

Adams, Patty

From: Harvey, Mary
Sent: Friday, March 23, 2007 8:59 AM
To: Adams, Patty
Subject: FW: Lakeland Electric - Facility #1050004-018-AC-FINAL

From: Zhang-Torres
Sent: Friday, March 23, 2007 8:46 AM
To: Harvey, Mary
Subject: RE: Lakeland Electric - Facility #1050004-018-AC-FINAL

We got it. Thanks.

Cindy

From: Harvey, Mary
Sent: Thursday, March 22, 2007 3:50 PM
To: 'timothy.bachand@lakelandelectric.com'; 'farzie.shelton@lakelandelectric.com'; 'andrew.nguyen@lakelandelectric.com'; Zhang-Torres; 'kkosky@golder.com'; 'little.james@epa.gov'; 'worley.gregg@epa.gov'; 'dee_morse@nps.gov'
Cc: Cascio, Tom; Adams, Patty; Gibson, Victoria
Subject: Lakeland Electric - Facility #1050004-018-AC-FINAL

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).

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Thank you,

DEP, Bureau of Air Regulation

4/3/2007

Adams, Patty

From: Harvey, Mary
Sent: Friday, March 23, 2007 9:26 AM
To: Adams, Patty
Subject: FW: Lakeland Electric - Facility #1050004-018-AC-FINAL

From: Bachand, Timothy [<mailto:Timothy.Bachand@lakelandelectric.com>]
Sent: Thursday, March 22, 2007 5:18 PM
To: Harvey, Mary
Subject: Read: Lakeland Electric - Facility #1050004-018-AC-FINAL

Your message

To: Timothy.Bachand@lakelandelectric.com
Subject:

was read on 3/22/2007 5:18 PM.

Adams, Patty

From: Harvey, Mary
Sent: Friday, March 23, 2007 9:26 AM
To: Adams, Patty
Subject: FW: FW: Lakeland Electric - Facility #1050004-018-AC-FINAL

-----Original Message-----

From: Worley.Gregg@epamail.epa.gov [mailto:Worley.Gregg@epamail.epa.gov]
Sent: Thursday, March 22, 2007 4:11 PM
To: Harvey, Mary
Subject: Re: FW: Lakeland Electric - Facility #1050004-018-AC-FINAL

I received the files

Gregg M. Worley
Chief, Air Permits Section
U.S. EPA Region 4
(404) 562-9141
fax (404) 562-9019

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Adams, Patty

From: Harvey, Mary
Sent: Thursday, March 22, 2007 3:50 PM
To: 'timothy.bachand@lakelandelectric.com'; 'farzie.shelton@lakelandelectric.com'; 'andrew.nguyen@lakelandelectric.com'; Zhang-Torres; 'kkosky@golder.com'; 'little.james@epa.gov'; 'worley.gregg@epa.gov'; 'dee_morse@nps.gov'
Cc: Cascio, Tom; Adams, Patty; Gibson, Victoria
Subject: Lakeland Electric - Facility #1050004-018-AC-FINAL
Attachments: 1050004.018.AC.F_pdf.zip

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Thank you,

DEP, Bureau of Air Regulation

4/3/2007

Adams, Patty

From: Harvey, Mary
Sent: Thursday, March 22, 2007 4:00 PM
To: Cascio, Tom; Adams, Patty
Subject: FW: Lakeland Electric - Facility #1050004-018-AC-FINAL

From: Nguyen, Andrew [mailto:Andrew.Nguyen@lakelandelectric.com]
Sent: Thursday, March 22, 2007 3:53 PM
To: Harvey, Mary
Subject: RE: Lakeland Electric - Facility #1050004-018-AC-FINAL

Dear Mary,

We received your email.

Thank you !!!

Andrew Thuy Nguyen

Environmental Permitting

Lakeland Electric

Phone: 863.834.8180

Fax: 863.834.8187

Cell: 863.255.4633

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]
Sent: Thursday, March 22, 2007 3:50 PM
To: Bachand, Timothy; Shelton, Farzie; Nguyen, Andrew; Zhang-Torres; kkosky@golder.com; little.james@epa.gov; worley.gregg@epa.gov; dee_morse@nps.gov
Cc: Cascio, Tom; Adams, Patty; Gibson, Victoria
Subject: Lakeland Electric - Facility #1050004-018-AC-FINAL

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Thank you,

DEP, Bureau of Air Regulation

4/3/2007



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

PERMITTEE

Lakeland Electric
501 East Lemon Street
Lakeland, Florida 33805

Authorized Representative:

Mr. Timothy Bachand, Director, Energy Supply

Air Permit No. 1050004-018-AC
C.D. McIntosh, Jr. Power Plant
Fossil Fuel Steam Generator Unit 3
Facility ID No. 1050004
SIC No. 4911
Low NO_x Burners & Overfire Air

Permit Expires: June 1, 2008

PROJECT AND LOCATION

This permit authorizes the installation of low NO_x 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

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Parts 60 and 63 of the Code of Federal Regulations (CFR). The permittee is authorized to install the proposed equipment 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).

CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices


Joseph Kahn, Director
Division of Air Resource Management

March 22, 2007
(Date)

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

NOTICE OF FINAL PERMIT

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

Air Permit No. 1050004-018-AC
PSD Permit No. PSD-FL-387
C.D. McIntosh, Jr. Power Plant
Low NO_x Burners & Overfire Air

Enclosed is Final Air Permit No. 1050004-018-AC, which authorizes the installation of low NO_x burners and an overfire air 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. As noted in the attached Final Determination, no changes were made. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S. by filing a Notice of Appeal pursuant to Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000); and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this "Notice of Final Permit" (including the "Final Permit") was sent by electronic mail (with return receipt requested) before the close of business on 3/22/07 to the persons listed:

Timothy Bachand, Authorized Representative: timothy.bachand@lakelandelectric.com

Farzie Shelton, Lakeland Electric: farzie.shelton@lakelandelectric.com

Andrew Nguyen, Lakeland Electric: andrew.nguyen@lakelandelectric.com

Mara Nasca, Southwest District Office: mara.nasca@dep.state.fl.us

Kennard F. Kosky, P.E., Golder Associates, Inc.: kkosky@golder.com

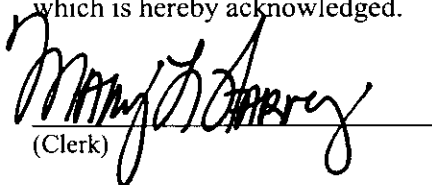
Jim Little, EPA Region 4: little.james@epa.gov

Mr. Gregg Worley, EPA Region 4: worley.gregg@epamail.epa.gov

Mr. Dee Morse, NPS: dee_morse@nps.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)

3/22/07
(Date)

FINAL DETERMINATION

PERMITTEE

Lakeland Electric
501 East Lemon Street
Lakeland, Florida 33805

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation, Permitting South Section
2600 Blair Stone Road, MS 5505
Tallahassee, Florida 32399-2400

PROJECT

Air Permit No. 1050004-018-AC (PSD-FL-387)

C.D. McIntosh, Jr. Power Plant – Unit 3

This permit authorizes the installation of low NO_x burners and an overfire air 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.

NOTICE AND PUBLICATION

The Department distributed an "Intent to Issue Permit" package on February 16, 2007. The applicant published the "Public Notice of Intent to Issue" in The Ledger on February 19, 2007. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed. The following comments were received from the Environmental Protection Agency (EPA) Region 4 Office on the Draft Permit Intent Package in e-mail memoranda dated March 15, 2007, and March 20, 2007.

Comment 1:

The final determination should contain a table that compares the PSD significant emission rates to the increases or decreases for the project (projected actual emissions minus baseline actual emissions).

Department Response:

This information is included in the table below. Backup data are attached to this Final Determination as two spreadsheets, titled Table 1 and Table 2.

FINAL DETERMINATION

| Pollutant | Baseline Actual Emissions* | Projected Actual Emissions | Net Emissions Increase | PSD Trigger |
|-----------------|----------------------------|----------------------------|------------------------|-------------|
| NO _x | 6584 | 1956** | -4628 | 40 |
| CO | 177 | 2500 | 2323 | 100 |
| PM | 438 | 443 | 5 | 25 |
| SO ₂ | 7416 | 7416 | 0 | 40 |
| VOC | 30 | 30 | 0 | 40 |
| SAM | 136 | 139 | 3 | 7 |
| Pb | 0.2 | 0.2 | 0 | 0.6 |

Note: All numbers above are in tons per year (tpy) units.

* Data are taken from 2001 to 2005 Department Annual Operating Reports (maximum 2-year average values).

** The applicant used its CAIR allowances to project its Projected Actual Emissions. were projected by applicant to .

Comment 2:

If the applicant wants to take advantage of any decreases in NSR regulated pollutants in the future (i.e., as part of a netting analysis) the reductions need to be made federally enforceable through a permitting action.

Department Response:

The Department acknowledges the comment and will advise the applicant accordingly. However, we are aware of no planned construction activities at the facility beyond the current phased project to install low NO_x burners, overfire air and and the subsequent phase to install a selective catalytic reduction system (SCR) on Unit 3. The applicant will have the opportunity to consider taking further enforceable limits during the processing of the SCR request.

CONCLUSION

The final action of the Department is to issue the permit.

Table 1

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | |
|------------|------------|---------------|------------|------------|------------|----------------------------------|
| Heat Input | 26,651,502 | 23,346,665 | 24,331,274 | 19,275,401 | 27,030,645 | mmBtu/year |
| Hours | 8324 | 7896 | 8017 | 6850 | 8268 | |
| CO | 195.7 | 157.4 | 129.5 | 93.1 | 136.1 | Tons |
| | | 176.55 | 143.45 | 111.3 | 114.6 | |
| | | | | | | |
| | 3201.77 | 2956.77 | 3034.96 | 2813.93 | 3269.31 | mmBtu/hour |
| | | | | | | |
| | 2665.15 | 2334.67 | 2433.13 | 1927.54 | 2703.06 | (mmBtu/year)*(.20 lb/mmBtu)/2000 |
| | | | | | | Tons/year |

Supplemental CO Calculations:

| | | | | | |
|-------------------------------|-----------------|----------|----------|----------|--------------------------|
| CO (TPY) with LNB | 2,499.91 | 2,383.90 | 2,180.33 | 2,315.30 | |
| CO (TPY) Increase | 2,323.36 | 2,240.45 | 2,069.03 | 2,200.70 | Maximum increase in bold |
| PSD Significant Emission Rate | 100 | 100 | 100 | 100 | |

Example of NOx Emission Reductions under FDEP CAIR Rules:

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | |
|--------------------------|----------|-----------|-----------|-----------|-----------|---------------------------------------|
| Existing NOx (TPY) | 7,140.50 | 6,026.53 | 6,263.32 | 3,780.56 | 6,338.09 | Existing NOx emissions from AOR |
| Existing NOx (lb/MMBtu) | 0.54 | 0.52 | 0.51 | 0.39 | 0.47 | Existing NOx emission rate calculated |
| Existing NOx (TPY) | | 6,583.51 | 6,144.92 | 5,021.94 | 5,059.33 | Existing 2-year average NOx emissions |
| CAIR Allowances | | 1,956.00 | 1,956.00 | 1,956.00 | 1,956.00 | CAIR allowances (FDEP, June 2006) |
| NOx (lb/MMBtu) with CAIR | | 0.17 | 0.16 | 0.20 | 0.14 | CAIR NOx emission rate |
| NOx (TPY) reductions | | -4,627.51 | -4,188.92 | -3,065.94 | -3,103.33 | CAIR reductions |

Table 2

0637630

1/22/07

Calculations of Sulfuric Acid Mist (SAM) Emissions for the Lakeland Electric McIntosh Unit 3 SCR Project

| Category | Units | Baseline | Projected | Mass Maximum (lb/hr) |
|---|------------|------------|------------|----------------------|
| Coal Sulfur Content | % | 2.04 | 2.04 | |
| Coal Heat Content | Btu/lb | 12,731 | 12,731 | |
| Uncontrolled SO ₂ Emissions ^a | lb/MMBtu | 3.20 | 3.20 | 11651.99 |
| Combustion Factor ^b | | 0.010 | 0.010 | |
| SAM from Combustion | lb/MMBtu | 0.047 | 0.047 | 169.50 |
| SCR Factor ^c | | 0.000 | 0.008 | |
| SAM produced by SCR | lb/MMBtu | 0.000 | 0.039 | |
| SAM Leaving SCR ^d | lb/MMBtu | 0.047 | 0.086 | 169.50 |
| Air Heater Factor ^e | | 0.850 | 0.850 | |
| SAM Leaving Air Heater | lb/MMBtu | 0.040 | 0.073 | 144.08 |
| ESP and Sorbent Injection ^f | | 0.630 | 0.350 | |
| SAM Leaving ESP | lb/MMBtu | 0.025 | 0.025 | 90.77 |
| FGD System Factor ^g | | 0.470 | 0.470 | |
| SAM Leaving FGD | lb/MMBtu | 0.012 | 0.012 | 42.66 |
| Maximum Heat Input | MMBtu/hr | 3,640 | 3,640 | |
| Capacity Factor (heat input basis) | | 78% | 78% | |
| Annual Heat Input (maximum 2-year average) | MMBtu/yr | 24,999,083 | 24,999,083 | |
| SAM Emissions | lb/MMBtu | 0.012 | 0.012 | |
| | ppm (est.) | 2.660 | 2.715 | |
| | lb/hr | 42.66 | 43.53 | |
| | tons/year | 146.494 | 149.496 | 3 |

Note: Baseline and Projected based on 2001-2002 data, which represents the maximum sulfur and heat input.

^a assumes 100 percent of sulfur converted to SO₂ for the purpose of calculating the amount of SAM produced; actual SO₂ emissions are 95 percent

^b average of high and low sulfur eastern bituminous factors (Southern Company, 2005).

^c 1 percent SO₃ produced from SO₂ oxidation; average of low and high sulfur fuel factors (Southern Company, 2005).

^d Excess ammonia slip will scavenge SAM. This is included in the ESP removal.

^e 15% recommended in Table 4-1 (0.85 factor) for high/medium sulfur eastern bituminous (Southern Company, 2005).

^f 0.63 based on average of high and low S coals (Southern Company, 2005); 0.35 for 65% removal with sorbent injection.

^g 0.47 representative of 53 percent removal in FGD system (Southern Company, 2005).

PM Calculations Lakeland Electric McIntosh Unit 3

| | |
|-----------------|---|
| Heat Input | 3,640 MMBtu/hr |
| Heat Content | 12,731 Btu/lb |
| Coal Usage | 285,923 lb/hr |
| Ash Content | 9% |
| Fly Ash | 80% |
| Fly Ash | 20,586.5 lb/hr |
| SAM Removed | 120.6 lb/hr |
| SAM PM (est.) | 159.9 lb/hr (Ca sorbent assumed as a maximum) |
| SAM PM (est.) | 0.78% of PM |
| ESP Removal | 99.10% based on Title V Application |
| PM Increase | 1.44 lb/hr |
| Capacity Factor | 78% |
| PM Increase | 4.94 tons/year |

SECTION 1. GENERAL INFORMATION

FACILITY AND PROJECT DESCRIPTION

Lakeland Electric operates the C.D. McIntosh, Jr. Power Plant, which is an electric services facility (SIC No. 4911). The plant currently consists of:

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.

This permit authorizes the installation of a newer generation set of Low NO_x 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_x) 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_x 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.

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

REGULATORY CLASSIFICATION

Title III: The facility IS a potential major source of hazardous air pollutants (HAPs).

Title IV: The facility OPERATES existing units subject to the Acid Rain provisions of the Clean Air Act (CAA).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The facility IS a PSD-major facility in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility OPERATES units subject to New Source Performance Standards in 40 CFR 60.

NEHSAP: The facility DOES NOT OPERATE units subject to National Emissions Standards for HAPs in 40 CFR 63.

RELEVANT DOCUMENTS

The following relevant documents are not a part of this permit, but helped form the basis for this permitting action: the permit application and additional information received to make it complete; the draft permit package including the Department's Technical Evaluation and Preliminary Determination; publication and comments; and the Department's Final Determination.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Department. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office. The mailing address and phone number of the Southwest District Office is: 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926; 813-632-7600.
3. Appendices: The following Appendices are attached as part of this permit: Appendix BD (Final BACT Determinations and Emissions Standards); Appendix GC (General Conditions).
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. 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 Bureau of Air Regulation with copies to each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNITS 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 _x burners to control emissions of particulate matter, sulfur dioxide (SO ₂), and NO _x . The unit is also equipped with an Acid Rain SO ₂ 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_x Burners and Overfire Air: The permittee is authorized to install, operate and maintain new low NO_x burners and an overfire air system on Unit No. 3 boiler for the purpose of reducing NO_x 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.]

SECTION 3. EMISSIONS UNITS SPECIFIC CONDITIONS

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.
- 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, SO₂, NO_x, PM/PM₁₀, 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_x burners and overfire air system, tests shall be conducted to determine emissions of CO and NO_x. 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.]

SECTION 3. EMISSIONS UNITS SPECIFIC CONDITIONS

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_x 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.]

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.]

SECTION 3. EMISSIONS UNITS SPECIFIC CONDITIONS

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.]
15. Excess Emissions Reporting:
- 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.
 - 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.
 - 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_x, and heat input data. The report shall be submitted by the 15th 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 4. APPENDIX BD -- BACT

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, SO₂, NO_x, PM/PM₁₀, 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 4. 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 any 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.