

ID	Emission Unit Description
-006	McIntosh Unit 3 - Fossil Fuel Fired Steam Generator

**REGULATORY CLASSIFICATION**

*Title I, Part C, Clean Air Act (CAA):* The facility is a PSD-major facility pursuant to Rule 62-212, F.A.C.

*Title I, Section 111, CAA:* Unit 3 is subject to the New Source Performance Standards of Title 40 Code of Federal Regulations (40 CFR) 60, Subpart D (Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971).

*Title I, Section 112, CAA:* The facility is a "Major Source" of hazardous air pollutants (HAPs).

*Title IV, CAA:* The facility operates units subject to the Acid Rain provisions of the Clean Air Act.

*Title V, CAA:* The facility is a Title V or "Major Source of air pollution" in accordance with Chapter 62-213, F.A.C.

*CAIR:* The facility is subject to the Federal Clean Air Interstate Rule (CAIR) in accordance with the Final Department Rules issued pursuant to CAIR as implemented by FDEP in Rule 62-296.470, Florida Administrative Code (FAC).

*CAMR:* The facility is subject to the Federal Clean Air Mercury Rule (CAMR) implemented by the Department in Rule 62-296.480, F.A.C.

*Siting:* The facility was originally certified pursuant to the power plant siting provisions of Chapter 62-17, F.A.C.

**APPENDICES**

The following Appendices are attached as part of this permit.

Appendix BD                      Final BACT Determinations and Emissions Standards

## SECTION I. GENERAL INFORMATION

Appendix GC            General Conditions

### RELEVANT DOCUMENTS

The documents listed below are not a part of this permit; however, this information is specifically related to the permitting action and is on file with the Department.

- Application for installation of Low-NO<sub>x</sub> burners and overfire air system received December 29, 2006;
- Department's Request for Additional Information dated January 23, 2007;
- Response to Department's Request for Information received January 29, 2007;
- Department's Technical Evaluation and Preliminary Determination issued February 16, 2007; and
- Department's Final Determination issued concurrently with this Final Permit.

### PERMITTING AUTHORITY

All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. Copies of all such documents shall also be submitted to the Compliance Authority.

### COMPLIANCE AUTHORITY

All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department of Environmental Protection Southwest District Office, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926.

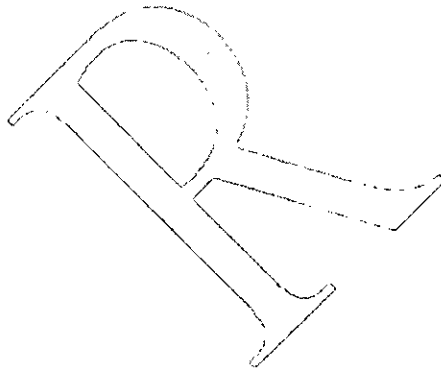
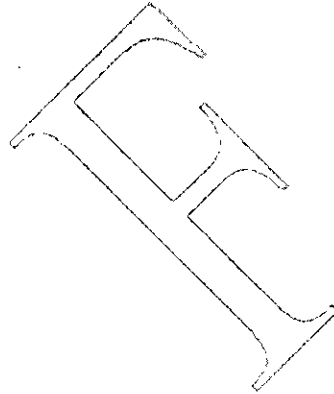
## SECTION II. ADMINISTRATIVE REQUIREMENTS

1. **General Conditions:** The permittee shall operate under the attached General Conditions listed in Appendix GC of this permit. General Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
2. **Applicable Regulations, Forms and Application Procedures:** Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the F.S.; Chapters 62-4, 62-204, 62-210, 62-212; 62-213, 62-296, and 62-297 of the F.A.C.; and the Title 40, Parts 51, 52, 60, and 63 of the Code of Federal Regulations (CFR), adopted by reference in Rule 62-204.800, F.A.C. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
3. **New or Additional Conditions:** For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
4. **Permit Expiration:** For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.080(3), F.A.C.]
5. **PSD Source Obligation:**
  - a. Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
  - b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
  - c. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.[Rule 62-212.400(12), F.A.C.]
6. **Modifications:** No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Chapters 62-210 and 62-212, F.A.C.]

## SECTION II. ADMINISTRATIVE REQUIREMENTS

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7. Title V Permit: This permit authorizes construction or modification of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]
8. Annual Operating Report: The Annual Operating Report shall be completed each year and submitted to the appropriate Department division, district or Department-approved local air pollution control program office by March 1<sup>st</sup> of each year. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. [Rule 62-210.370, F.A.C.]





### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
006	McIntosh Fossil Fired Steam Generator Unit 3 is a nominal 364 megawatt fossil fuel-fired steam generator. Unit 3 may burn coal, residual oil, natural gas and may co-fire refuse derived fuel and petroleum coke. The maximum heat input rate is 3,640 million Btu per hour. Unit 3 is equipped with an electrostatic precipitator (ESP), a flue gas desulfurization (FGD) system, and low-NO <sub>x</sub> burners to control emissions of particulate matter, sulfur dioxide (SO <sub>2</sub> ), and NO <sub>x</sub> . The unit is also equipped with an Acid Rain SO <sub>2</sub> continuous emissions monitor.

#### APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: The emission unit addressed in this section is subject to a Best Available Control Technology (BACT) determination for carbon monoxide (CO). [Rule 62-212.400, F.A.C.]
2. NSPS Requirements: The Unit 3 boiler shall comply with all applicable requirements of 40 CFR 60, listed below, adopted by reference in Rule 62-204.800(7)(b), F.A.C.
  - (a) Subpart A, General Provisions, including:
    - 40 CFR 60.7, Notification and Record Keeping
    - 40 CFR 60.8, Performance Tests
    - 40 CFR 60.11, Compliance with Standards and Maintenance Requirements
    - 40 CFR 60.12, Circumvention
    - 40 CFR 60.13, Monitoring Requirements
    - 40 CFR 60.19, General Notification and Reporting Requirements
  - (b) Subpart D, Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971.

#### ADMINISTRATIVE REQUIREMENTS

3. Relation to Other Permits: The conditions of this permit are in addition to those of any other air construction or operation permits for these units. [Rule 62-4.030, 62-4.210, and 62-210.300(1)(b), F.A.C.]

#### CONTROL TECHNOLOGY

4. Low NO<sub>x</sub> Burners and Overfire Air: The permittee is authorized to install, operate and maintain new low NO<sub>x</sub> burners and an overfire air system on Unit No. 3 boiler for the purpose of reducing NO<sub>x</sub> emissions. Equipment will include 32 complete Advanced Burner Systems (ABS) Opti-Flow LNB assemblies that accommodate the existing igniters and flame scanners and a complete OFA system including windboxes on the front and rear walls with interconnecting ductwork to the existing secondary air.

[Application, and Rule 62-296.470(CAIR), F.A.C.]

#### EMISSION STANDARDS

5. Carbon Monoxide (CO):
  - a. Emissions of CO shall not exceed 0.20 lb/mmBtu heat input on a 30-operating day rolling average as demonstrated by the required CEMS. This CO emission limit may be adjusted downward to make this limit more stringent based on the Department's reassessment of BACT during the subsequent phase of this project involving installation of selective catalytic reduction.

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

- b. Emissions of CO shall not exceed 0.20 lb/mmBtu on a 3-hr average during the initial compliance demonstration.

[62-210.200 (BACT), and 62-212.400(PSD), F.A.C.]

6. **Emissions Limits Subject to Revision:** Emissions of CO from Unit 3 shall not exceed the limitations specified in this permit. Based on results of compliance tests and continuous monitoring data, the Department will reassess the BACT determination in conjunction with the subsequent phase of the project which will include installation of selective catalytic reduction. The emission limit may be adjusted downward to make this limit more stringent provided that overall control attained for all air pollutants including CO, SO<sub>2</sub>, NO<sub>x</sub>, PM/PM<sub>10</sub>, sulfuric acid mist, and VOC is optimized. Such revision shall be based on data that represents a full range of operating conditions and a representative period of time. Such revision, if required by the Department, shall be in the form of a federally enforceable permit and shall be publicly noticed by the permittee.

[Rules 62-4.070(3), and 62-212.400(7)(a), F.A.C.]

#### EMISSIONS COMPLIANCE DEMONSTRATION

7. **Continuous Compliance with CO limits:** Upon certification of the CO CEMS, pursuant to condition 11 below, compliance with the 30 operating day rolling average shall be demonstrated using data collected from the required CEMS. [Rule 62-4.070(3), F.A.C.]
8. **Initial Compliance Demonstration:** Within 60 days of commencing operation, following installation of the Low-NO<sub>x</sub> burners and overfire air system, tests shall be conducted to determine emissions of CO and NO<sub>x</sub>. Tests shall be conducted between 90% and 100% of permitted capacity while firing a coal and petcoke blend or a blend of coal, petcoke and refuse derived fuel. Tests shall consist of three, 1-hour test runs. [Rule 62-297.310(7)(a)1, F.A.C.]
9. **Test Methods:** Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
7E	Determination of Nitrogen Oxide Emissions (Instrumental).
10	Determination of Carbon Monoxide Emissions

The methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

10. **Test Results.** Compliance test results shall be submitted to the Department's Southwest District Office no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.]

#### CONTINUOUS MONITORING REQUIREMENTS

11. **Performance Specifications and Quality Assurance:** The acceptability of the CO CEMS shall be evaluated by conducting the appropriate performance specification, as follows.

The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A within 180 calendar days of commencing operation following installation of the Low-NO<sub>x</sub> burners and overfire air system, but no later than October 1, 2007. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

[Rules 62-4.070(3), 62-210.200(BACT), F.A.C.]

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

#### 12. CEMS Data Requirements for CO BACT Standard:

- a. *Data Collection:* The CO CEMS shall monitor and record emissions during all operations and whenever emissions are being generated, including during episodes of startups, shutdowns, and malfunctions. All data shall be used, except for invalid measurements taken during monitor system breakdowns, repairs, calibration checks, zero adjustments, and span adjustments.
- b. *Operating Hours and Operating Days:* An hour is the 60-minute period beginning at the top of each hour. Any hour during which an emissions unit is in operation for more than 15 minutes is an operating hour for that emission unit. A day is the 24-hour period from midnight to midnight. Any day with at least one operating hour for an emissions unit is an operating day for that emission unit.
- c. *Valid Hourly Averages:* The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour.
  - 1) Hours that are not **operating** hours are not **valid** hours.
  - 2) For each operating hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, there is insufficient data, the 1-hour block average is not valid, and the hour is considered as "monitor unavailable."
- d. *Rolling 30-day average:* Compliance shall be determined after each operating day by calculating the arithmetic average of all the valid hourly averages from that operating day and the prior 29 operating days.
- e. *Monitor Availability:* The quarterly excess emissions report shall identify monitor availability for each quarter in which the unit operated. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter in which the unit operated for more than 760 hours. In the event the applicable availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving the required availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

[Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

#### **CEMS FOR ANNUAL EMISSIONS REPORTING**

13. CEMS Annual Emissions Requirement: The owner or operator shall use data from the CO CEMS when calculating annual emissions for purposes of computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for purposes of computing emissions pursuant to the reporting requirements of Rule 62-210.370(3), F.A.C. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit. [Rules 62-210.200, and 62-210.370(3), F.A.C.]

#### **REPORTING AND RECORD KEEPING REQUIREMENTS**

14. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to the Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. and in Appendix SC of this permit.  
[Rule 62-297.310(8), F.A.C.]

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

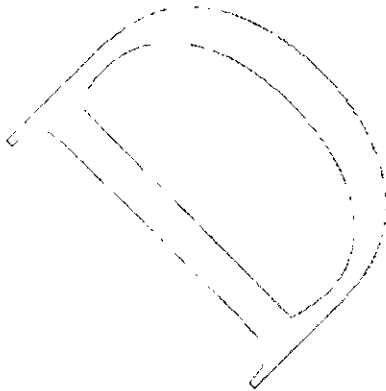
#### 15. Excess Emissions Reporting:

- a. *Malfunction Notification:* If emissions in excess of a standard (subject to the specified averaging period) occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. The Department may request a written summary report of the incident.
- b. *SIP Quarterly Report:* Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of CO emissions in excess of the BACT permit standard following the NSPS format in 40 CFR 60.7(c), Subpart A. In addition, the report shall summarize the CO CEMS system monitor availability for the previous quarter.
- c. *NSPS Reporting:* Within 30 days following the calendar quarter, the permittee shall submit the written reports required by 40 CFR 60 Subpart D (Standards of Performance for Fossil-Fuel Fired Steam Generators) for the previous semi-annual period to the Compliance Authority.

*{Note: If there are no periods of excess emissions as defined in 40 CFR, Part 60, Subpart D, a statement to that effect may be submitted with the SIP Quarterly Report to suffice for the NSPS Semi-Annual Report.}*

[Rules 62-4.130, 62-204.800, 62-210.700(6) and 62-212.400(BACT), F.A.C., and 40 CFR 60.7]

16. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating hours and emissions from this facility in accordance with 62-210.370. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]
17. Monthly CO CEMS Report: Upon certification of the CO CEMS the permittee shall submit, on a monthly basis, a report in electronic file format which includes Unit 3 CO, NO<sub>x</sub>, and heat input data. The report shall be submitted by the 15<sup>th</sup> of each month by mailing a compact disc to the Department's Bureau of Air Regulation Permitting South Section and shall include all hourly readings from the previous month. Alternatively, upon contacting the Bureau's project engineer, the file may be emailed to the appropriate BAR personnel.



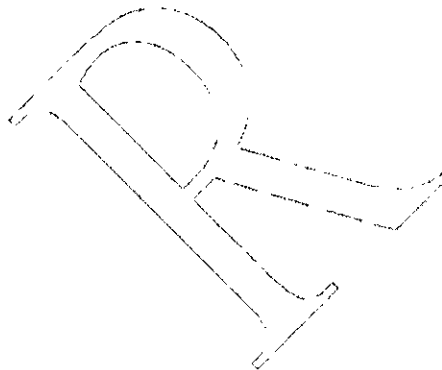
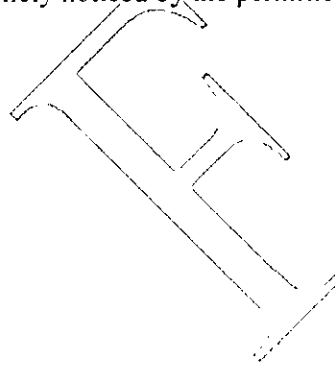
SECTION IV. APPENDICES

APPENDIX BD

The Department establishes the following standards as the Best Available Control Technology for the Unit 3 fossil fuel fired steam generator:

Emissions of CO shall not exceed 0.20 lb/mmBtu heat input on a 30-operating day rolling average as demonstrated by the required CEMS. An initial 3 run test will be used to demonstrate the initial compliance with a 3-hour 0.20 lb/mmBtu limit.

Based on results of compliance tests and continuous monitoring data, the Department will reassess the BACT determination in conjunction with the subsequent phase of the project which will include installation of selective catalytic reduction. The emission limit may be adjusted downward to make this limit more stringent provided that overall control attained for all air pollutants including CO, SO<sub>2</sub>, NO<sub>x</sub>, PM/PM<sub>10</sub>, sulfuric acid mist, and VOC is optimized. Such revision shall be based on data that represents a full range of operating conditions and a representative period of time. Such revision, if required by the Department, shall be in the form of a federally enforceable permit and shall be publicly noticed by the permittee.



**SECTION IV. APPENDICES**  
**APPENDIX GC. GENERAL CONDITIONS**

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy and records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

**SECTION IV. APPENDICES**  
**APPENDIX GC. GENERAL CONDITIONS**

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - a. Determination of Best Available Control Technology for carbon monoxide (X);
  - b. Determination of Prevention of Significant Deterioration for carbon monoxide (X);
  - c. Compliance with National Emission Standards for Hazardous Air Pollutants (Not Applicable to this permitting action); and
  - d. Compliance with New Source Performance Standards (Not Applicable to this permitting action).
14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.