



Farzie Shelton, ChE; REM

Associate GM Technical Support

BUREAU OF AIR REGULATION

JUL 03 2008

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SENT VIA FEDEX

June 30, 2008

Mr. Jonathan Holtom, P.E.
Acting Title V Program Administrator
Bureau of Air Regulation
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Title V Permit Renewal Application
C.D. McIntosh, Jr. Power Plant 1050004

Dear Mr. Holtom:

Project No. : 1050004-023-AV

The above Title V operating permit renewal application falls due on July 5, 2008. Therefore, enclosed please find four (4) copies of this application signed by Mr. Ken Kosky P.E. of Golder Associates and certified by Mr. Timothy Bachand our Responsible Official. This application has been prepared in accordance with Rule 62-210, F.A.C. and instructions associated with DEP Form No. 62.210.900(1).

If you have any questions regarding the enclosed, please do not hesitate to contact me.

Sincerely,

Farzie Shelton

Enclosure

cc: FDEP SWD w/enclosure

City of Lakeland • Department of Electric Utilities

501 East Lemon Street • Lakeland, FL 33801-5050 • 863. 834.6603 • Fax 863. 834.8187 • Cell 863.430.8297

farzie.shelton@lakelandelectric.com

Page 1 of 1



**TITLE V PERMIT RENEWAL
FOR THE C.D. MCINTOSH, JR. PLANT
CITY OF LAKELAND,
DEPARTMENT OF ELECTRIC UTILITIES
(LAKELAND ELECTRIC)
*POLK COUNTY, FLORIDA***

Prepared For:

**City of Lakeland
Department of Electric Utilities
(Lakeland Electric)
501 East Lemon Street
Lakeland, Florida 33801**

Prepared By:

**Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500**

June 2008

0738-7749

**TITLE V PERMIT RENEWAL
FOR THE C.D. MCINTOSH, JR. PLANT
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DISTRIBUTION:

5 Copies – FDEP

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1 Copy – Golder Associates Inc.

APPLICATION FOR AIR PERMIT

LONG FORM



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: City of Lakeland, Department of Electric Utilities	
2. Site Name: C. D. McIntosh, Jr. Power Plant	
3. Facility Identification Number: 1050004	
4. Facility Location... Street Address or Other Locator: 3030 East Lake Parker Drive City: Lakeland County: Polk Zip Code: 33805	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Ms. Farzie Shelton, Assoc. General Manager of Technical Support	
2. Application Contact Mailing Address... Organization/Firm: Lakeland Electric Street Address: 501 East Lemon Street City: Lakeland State: FL Zip Code: 33801-5079	
3. Application Contact Telephone Numbers... Telephone: (863) 834-6603 ext. Fax: (863) 834-6362	
4. Application Contact E-mail Address: farzie.shelton@lakelandelectric.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 7/3/08	3. PSD Number (if applicable):
2. Project Number(s): 1050004-023-AV	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for the renewal of the Title V permit No. 1050004-016-AV with the proposed revisions in permit No. 1050004-020-AV for the C. D. McIntosh, Jr. Power Plant, which expires on December 31, 2008. The Title V permit renewal application due date is July 5, 2008. Per Title V permit No. 1050004-016-AV, the facility consists of three fossil fuel-fired steam generators (EUs 001, 005, and 006), two diesel peaking units (EUs 002 and 003), one gas turbine peaking unit (EU 004), and one combined cycle combustion turbine (EU 028).

Unregulated emissions units and/or activities at the facility are listed in Appendix U-1 of the Title V permit No. 1050004-016-AV (see Attachment MC-EU1-IV1).

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	McIntosh Unit 1 – Fossil Fuel Fired Steam Generator		
005	McIntosh Unit 2 – Fossil Fuel Fired Steam Generator		
006	McIntosh Unit 3 – Fossil Fuel Fired Steam Generator		
002, 003	Diesel Engine Peaking Units 2 and 3		
004	Gas Turbine Peaking Unit 1		
028	McIntosh Unit 5 – 370 MW Combined Cycle CT		

Application Processing Fee

Check one: Attached - Amount: \$ _____ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

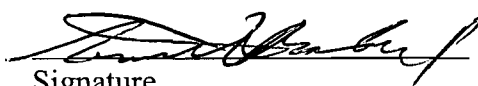
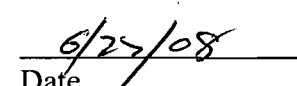
Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: () ext. Fax: ()
4. Owner/Authorized Representative E-mail Address:
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i> _____ Signature _____ Date

APPLICATION INFORMATION

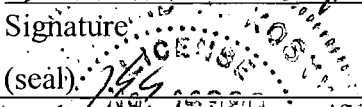
Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Mr. Timothy Bachand, P.E., Manager of Engineering
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: Lakeland Electric Street Address: 501 East Lemon Street City: Lakeland State: FL Zip Code: 33801-5079
4. Application Responsible Official Telephone Numbers... Telephone: (863) 834 - 6633 ext. Fax: (863) 834 - 5670
5. Application Responsible Official E-mail Address: timothy.bachand@lakelandelectric.com
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i> Subject: C.D. McIntosh, Jr. Power Plant Title V Permit Renewal Application  Signature  Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Kennard F. Kosky Registration Number: 14996
2. Professional Engineer Mailing Address... Organization/Firm: Golder Associates Inc.** Street Address: 6241 NW 23rd Street, Suite 500 City: Gainesville State: FL Zip Code: 32653
3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. Fax: (352) 336-6603
4. Professional Engineer E-mail Address:
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input checked="" type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i> Signature: <u><i>Kennard F. Kosky</i></u> Date: <u>6/25/08</u> (seal): 

* Attach any exception to certification statement.

**Board of Professional Engineers Certificate of Authorization #00001670.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 409.0 North (km) 3,106.2		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 28/04/50 Longitude (DD/MM/SS) 81/55/32	
3. Governmental Facility Code: 4	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
7. Facility Comment : The McIntosh Power Plant consists of three fossil fuel-fired steam generators (FFFSG), two diesel powered generators, one gas turbine peaking unit, and one combined-cycle combustion turbine. FFFSG Unit 1 is fired with No. 6 fuel oil, natural gas, and on-specification used oil (distillate oil is used as an ignitor). FFFSG Unit 2 is fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil. FFFSG Unit 3 is primarily fired with coal, refuse derived fuel and petroleum coke. Unit 5 consists of a Westinghouse 501G combustion turbine and is primarily fired with natural gas with distillate oil as a backup, heat recovery steam electric generator.			

Facility Contact

1. Facility Contact Name: Ms. Farzie Shelton, Assoc. General Manager of Technical Support
2. Facility Contact Mailing Address... Organization/Firm: Lakeland Electric Street Address: 501 East Lemon Street City: Lakeland State: FL Zip Code: 33801-5079
3. Facility Contact Telephone Numbers: Telephone: (863) 834-6603 ext. Fax: (863) 834-6362
4. Facility Contact E-mail Address: farzie.shelton@lakelandelectric.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: <div style="display: flex; justify-content: space-between;"> City: State: Zip Code: </div>
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () ext. Fax: ()
4. Facility Primary Responsible Official E-mail Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: Unit 1, Unit 2, Unit 3, and Unit 5 are regulated under Acid Rain, Phase II Unit 2 is subject to NSPS Subpart D, Unit 3 is subject to Subpart Da, Unit 5 is subject to Subpart GG. Gas turbine peaking Unit 1 is subject to Subpart GG.	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	
PM ₁₀	A	
VOC	A	
SO ₂	A	
NO _x	A	
HAPS	A	
HCl	A	
SAM	A	
CO	A	

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID's Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: MC-FI-C1 <input type="checkbox"/> Previously Submitted, Date: _____
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: See EU sections <input type="checkbox"/> Previously Submitted, Date: _____
3.	Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: MC-FI-C3 <input type="checkbox"/> Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1.	Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (existing permitted facility)
2.	Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input type="checkbox"/> Attached, Document ID: _____
3.	Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4.	List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6.	Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7.	Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8.	Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
10.	Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
 Attached, Document ID: _____ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
 Attached, Document ID: MC-FI-CV1 Not Applicable (revision application)
2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
 Attached, Document ID: MC-FI-CV2
 Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
 Attached, Document ID: MC-FI-CV3
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____
 Equipment/Activities Onsite but Not Required to be Individually Listed
 Not Applicable
5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: MC-FI-CV5 Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
 Attached, Document ID: See comment Not Applicable.

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

- Attached, Document ID: **MC-FI-CA1a** Previously Submitted, Date: _____
 Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

- Attached, Document ID: **MC-FI-CA1b** Previously Submitted, Date: _____
 Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

- Attached, Document ID: **MC-FI-CA2** Previously Submitted, Date: _____
 Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

- Attached, Document ID: _____ Previously Submitted, Date: _____
 Not Applicable (not a Hg Budget unit)

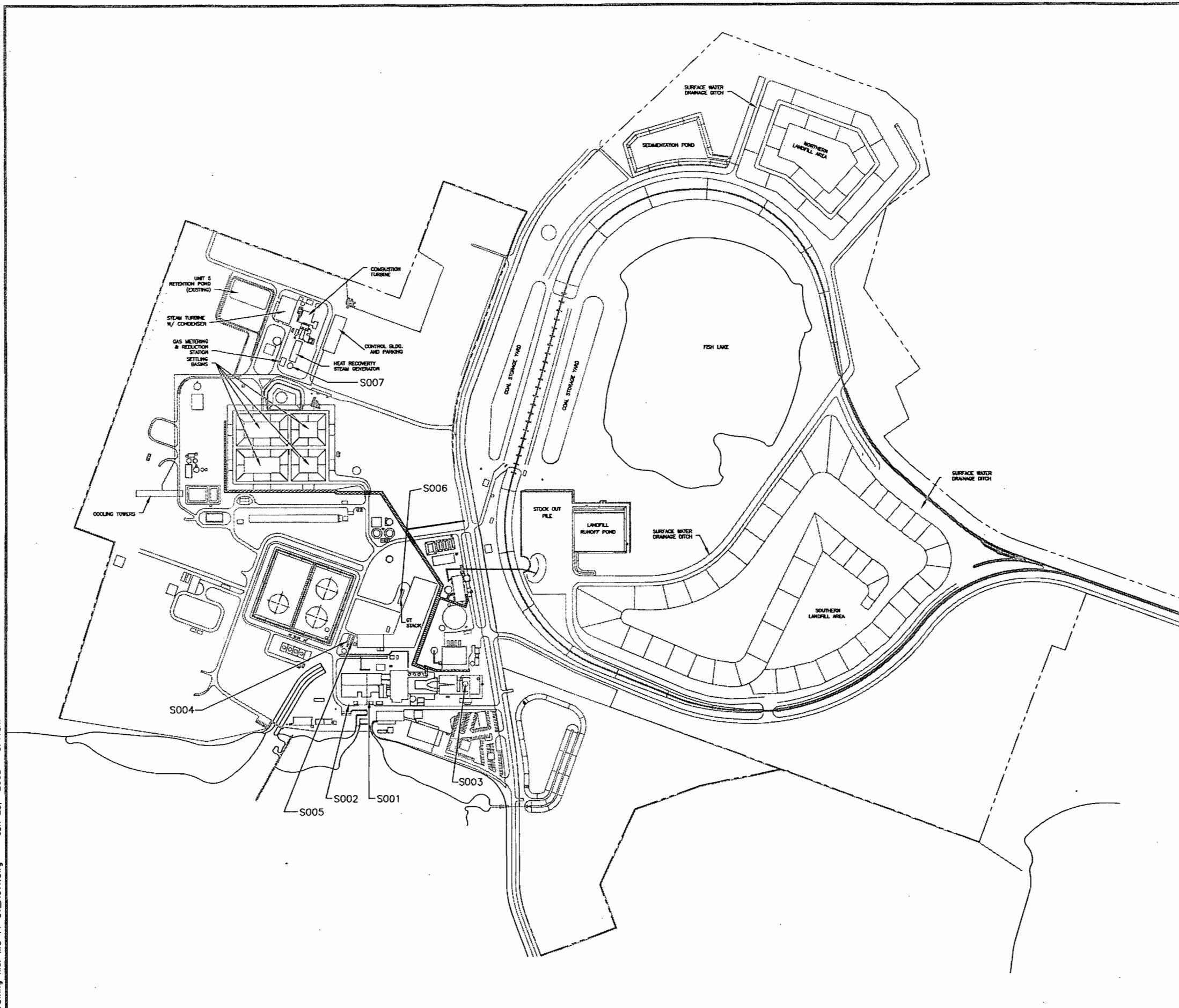
Additional Requirements Comment

City of Lakeland requests that the revised specific conditions in the proposed Title V permit 1050004-020-AV be incorporated in the renewed Title V permit.

ATTACHMENT MC-FI-C1

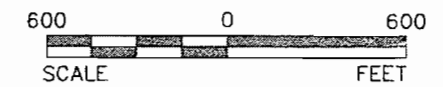
FACILITY PLOT PLAN

Drawing file: MC-FI-C1_Rev1.dwg Jun 25, 2008 - 9:41am



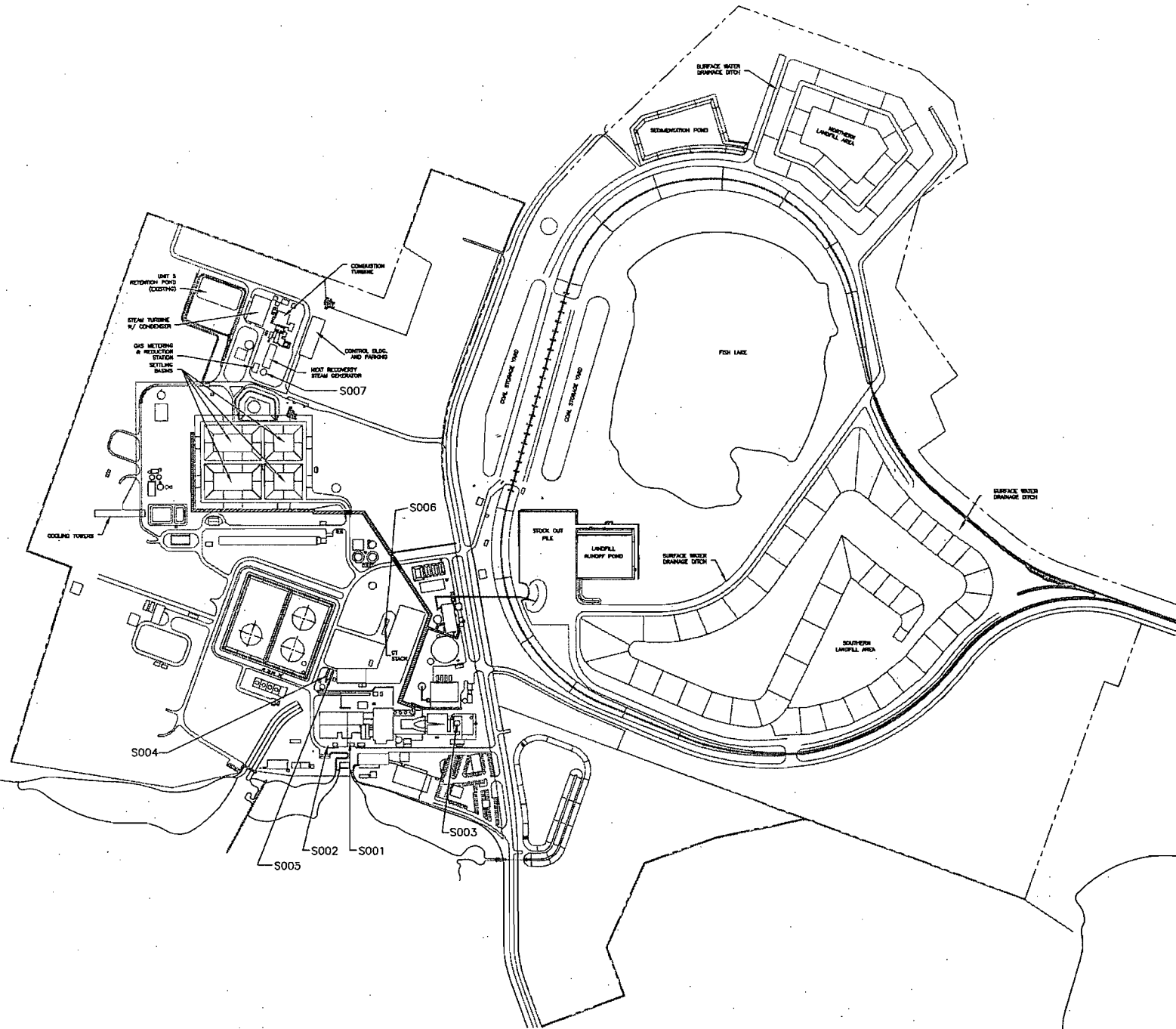
LEGEND

- PROPERTY BOUNDARY
- S001 UNIT 1
- S002 UNIT 2
- S003 UNIT 3
- S004 DIESEL ENGINE PEAKING UNIT 2
- S005 DIESEL ENGINE PEAKING UNIT 3
- S006 GAS TURBINE PEAKING UNIT 1
- S007 UNIT 5



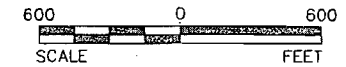
PROJECT		COL/McINTOSH POWER PLANT/FL	
TITLE		ATTACHMENT MC-FI-C1 FACILITY PLOT PLAN	
PROJECT No.	07387749	FILE No.	7646A
DESIGN		SCALE	AS SHOWN REV. 1
CADD	RL	6/25/08	
CHECK			
REVIEW			
			2
07387749/COL/MC-FI-C1.DWG			

Drawing file: MC-FI-C1_Rev1.dwg Jun 25, 2008 - 9:41am



LEGEND

- PROPERTY BOUNDARY
- S001 UNIT 1
- S002 UNIT 2
- S003 UNIT 3
- S004 DIESEL ENGINE PEAKING UNIT 2
- S005 DIESEL ENGINE PEAKING UNIT 3
- S006 GAS TURBINE PEAKING UNIT 1
- S007 UNIT 5



PROJECT			
COL/McINTOSH POWER PLANT/FL			
TITLE			
ATTACHMENT MC-FI-C1 FACILITY PLOT PLAN			
PROJECT No.	07387749	FILE No.	7848A
DESIGN		SCALE	AS SHOWN REV. 1
CADD	RL	6/25/08	
CHECK			2
REVIEW			



ATTACHMENT MC-FI-C3

**PRECAUTIONS TO PREVENT EMISSIONS OF
UNCONFINED PARTICULATE MATTER**

ATTACHMENT MC-FI-C3
PRECAUTIONS TO PREVENT EMISSIONS
OF UNCONFINED PARTICULATE MATTER

The facility has small amounts of unconfined particulate matter as a result of the operation of the facility.

The particulate matter includes:

- Fugitive dust from paved and unpaved roads;
- Fugitive particulates from the use of bagged chemical products;
- Coal handling and storage;
- Limestone handling and storage;
- FGD/ash by-products/handling and storage;
- Municipal solid waste;
- Ash cleaning; and
- Paint removal.

Operational measures are undertaken at the facility which also minimize particulate emissions, in accordance with 62-296.320(4)(c), F.A.C. (Condition 8, Section II, Title V Permit):

- Maintenance of paved areas;
- Regular mowing of grass and care of vegetation; and
- Limiting access to plant property by unnecessary vehicles.

ATTACHMENT MC-FI-CV1

LIST OF INSIGNIFICANT ACTIVITIES

ATTACHMENT MC-FI-CV1
LIST OF INSIGNIFICANT ACTIVITIES

A list of existing units and/or activities that are considered to be insignificant and are exempted from Title V permitting under Rule 62-213.430(6) is presented below. The exempt activities listed are also those activities that are included in Rules 62-210.300(3)(a) and 62-210.300(3)(b)1, which would not exceed the thresholds in Rule 62-213.430(6)(b)3.

Brief Description of Emissions Units and/or Activities:

1. Diesel Storage Tank (T-021).
2. Low Sulfur Diesel Storage Tank (T-023).
3. Heavy Oil Tank (T-113).
4. Heavy Oil Tank (T-114).
5. Heavy Oil Tank (T-115).
6. Used Oil Tank (T-116).
7. Comfort Heating <1 MMBtu/hr.
8. Non-Industrial Vacuum Cleaning.
9. Refrigeration Units.
10. Vacuum Pumps for Labs.
11. Steam Cleaning Equipment.
12. Sanders <5 square feet.
13. Space Heating Equipment; non-boilers.
14. Bakery Ovens.
15. Lab Equipment.
16. Brazing, Soldering, or Welding.
17. Laundry Dryers.
18. Fire and Safety Equipment.
19. Surface Coating <5% VOC, by volume.

ATTACHMENT MC-FI-CV2

IDENTIFICATION OF APPLICABLE REQUIREMENTS

**ATTACHMENT MC-FI-CV2
TITLE V CORE LIST**

Effective: 03/01/02

(Updated based on current version of FDEP Air Rules)

[**Note:** The Title V Core List is meant to simplify the completion of the "List of Applicable Regulations" for DEP Form No. 62-210.900(1), Application for Air Permit - Long Form. The Title V Core List is a list of rules to which all Title V Sources are presumptively subject. The Title V Core List may be referenced in its entirety, or with specific exceptions. The Department may periodically update the Title V Core List.]

Federal: *(description)*

40 CFR 61, Subpart M: NESHAP for Asbestos.

40 CFR 82: Protection of Stratospheric Ozone.

40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).

40 CFR 82, Subpart F: Recycling and Emissions Reduction.

State: *(description)*

CHAPTER 62-4, F.A.C.: PERMITS, effective 03-16-08

62-4.030, F.A.C.: General Prohibition.

62-4.040, F.A.C.: Exemptions.

62-4.050, F.A.C.: Procedure to Obtain Permits; Application.

62-4.060, F.A.C.: Consultation.

62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.

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

62-4.090, F.A.C.: Renewals.

62-4.100, F.A.C.: Suspension and Revocation.

62-4.110, F.A.C.: Financial Responsibility.

62-4.120, F.A.C.: Transfer of Permits.

62-4.130, F.A.C.: Plant Operation - Problems.

62-4.150, F.A.C.: Review.

62-4.160, F.A.C.: Permit Conditions.

62-4.210, F.A.C.: Construction Permits.

62-4.220, F.A.C.: Operation Permit for New Sources.

**CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL
REQUIREMENTS, effective 03-16-08**

62-210.300, F.A.C.: Permits Required.

62-210.300(1), F.A.C.: Air Construction Permits.

62-210.300(2), F.A.C.: Air Operation Permits.

62-210.300(3), F.A.C.: Exemptions.

62-210.300(5), F.A.C.: Notification of Startup.

62-210.300(6), F.A.C.: Emissions Unit Reclassification.
62-210.300(7), F.A.C.: Transfer of Air Permits.
62-210.350, F.A.C.: Public Notice and Comment.
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.
62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions.

62-210.900, F.A.C.: Forms and Instructions.
62-210.900(1), F.A.C.: Application for Air Permit – Title V Source, Form and Instructions.
62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.
62-210.900(7), F.A.C.: Application for Transfer of Air Permit – Title V and Non-Title V Source.

CHAPTER 62-212, F.A.C.: STATIONARY SOURCES - PRECONSTRUCTION REVIEW, effective 07-16-07

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 03-16-08

62-213.205, F.A.C.: Annual Emissions Fee.
62-213.400, F.A.C.: Permits and Permit Revisions Required.
62-213.410, F.A.C.: Changes Without Permit Revision.
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.
62-213.415, F.A.C.: Trading of Emissions Within a Source.
62-213.420, F.A.C.: Permit Applications.
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.
62-213.440, F.A.C.: Permit Content.
62-213.450, F.A.C.: Permit Review by EPA and Affected States
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.
62-213.900(7), F.A.C.: Statement of Compliance Form.

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS,
effective 02-07-08

62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter.

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.

**CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS
MONITORING,** effective 2-12-04

62-297.310, F.A.C.: General Test Requirements.

62-297.310(4), F.A.C.: Applicable Test Procedures.

62-297.310(7), F.A.C.: Frequency of Compliance Tests.

62-297.310(6), F.A.C.: Repaired Stack Sampling Facilities.

62-297.310(5), F.A.C.: Determination of Process Variables.

62-297.510(8), F.A.C.: Test Report.

62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

Miscellaneous:

CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests

CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective
07-01-98

CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 07-06-05

CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 02-09-99

CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and
Recycling, effective 09-10-96

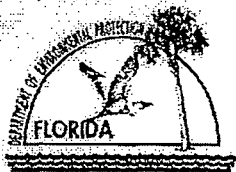
ATTACHMENT MC-FI-CV3

**COMPLIANCE REPORT, PLAN,
AND SIGNED CERTIFICATION**

Lakeland Electric

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

**2007 Annual Statement of Compliance
TV Source**



Department of Environmental Protection

Division of Air Resource Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

REASON FOR SUBMISSION (Check one to indicate why this statement of compliance is being submitted)

<input checked="" type="checkbox"/> Annual Requirement	<input type="checkbox"/> Transfer of Permit	<input type="checkbox"/> Permanent Facility Shutdown
--	---	--

REPORTING PERIOD*	REPORT DEADLINE**
January 1 through December 31 of 2007 (year)	March 1, 2008

*The statement of compliance must cover all conditions that were in effect during the indicated reporting period, including any conditions that were added, deleted, or changed through permit revision.

**See Rule 62-213.440(3)(a)2., F.A.C.

Facility Owner/Company Name: Lakeland Electric

Site Name: C.D. McIntosh, Jr. Power Plant Facility ID No. 1050004 County: Polk

COMPLIANCE STATEMENT (Check only one of the following three options)

A. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

B. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

C. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report and any reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number (note whether the permit condition has been added, deleted, or changed during certification period).
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

For each incident of deviation, as described in paragraph B. above, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

STATEMENT OF COMPLIANCE - TITLE V SOURCE

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am a responsible official (Title V air permit application or responsible official notification form on file with the Department) of the Title V source for which this document is being submitted. With respect to all matters other than Acid Rain program requirements, I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

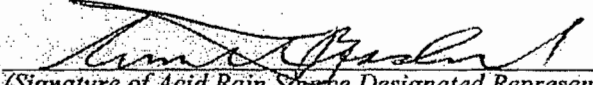

(Signature of Title V Source Responsible Official)

2/28/08
(Date)

Name: Mr. Timothy Bachand, P.E. Title: Manager of Engineering

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

I, the undersigned, am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.


(Signature of Acid Rain Source Designated Representative)

2/28/08
(Date)

Name: Mr. Timothy Bachand, P.E. Title: Manager of Engineering

{Note: Attachments, if required, are created by a responsible official or designated representative, as appropriate, and should consist of the information specified and any supporting records. Additional information may also be attached by a responsible official or designated representative when elaboration is required for clarity. This report is to be submitted to both the compliance authority (DEP district or local air program) and the U.S. Environmental Protection Agency(EPA) (U.S. EPA Region 4, Air and EPCRA Enforcement Branch, 61 Forsyth Street, Atlanta GA 30303).}

Lakeland Electric
 C. D. McIntosh, Jr. Power Plant
 Statement of Compliance

Regulatory Reference	Requirement	Description of Incident
Title V Air Operation Permit 1050004-016-AV, Section III, Condition D.10 and D.33 (EU 005, Unit #2),	<p>D.33. Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>D.10. Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:</p> <p>(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.</p>	<p>According to records on file for the past 4 excess emissions were within allowable st Excess emissions and MS downtime occu follows:</p> <p><u>Q1 2007</u> Opacity-Startup/shutdown Opacity-MS downtime-Other QA</p> <p><u>Q2 2007</u> Opacity-Startup/shutdown, unknown caus Opacity-MS downtime- QA</p> <p><u>Q3 2007</u> Opacity- Startup/shutdown Opacity-MS downtime- None</p> <p><u>Q4 2007</u> Opacity- None reported Opacity-MS downtime- None</p>

Regulatory Reference	Requirement	Description of Incident
<p>Title V Air Operation Permit 1050004-016-AV, Section III, Condition D.6 and D.17 (EU 005, Unit #2)</p>	<p>Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>D.6. No owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of: (1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel.</p> <p>D.17. The following fuel sampling and analysis program shall be used to demonstrate compliance with the sulfur dioxide standard and as the substitute for the sulfur dioxide continuous monitoring system:</p> <ol style="list-style-type: none"> a. Determine and record the as-fired fuel sulfur content, percent by weight, b. Record daily the amount of each fuel fired, the density of each fuel, and the percent sulfur content by weight of each fuel. c. Utilize the information in a. and b., above, to calculate the SO₂ emission rate to ensure compliance at all times. 	<p>According to records on file for the past 4 quarters, excess emissions were within allowable standards. Excess emissions and MS downtime occurred as follows:</p> <p><u>Q1 2007</u> SO₂- No excess emissions reported SO₂-MS downtime- malfunction, QA</p> <p><u>Q2 2007</u> SO₂- No excess emissions reported SO₂-MS downtime- QA, unknown cause</p> <p><u>Q3 2007</u> SO₂- No excess emissions reported SO₂-MS downtime- QA, monitor equipment malfunction</p> <p><u>Q4 2007</u> SO₂- No excess emissions reported SO₂-MS downtime-QA</p>

Regulatory Reference	Requirement	Description of Incident
<p>Title V Air Operation Permit 1050004-016-AV, Section III, Condition E.15 and E.40 (EU 006, Unit #3),</p>	<p>Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>Periods of excess emissions (EE) and monitoring systems (MS) downtime that shall be reported are defined as follows: (1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.</p>	<p>According to records on file for the past 4 quarters, excess emissions were within allowable standards. Excess emissions and MS downtime occurred as follows:</p> <p><u>Q1 2007</u> Opacity- Startup/shutdown, other known Opacity-MS downtime- QA</p> <p><u>Q2 2007</u> Opacity- Startup/shutdown, other known Opacity-MS downtime- QA</p> <p><u>Q3 2007</u> Opacity- Startup/shutdown, other known Opacity-MS downtime- None</p> <p><u>Q4 2007</u> Opacity- Startup/shutdown Opacity-MS downtime- Monitor malfunction</p>

Regulatory Reference	Requirement	Description of Incident
<p>Title V Air Operation Permit 1050004-016-AV, Section III, Condition E.6 and E.15 (EU 006, Unit #3)</p>	<p>Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>E.6. No owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:</p> <p>(2) 520 nanograms per joule heat input (1.2 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in 40 CFR 60.43(e).</p> <p>E.15. Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:</p> <p>(2) <u>Sulfur dioxide</u>. Excess emissions for affected facilities are defined as:</p> <p>(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under 40 CFR 60.43.</p>	<p>According to records on file for the past 4 quarters, excess emissions were within allowable standards. Excess emissions and MS downtime occurred as follows:</p> <p><u>Q1 2007</u> SO2- No excess emissions reported SO2-MS downtime-QA, monitor equipment malfunction, other unknown</p> <p><u>Q2 2007</u> SO2- No excess emissions reported SO2-MS downtime- QA, unknown cause</p> <p><u>Q3 2007</u> SO2- No excess emissions reported SO2-MS downtime-QA, monitor equipment malfunction, non-monitor equipment malfunction</p> <p><u>Q4 2007</u> SO2- No excess emissions reported SO2-MS downtime-QA, monitor equipment malfunction</p>
<p>Title V Air Operation Permit 1050004-016-AV, Section III, Condition F.9, F.28, F.40. (EU 028, Unit #5).</p> <p><i>Note- Condition F.28 incorrectly references F.59; it should reference F.49</i></p>	<p>Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>F.9. <u>Nitrogen Oxides</u>. If conventional SCR is installed in conjunction with the conversion to combined cycle operation, achievable short-term NO_x concentrations in the exhaust gas shall be demonstrated at base load during the first compliance test following installation not to exceed 7.5 ppmvd at 15% O₂ when firing natural gas. If conventional SCR catalyst is installed, NO_x emissions shall not exceed 7.5 ppmvd at 15% O₂ when firing</p>	<p>According to records on file for the past 4 quarters, excess emissions were within allowable standards. Excess emissions and MS downtime occurred as follows:</p> <p><u>Q1 2007</u> NOx- Start/shutdown, unknown cause NOx-MS downtime- None reported</p> <p><u>Q2 2007</u> NOx- Start/shutdown NOx-MS downtime- known cause</p>

Regulatory Reference	Requirement	Description of Incident
	<p><i>natural gas and 15 ppmvd at 15% O₂ when firing fuel oil on the basis of a 3-hour average, as measured by the CEMS.</i></p> <p>F.28. <u>Continuous compliance with the NO_x emission limits:</u> Continuous compliance with the NO_x emission limits shall be demonstrated with the CEM system based on the applicable averaging time of 24-hr block average (DLN or ULN technology) or a 3-hr average (if SCR is used). Based on CEMS data, a separate compliance determination is conducted at the end of each operating day (or 3-hr period when applicable) and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous operating day (or 3-hr period when applicable). Valid hourly emission rates shall not include periods of startup (including fuel switching), shutdown, or malfunction as defined in Rule 62-210.200, F.A.C., where emissions exceed the applicable NO_x standard. These excess emissions periods shall be reported as required in specific condition F.59. A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at least 15 minutes apart.</p> <p>F.40. <u>CEMS in lieu of Water to Fuel Ratio.</u> Subject to EPA approval, the NO_x CEMS shall be used in lieu of the water/fuel monitoring system for reporting excess emissions in accordance with 40 CFR 60.334(c)(1) specified in specific condition F.48. Subject to EPA approval, calibration of the water/fuel monitoring device required in 40 CFR 60.335(c)(2) and specified in specific condition F.24, will be replaced by the 40 CFR 75 certification tests of the NO_x CEMS. Upon request from DEP, the CEMS emissions rates for NO_x on Unit 5 shall be corrected to ISO conditions to demonstrate compliance with the NO_x standard established in 40 CFR 60.332.</p>	<p><u>Q3 2007</u> NO_x- Startup/shutdown NO_x-MS downtime- monitor equipment malfunction, non-monitor equipment malfunction, QA, other known cause</p> <p><u>Q4 2007</u> NO_x- Startup/shutdown NO_x-MS downtime-QA, monitor equipment malfunction, other known downtime</p>

Regulatory Reference	Requirement	Description of Incident
<p>Title V Air Operation Permit 1050004-016-AV, Section III, Condition F.14 (EU 028, Unit #5).</p>	<p>Excess emissions reports shall be submitted quarterly. However, this report does not relieve the owner or operator of the legal liability for violations.</p> <p>F.14. Excess emissions from this emissions unit resulting from startup, shutdown, malfunction or fuel switching shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed four hours in any 24 hour period for cold startup or two hours in any 24 hour period for other reasons unless specifically authorized by the Department for longer duration. During any calendar day in which a start-up, shutdown, or fuel change occurs, the following alternative NO_x limit applies:</p> <ol style="list-style-type: none"> a. 100 lbs/hr on the basis of a 24-hour average b. 200 lbs/hr on the basis of a 24-hour average if fuel oil is fired during a start-up or shut-down within the 24-hour period. 	<p>According to records on file for the past 4 quarters, excess emissions were within allowable standards. Excess emissions and MS downtime occurred as follows:</p> <p><u>Q1 2007</u> NO_x- Startup/shutdown, unknown cause NO_x-MS downtime- None reported</p> <p><u>Q2 2007</u> NO_x- No excess emissions reported. NO_x-MS downtime- None reported</p> <p><u>Q3 2007</u> NO_x- No excess emissions reported NO_x-MS downtime- monitor equipment malfunction, non-monitor equipment malfunction, QA, other known cause</p> <p><u>Q4 2007</u> NO_x- No excess emissions reported NO_x-MS downtime-QA, monitor equipment malfunction, other known monitor downtime</p>

ATTACHMENT MC-FI-CV5

RISK MANAGEMENT PLAN VERIFICATION

BEST AVAILABLE COPY



July 30, 2007

Risk Management Plan (RMP) Reporting Center
c/o CSC Suite 300
8400 Corporate Drive
New Carrollton, MD 20785

Attn: Updated Risk Management Plans
Via: Certified Mail

RE: Re-Submittal of RMP Submittal and Certification Statement
EPA ID #1000-0009-4738
McIntosh/Northside-City of Lakeland
3600 East Lake Parker Drive
Lakeland, Florida 33805

Dear Sir or Madam:

Please find enclosed the diskette containing the updated RMP information for Lakeland Electric, Lakeland, Florida. The facility, McIntosh/Northside is required to register, submit, and update in accordance with the CAAA section 112(r). Also, enclosed is the signed certification letter for the referenced facility.

Sincerely,

Douglas Doerr
Environmental Coordinator

501 E. Lemon St. ♦ Lakeland, Florida 33801

Phone: 863.834.6300 ♦ Fax: 863.834.6344

Also copy
delivery is des
we can return the cer
attach this card to the box
or on the front if space
Article Addressed to
MAY

ATTACHMENT MC-FI-CA1a
ACID RAIN PART APPLICATION

Acid Rain Part Application

For more information, see instructions and refer to 40 CFR 72.30, 72.31, and 74; and Chapter 62-214, F.A.C.

This submission is: New Revised Renewal

STEP 1

Identify the source by plant name, state, and ORIS or plant code.

C.D. McIntosh, Jr. Power Plant	FL	0676
Plant name	State	ORIS/Plant Code

STEP 2

Enter the unit ID# for every Acid Rain unit at the Acid Rain source in column "a."

If unit a SO₂ Opt-in unit, enter "yes" in column "b".

For new units or SO₂ Opt-in units, enter the requested information in columns "d" and "e."

a	b	c	d	e
Unit ID#	SO ₂ Opt-in Unit? (Yes or No)	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	New or SO ₂ Opt-in Units Commence Operation Date	New or SO ₂ Opt-in Units Monitor Certification Deadline
EU 001	No	Yes	N/A	N/A
EU 005	No	Yes	N/A	N/A
EU 006	No	Yes	N/A	N/A
EU 028	No	Yes	N/A	N/A

C.D. McIntosh, Jr. Power Plant

Plant Name (from STEP 1)

STEP 3

Read the standard requirements.

Acid Rain Part Requirements.

- (1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
 - (i) Submit a complete Acid Rain Part application (including a compliance plan) under 40 CFR Part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
 - (ii) Submit in a timely manner any supplemental information that the DEP determines is necessary in order to review an Acid Rain Part application and issue or deny an Acid Rain Part;
- (2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain Part application or a superseding Acid Rain Part issued by the DEP; and
 - (ii) Have an Acid Rain Part.

Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR Part 75, and Rule 62-214.420, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.
- (4) For applications including a SO₂ Opt-in unit, a monitoring plan for each SO₂ Opt-in unit must be submitted with this application pursuant to 40 CFR 74.14(a). For renewal applications for SO₂ Opt-in units include an updated monitoring plan if applicable under 40 CFR 75.53(b).

Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each Acid Rain unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another Acid Rain unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000, or the deadline for monitor certification under 40 CFR Part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain Part application, the Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

- (1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.
- (2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the DEP:
 - (i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR Part 75, provided that to the extent that 40 CFR Part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and

C.D. McIntosh, Jr. Power Plant

Plant Name (from STEP 1)

**STEP 3,
Continued.**

Recordkeeping and Reporting Requirements (cont)

- (iv) Copies of all documents used to complete an Acid Rain Part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72, Subpart I, and 40 CFR Part 75.

Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
- (6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities.

No provision of the Acid Rain Program, an Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
- (3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

**STEP 4
For SO₂ Opt-in
units only.**

In column "f" enter the unit ID# for every SO₂ Opt-in unit identified in column "a" of STEP 2.

For column "g" describe the combustion unit and attach information and diagrams on the combustion unit's configuration.

In column "h" enter the hours.

f	g	h (not required for renewal application)
Unit ID#	Description of the combustion unit	Number of hours unit operated in the six months preceding initial application
N/A	N/A	N/A

C.D. McIntosh, Jr. Power Plant
Plant Name (from STEP 1)

STEP 5

For SO₂ Opt-in units only.
(Not required for SO₂ Opt-in renewal applications.)

In column "i" enter the unit ID# for every SO₂ Opt-in unit identified in column "a" (and in column "f").

For columns "j" through "n," enter the information required under 40 CFR 74.20-74.25 and attach all supporting documentation required by 40 CFR 74.20-74.25.

i	j	k	l	m	n
Unit ID#	Baseline or Alternative Baseline under 40 CFR 74.20 (mmBtu)	Actual SO ₂ Emissions Rate under 40 CFR 74.22 (lbs/mmBtu)	Allowable 1985 SO ₂ Emissions Rate under 40 CFR 74.23 (lbs/mmBtu)	Current Allowable SO ₂ Emissions Rate under 40 CFR 74.24 (lbs/mmBtu)	Current Promulgated SO ₂ Emissions Rate under 40 CFR 74.25 (lbs/mmBtu)
N/A	N/A	N/A	N/A	N/A	N/A

STEP 6

For SO₂ Opt-in units only.

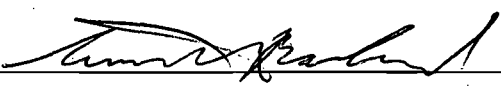
Attach additional requirements, certify and sign.

- A. If the combustion source seeks to qualify for a transfer of allowances from the replacement of thermal energy, a thermal energy plan as provided in 40 CFR 74.47 for combustion sources must be attached.
- B. A statement whether the combustion unit was previously an affected unit under 40 CFR 74.
- C. A statement that the combustion unit is not an affected unit under 40 CFR 72.6 and does not have an exemption under 40 CFR 72.7, 72.8, or 72.14.
- D. Attach a complete compliance plan for SO₂ under 40 CFR 72.40.
- E. The designated representative of the combustion unit shall submit a monitoring plan in accordance with 40 CFR 74.61. For renewal application, submit an updated monitoring plan if applicable under 40 CFR 75.53(b).
- F. The following statement must be signed by the designated representative or alternate designated representative of the combustion source: "I certify that the data submitted under 40 CFR Part 74, Subpart C, reflects actual operations of the combustion source and has not been adjusted in any way."

Signature N/A	Date N/A
---------------	----------

STEP 7

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

Certification (for designated representative or alternate designated representative only)	
I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.	
Subject: Acid Rain Part Application (C. D. McIntosh, Jr. Power Plant)	
Name Mr. Timothy Bachand, P.E.	Title Manager of Engineering
Owner Company Name Lakeland Electric	
Phone (863) 834-6633	E-mail address timothy.bachand@lakelandelectric.com
Signature 	Date 6/27/08

ATTACHMENT MC-FI-CA1b

NO_x COMPLIANCE PLAN



Farzie Shelton, ChE; REM

Associate GM Technical Support

CERTIFIED MAIL

June 30, 2008

U.S. Environmental Protection Agency
Clean Air Markets Division (6204J)
Attn: Phase II NO_x
1200 Pennsylvania Ave., NW
Washington, DC 20460

**RE: C.D. McIntosh, Jr. Power Plant ORIS Code 000676
Phase II NO_x Compliance Plan**

Dear Sirs:

Enclosed please find the completed Phase II NO_x Compliance Plan form (EPA form 7610-28) for the above referenced facility. Lakeland Electric, upon submitting its Title V permit renewal application to the local permitting authority, is required to submit one (1) copy of the form to U.S. EPA per 40 CFR 76.9. Mr. Timothy Bachand, our Designated Representative, has certified the form.

If you have any questions regarding the enclosed, please do not hesitate to contact me.

Sincerely,

Farzie Shelton

Enclosure

City of Lakeland • Department of Electric Utilities

501 East Lemon Street • Lakeland, FL 33801-5050 • 863. 834.6603 • Fax 863. 834.8187 • Cell 863.430.8297

farzie.shelton@lakelandelectric.com

Page 1 of 1

Phase II NO_x Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9

This submission is : New Revised

Step 1

Indicate plant name, State, and ORIS code from NADB, if applicable

C.D. McIntosh, Jr. Power Plant	FL	0676
Plant Name	State	ORIS Code

Step 2

Identify each affected Group 1 and Group 2 boiler using the boiler ID# from NADB, if applicable. Indicate boiler type: "GB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom. Indicate the compliance option selected for each unit.

	ID# 03 (EU006)	ID#	ID#	ID#	ID#	ID#
	Type DBW	Type	Type	Type	Type	Type
(a) Standard annual average emission limitation of 05.0 lb/mmBtu (for Phase I dry bottom wall-fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Standard annual average emission limitation of 4.0 lb/mmBtu (for Phase II tangentially fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Standard annual average emission limitation of .086 lb/mmBtu (for cyclone boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(j) NO _x Averaging Plan (include NO _x Averaging form)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(I)(A) (check the standard emission limitation applicable to any unit utilizing stack)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(l) Common stack pursuant to 40 CFR 75.17(a)(2)(I)(B) with NO _x Averaging (check the NO _x Averaging Plan box and include NO _x Averaging form)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C.D. McIntosh, Jr. Power Plant

Plant Name (from Step 1)

Step 2, cont'd

ID#	ID#	ID#	ID#	ID#	ID#
Type	Type	Type	Type	Type	Type

(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(I)(C), (a)(2)(iii)(B), or (b)(2)

(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)

(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing

(p) Repowering extension plan approved or under review

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Step 3

Read the standard requirements and certification, enter the name of the designated representative, sign &

Standard Requirements

General. This source is subject to the standard requirement in 40 CFR 72.9 (consistent with 40 CFR 76.8(e)(1)(I)). These requirements are listed in this source's Acid Rain Permit.

Special Provisions for Early Election Units

Nitrogen Oxides. A unit that is governed by approved early election plan shall be subject to an emissions limitation for NOx as provided under 40 CFR 76.8(a)(2) except as provided under 40 CFR 76.8(e)(3)(ii).

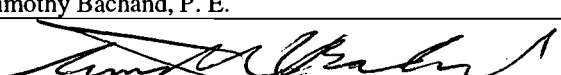
Liability. The owners and operators of a unit governed by an approved early election plan shall be liable for any violation of the plan or 40 CFR 76.8 at that unit. The owners and operators shall be liable, beginning January 1, 2000, for fulfilling the obligations specified in 40 CFR part 77.

Termination. An approved early election plan shall be in effect only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect. If the designated representative of the unit under an approved early election plan fails to demonstrate compliance with the applicable emissions limitation under 40 CFR 76.5 for any year during the period beginning January 1 of the first year the early election takes effect and ending December 31, 2007, the permitting authority will terminate the plan. The termination will take effect beginning January 1 of the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan. The designated representative of the unit under an approved early election plan may terminate the plan any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under 40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect. If an early election plan is terminated any year prior to 2000, the unit shall meet, beginning January 1, 2000, the applicable emissions limitation for NOx for phase II units with Group 1 boilers under 40 CFR 76.7. If an early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for NOx for Phase II units with Group 1 boilers under 40 CFR 76.7.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Subject: C.D. McIntosh, Jr. Power Plant Renewal Phase II NOx Compliance Plan Form

Name Timothy Bachand, P. E.	
Signature 	Date 8/22/08

ATTACHMENT MC-FI-CA2

CLEAN AIR INTERSTATE RULE (CAIR) PART

Clean Air Interstate Rule (CAIR) Part

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321 and 96.322; and Rule 62-296.470, F.A.C.

This submission is: New Revised Renewal

STEP 1

Identify the source by plant name and ORIS or EIA plant code

Plant Name: C.D. McIntosh, Jr. Power Plant	State: Florida	ORIS or EIA Plant Code: 0676
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STEP 2

In column "a" enter the unit ID# for every CAIR unit at the CAIR source.

In columns "b," "c," and "d," indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s).

For new units, enter the requested information in columns "e" and "f."

a	b	c	d	e	f
Unit ID#	Unit will hold nitrogen oxides (NO _x) allowances in accordance with 40 CFR 96.106(c)(1)	Unit will hold sulfur dioxide (SO ₂) allowances in accordance with 40 CFR 96.206(c)(1)	Unit will hold NO _x Ozone Season allowances in accordance with 40 CFR 96.306(c)(1)	New Units Expected Commence Commercial Operation Date	New Units Expected Monitor Certification Deadline
EU 001	X	X	X	N/A	N/A
EU 005	X	X	X	N/A	N/A
EU 006	X	X	X	N/A	N/A
EU 028	X	X	X	N/A	N/A

C.D. McIntosh, Jr. Power Plant

Plant Name (from STEP 1)

STEP 3

Read the standard requirements.

CAIR NO_x ANNUAL TRADING PROGRAM

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR NO_x source and each CAIR NO_x unit at the source shall:
 - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.122 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
 - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CC, and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x source and each CAIR NO_x unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HH, shall be used to determine compliance by each CAIR NO_x source with the following CAIR NO_x Emissions Requirements.

NO_x Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall hold, in the source's compliance account, CAIR NO_x allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NO_x emissions for the control period from all CAIR NO_x units at the source, as determined in accordance with 40 CFR Part 96, Subpart HH.
- (2) A CAIR NO_x unit shall be subject to the requirements under paragraph (1) of the NO_x Requirements starting on the later of January 1, 2009, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR NO_x allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO_x Requirements, for a control period in a calendar year before the year for which the CAIR NO_x allowance was allocated.
- (4) CAIR NO_x allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FF and GG.
- (5) A CAIR NO_x allowance is a limited authorization to emit one ton of NO_x in accordance with the CAIR NO_x Annual Trading Program. No provision of the CAIR NO_x Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO_x allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NO_x allowance to or from a CAIR NO_x unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO_x unit.

Excess Emissions Requirements.

If a CAIR NO_x source emits NO_x during any control period in excess of the CAIR NO_x emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO_x unit at the source shall surrender the CAIR NO_x allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AA, the Clean Air Act, and applicable state law.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the CAIR NO_x source and each CAIR NO_x unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
 - (i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NO_x unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
 - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Annual Trading Program.
 - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO_x Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO_x Annual Trading Program.
- (2) The CAIR designated representative of a CAIR NO_x source and each CAIR NO_x unit at the source shall submit the reports required under the CAIR NO_x Annual Trading Program, including those under 40 CFR Part 96, Subpart HH.

C.D. McIntosh, Jr. Power Plant

Plant Name (from STEP 1)

**STEP 3,
Continued**

Liability.

- (1) Each CAIR NO_x source and each CAIR NO_x unit shall meet the requirements of the CAIR NO_x Annual Trading Program.
- (2) Any provision of the CAIR NO_x Annual Trading Program that applies to a CAIR NO_x source or the CAIR designated representative of a CAIR NO_x source shall also apply to the owners and operators of such source and of the CAIR NO_x units at the source.
- (3) Any provision of the CAIR NO_x Annual Trading Program that applies to a CAIR NO_x unit or the CAIR designated representative of a CAIR NO_x unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NO_x Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x source or CAIR NO_x unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

CAIR SO₂ TRADING PROGRAM

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall:
 - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.222 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
 - (ii) [Reserved];
- (2) The owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CCC, for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR SO₂ source and each SO₂ CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHH, shall be used to determine compliance by each CAIR SO₂ source with the following CAIR SO₂ Emission Requirements.

SO₂ Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO₂ allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO₂ units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHH.
- (2) A CAIR SO₂ unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR SO₂ allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO₂ Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO₂ allowance was allocated.
- (4) CAIR SO₂ allowances shall be held in, deducted from, or transferred into or among CAIR SO₂ Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFF and GGG.
- (5) A CAIR SO₂ allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO₂ Trading Program. No provision of the CAIR SO₂ Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR SO₂ allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO₂ allowance to or from a CAIR SO₂ unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO₂ unit.

Excess Emissions Requirements.

If a CAIR SO₂ source emits SO₂ during any control period in excess of the CAIR SO₂ emissions limitation, then:

- (1) The owners and operators of the source and each CAIR SO₂ unit at the source shall surrender the CAIR SO₂ allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAA, the Clean Air Act, and applicable state law.

C.D. McIntosh, Jr. Power Plant

Plant Name (from STEP 1)

**STEP 3,
Continued**

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR SO₂ source and each CAIR SO₂ unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Department or the Administrator.

(i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO₂ unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO₂ Trading Program.

(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO₂ Trading Program or to demonstrate compliance with the requirements of the CAIR SO₂ Trading Program.

(2) The CAIR designated representative of a CAIR SO₂ source and each CAIR SO₂ unit at the source shall submit the reports required under the CAIR SO₂ Trading Program, including those under 40 CFR Part 96, Subpart HHH.

Liability.

(1) Each CAIR SO₂ source and each CAIR SO₂ unit shall meet the requirements of the CAIR SO₂ Trading Program.

(2) Any provision of the CAIR SO₂ Trading Program that applies to a CAIR SO₂ source or the CAIR designated representative of a CAIR SO₂ source shall also apply to the owners and operators of such source and of the CAIR SO₂ units at the source.

(3) Any provision of the CAIR SO₂ Trading Program that applies to a CAIR SO₂ unit or the CAIR designated representative of a CAIR SO₂ unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR SO₂ Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO₂ source or CAIR SO₂ unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

CAIR NO_x OZONE SEASON TRADING PROGRAM

CAIR Part Requirements.

(1) The CAIR designated representative of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall:

(i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.322 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and

(ii) [Reserved];

(2) The owners and operators of each CAIR NO_x Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NO_x Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the DEP under 40 CFR Part 96, Subpart CCCC, for the source and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHHH, and Rule 62-296.470, F.A.C.

(2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHHH, shall be used to determine compliance by each CAIR NO_x Ozone Season source with the following CAIR NO_x Ozone Season Emissions Requirements.

NO_x Ozone Season Emission Requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_x Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NO_x emissions for the control period from all CAIR NO_x Ozone Season units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHHH.

(2) A CAIR NO_x Ozone Season unit shall be subject to the requirements under paragraph (1) of the NO_x Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1),(2), or (3) and for each control period thereafter.

(3) A CAIR NO_x Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO_x Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NO_x Ozone Season allowance was allocated.

(4) CAIR NO_x Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Ozone Season Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFFF and GGGG.

(5) A CAIR NO_x Ozone Season allowance is a limited authorization to emit one ton of NO_x in accordance with the CAIR NO_x Ozone Season Trading Program. No provision of the CAIR NO_x Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.

(6) A CAIR NO_x Ozone Season allowance does not constitute a property right.

(7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a

CAIR NO_x Ozone Season allowance to or from a CAIR NO_x Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO_x Ozone Season unit.

C.D. McIntosh, Jr. Power Plant Plant Name (from STEP 1)
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**STEP 3,
Continued**

Excess Emissions Requirements.

If a CAIR NO_x Ozone Season source emits NO_x during any control period in excess of the CAIR NO_x Ozone Season emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO_x Ozone Season unit at the source shall surrender the CAIR NO_x Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAAA, the Clean Air Act, and applicable state law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.

- (i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NO_x Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
- (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
- (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Ozone Season Trading Program.
- (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO_x Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO_x Ozone Season Trading Program.

(2) The CAIR designated representative of a CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall submit the reports required under the CAIR NO_x Ozone Season Trading Program, including those under 40 CFR Part 96, Subpart HHHH.

Liability.

- (1) Each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit shall meet the requirements of the CAIR NO_x Ozone Season Trading Program.
- (2) Any provision of the CAIR NO_x Ozone Season Trading Program that applies to a CAIR NO_x Ozone Season source or the CAIR designated representative of a CAIR NO_x Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO_x Ozone Season units at the source.
- (3) Any provision of the CAIR NO_x Ozone Season Trading Program that applies to a CAIR NO_x Ozone Season unit or the CAIR designated representative of a CAIR NO_x Ozone Season unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NO_x Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x Ozone Season source or CAIR NO_x Ozone Season unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

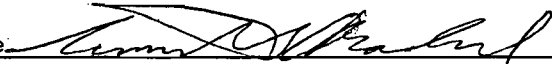
STEP 4

Certification (for designated representative or alternate designated representative only)

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Subject: CAIR Renewal Application (C.D. McIntosh, Jr. Power Plant)

Name Mr. Timothy Bachand, P.E.	Title Manager of Engineering
Company Owner Name Lakeland Electric	
Phone (863) 834-6633	E-mail Address timothy.bachand@lakelandelectric.com
Signature 	Date 8/27/08

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
 - The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)
- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
 - This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
 - This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
McIntosh Unit 1 – Fossil Fuel Fired Steam Generator (FFSG)

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: February 1971	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)
- Acid Rain Unit
 - CAIR Unit
 - Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **90 MW**

11. Emissions Unit Comment:
The emission unit is a natural gas and No. 6 fuel oil-fired steam generating unit. This unit is also permitted to burn "on-specification" used oil generated by the City of Lakeland.

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate:	985 million Btu/hr
4. Maximum Incineration Rate:	pounds/hr tons/day
5. Requested Maximum Operating Schedule:	24 hours/day 52 weeks/year 7 days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment:	Heat input rates: Natural gas firing – 985 MMBtu/hr No. 6 fuel oil firing – 950 MMBtu/hr Used oil firing – 950 MMBtu/hr Maximum heat input based on higher heating value (HHV) of natural gas. Heat inputs based on fuel flow and sampling.

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: S001		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 150 feet	7. Exit Diameter: 9.0 Feet	
8. Exit Temperature: 277°F	9. Actual Volumetric Flow Rate: 310,000 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 409.2 North (km): 3106.2		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters from Application for Permit No. 1050004-016-AV.			

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Natural-Gas Boilers > 100 MMBtu/hr		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: Million cubic feet natural gas burned
4. Maximum Hourly Rate: 0.96	5. Maximum Annual Rate: 8,427	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,024
10. Segment Comment: Maximum hourly rate = 985 MMBtu/hr / 1,024 MMBtu/MM ft³ = 0.962 MM ft³/hr Maximum annual rate = 0.962 MM ft³/hr x 8,760 hr/yr = 8,427.1 MM ft³/yr. Propane is used for ignition only (SCC 1-01-010-02)		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Residual Oil No. 6 – Normal Firing		
2. Source Classification Code (SCC): 1-01-004-01		3. SCC Units: 1,000 gallons burned
4. Maximum Hourly Rate: 6.33	5. Maximum Annual Rate: 55,451	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
10. Segment Comment: Maximum hourly rate = 950 MMBtu/hr / (150 MMBtu / 1,000 gallons) = 6,333.3 gallons/hr Maximum annual rate = 6.33 x 10³ gallons/hr x 8,760 hr/yr = 55,450.8 x 10³ gallons/yr.		

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment **3** of **3**

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Liquid Waste; Waste Oil (On-specification used oil as defined in 40 CFR 279.11 and generated by the City of Lakeland)		
2. Source Classification Code (SCC): 1-01-013-02		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 7.31	5. Maximum Annual Rate: 42	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 130
10. Segment Comment: Maximum hourly rate = 950 MMBtu/hr / 130 MMBtu / 1,000 gallons = 7,307.7 gallons/hr Maximum Annual Rate based on Condition A.11, Section III of Title V Permit No. 1050004-016-AV.		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM ₁₀			NS
CO			NS
VOC			NS
SO ₂			EL
NO _x			NS

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

POLLUTANT DETAIL INFORMATION

Page [1] of [2]
Total Particulate Matter

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 285.0 lb/hour 520 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.3 lb/MMBtu Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.3 lb/MMBtu x 950 MMBtu/hr = 285.0 lb/hr (Oil firing, soot blowing scenario) Hourly emissions = 0.1 lb/MMBtu x 985 MMBtu/hr = 98.5 lb/hr (NG firing, normal operation) Annual emissions = (0.3 lb/MMBtu x 950 MMBtu/hr x 3hrs/day) + (0.1 lb/MMBtu x 950 MMBtu/hr x 21 hours/day) x 365 days/yr x 1 TPY/2,000 lbs = 520.1 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Potential hourly emissions based on soot blowing while firing No. 6 fuel oil. Annual emissions based on 3 hours of soot blowing during a 24-hour period and normal operation for 21 hours in any 24-hour period.			

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

POLLUTANT DETAIL INFORMATION

Page [1] of [2]
Total Particulate Matter

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1 lb/MMBtu	4. Equivalent Allowable Emissions: 95.0 lb/hour 416 tons/year
5. Method of Compliance: Annual stack test; EPA Methods 17, 5, 5B, or 5F.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on oil firing during normal operations. Rule 62-296.405(1)(b), F.A.C. and Permit No. 1050004-016-AV. Annual compliance test not required if firing only gaseous fuel(s). Compliance test required if oil firing > 400 hr/yr.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.3 lb/MMBtu	4. Equivalent Allowable Emissions: 285.0 lb/hour 156 tons/year
5. Method of Compliance: Annual stack test; EPA Methods 17, 5, 5B, or 5F.	
6. Allowable Emissions Comment (Description of Operating Method): Soot blowing and load change: 0.3 lb/MMBtu during 3 hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load changes. Rule 62-296.405(1)(b), F.A.C. and Permit No. 1050004-016-AV. Compliance test required if oil firing > 400 hr/yr.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1 lb/MMBtu	4. Equivalent Allowable Emissions: 98.5 lb/hour 431 tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowance emissions based on NG firing during normal operations. Rule 62-296.405(1)(b), F.A.C., and Permit No. 1060004-016-AV.	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
McIntosh Unit 1

Page [2] of [2]
Sulfur Dioxide

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2,613 lb/hour 11,443 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 2.75 lb/MMBtu Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 2.75 lb/MMBtu x 950 MMBtu/hr = 2,612.5 lb/hr (Oil firing scenario) Annual emissions = (2,612.5 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 11,442.8 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly emissions based on oil firing. Fuel sulfur content limited to 2.5 percent by weight.			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
McIntosh Unit 1

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Sulfur Dioxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.75 lb/MMBtu	4. Equivalent Allowable Emissions: 2,613 lb/hour 11,443 tons/year
5. Method of Compliance: Fuel oil analysis.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on No. 6 fuel oil firing. Rule 62-296.405(1)(c)1.j., F.A.C. and Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 3

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 2 min/hour	
4. Method of Compliance: Annual compliance test; EPA Method 9	
5. Visible Emissions Comment: Rule 62-296.405(1)(a), F.A.C. and Permit No. 1050004-016-AV Annual compliance test not required if firing only gaseous fuel(s). Annual VE test required if > 400 hrs/yr oil operation.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 3

1. Visible Emissions Subtype: VE60	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 60 % Exceptional Conditions: >60 % Maximum Period of Excess Opacity Allowed: 4 periods of 6 min/hour	
4. Method of Compliance: VE test using EPA Method 9	
5. Visible Emissions Comment: Rule 62-210.700(3), F.A.C. and Permit No. 1050004-016-AV 60 percent opacity during load changing and boiler cleaning (soot blowing) for 3 hours during any 24-hour period. Annual compliance test not required if firing only gaseous fuel(s). Annual VE test required if > 400 hrs/yr oil operation.	

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 3 of 3

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="checked" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100% Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: Excess emissions for startup, shutdown, or malfunction. See Rule 62-210.700(1) and (2), F.A.C. Permit No. 1050004-016-AV.	

Visible Emissions Limitation: Visible Emissions Limitation of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 5

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 152 Serial Number: 169	
5. Installation Date: 29 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 252 Serial Number: 135	
5. Installation Date: 29 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor 5 of 5

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Air Monitor Model Number: CEM Serial Number: 6231D	
5. Installation Date: 29 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor _ of _

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1]
McIntosh Unit 1

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-16</u> Test Date(s)/Pollutant(s) Tested: <u>6/4/2008, VE</u> <input checked="" type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: <u>June 12 through 17, 2007; PM and VE</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [1]

McIntosh Unit 1 – Fossil Fuel Fired Steam Generator

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

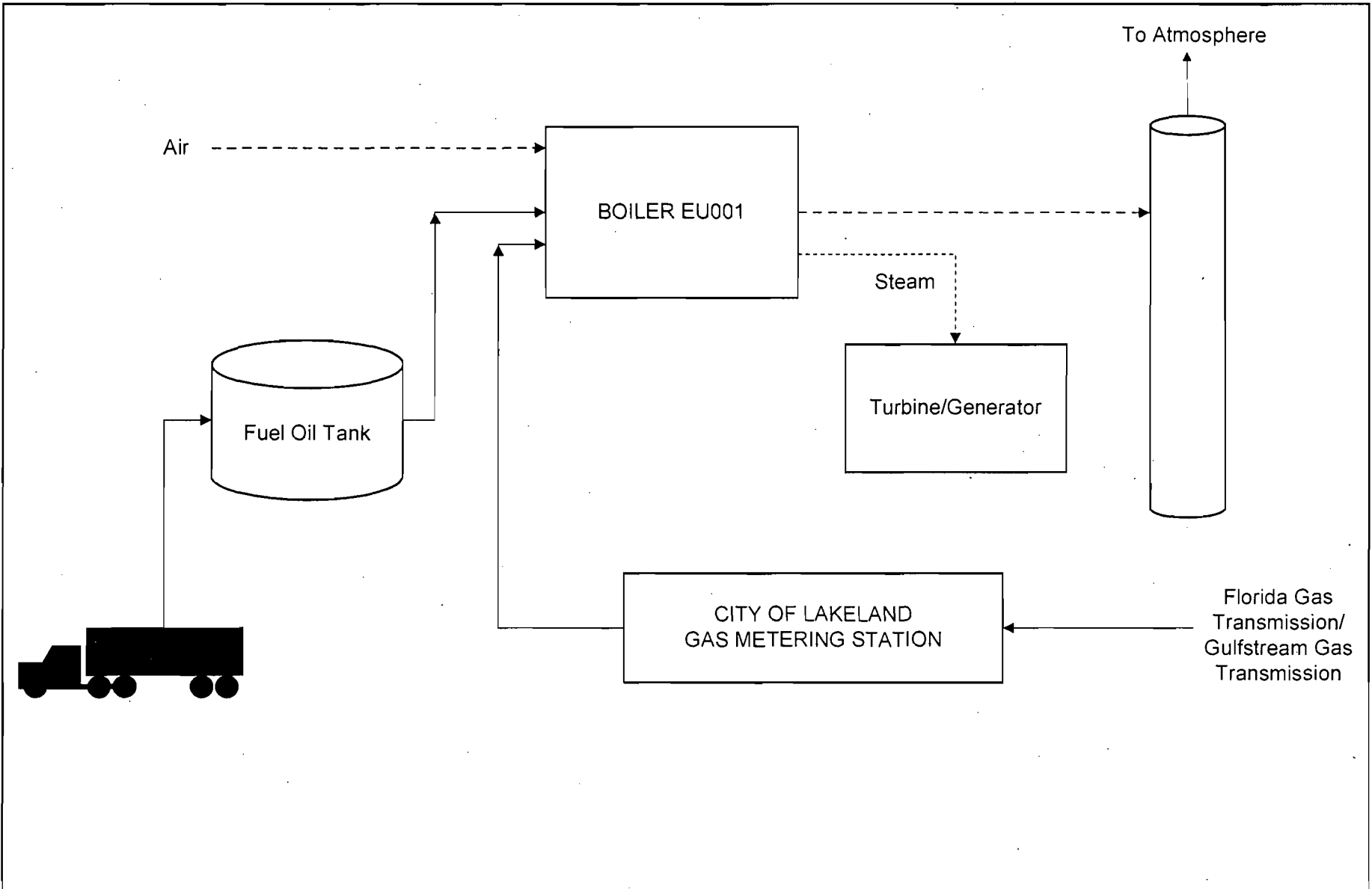
1. Identification of Applicable Requirements: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-IV1</u>
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU1-IV3</u> <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

--

ATTACHMENT MC-EU1-I1

PROCESS FLOW DIAGRAM



Attachment MC-EU1-11
 Process Flow Diagram
 City of Lakeland

Process Flow Legend

Solid/Liquid	—————>
Gas	- - - - ->
Steam	· · · · ·>

REV.	SCALE:	
DESIGN	SL	SL
CADD	--	--
CHECK		
REVIEW	KK	KK



ATTACHMENT MC-EU1-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

Monthly Natural Gas Report

Day	FGT BTU	GS	50% avg btu	50% wkly avg	FGT Avg Grains/hcf	GS	50% avg	50% wkly avg
5/1/2008	1030	1017	1023.5	1023.929	0.04	0.16	0.16	0.117143
5/2/2008	1031	1017	1024		0.042	0.166	0.104	
5/3/2008	1030	1019	1024.5		0.04	0.175	0.1075	
5/4/2008	1030	1019	1024.5		0.046	0.182	0.114	
5/5/2008	1030	1018	1024		0.045	0.182	0.1135	
5/6/2008	1029	1018	1023.5		0.041	0.175	0.108	
5/7/2008	1028	1019	1023.5		0.046	0.18	0.113	
5/8/2008	1029	1017	1023	1024.357	0.046	0.151	0.0985	0.085071
5/9/2008	1030	1016	1023		0.042	0.131	0.0865	
5/10/2008	1030	1018	1024		0.043	0.114	0.0785	
5/11/2008	1030	1018	1024		0.042	0.134	0.088	
5/12/2008	1031	1021	1026		0.042	0.104	0.073	
5/13/2008	1031	1022	1026.5		0.038	0.14	0.089	
5/14/2008	1029	1019	1024		0.036	0.128	0.082	
5/15/2008	1032	1020	1026	1025.214	0.042	0.149	0.0955	0.1025
5/16/2008	1031	1019	1025		0.042	0.19	0.116	
5/17/2008	1032	1021	1026.5		0.034	0.195	0.1145	
5/18/2008	1030	1022	1026		0.041	0.167	0.104	
5/19/2008	1029	1019	1024		0.04	0.16	0.1	
5/20/2008	1029	1019	1024		0.023	0.159	0.091	
5/21/2008	1030	1020	1025		0.017	0.176	0.0965	
5/22/2008	1029	1020	1024.5	1023.643	0.022	0.152	0.087	0.093714
5/23/2008	1035	1021	1028		0.033	0.174	0.1035	
5/24/2008	1029	1018	1023.5		0.031	0.136	0.0835	
5/25/2008	1027	1018	1022.5		0.041	0.151	0.096	
5/26/2008	1027	1017	1022		0.04	0.147	0.0935	
5/27/2008	1028	1017	1022.5		0.031	0.026	0.0285	
5/28/2008	1028	1017	1022.5		0.033	0.295	0.164	
5/29/2008	1028	1018	1023	1022.875	0.048	0.258	0.153	0.145625
5/30/2008	1028	1015	1021.5		0.032	0.273	0.1525	
5/31/2008	1029	1018	1023.5		0.03	0.226	0.128	

FGT - Florida Gas Transmission
 GS - Gulfstream Gas Transmission

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM	MPP F @ 5'	78.5		65.0	63.0				
LPP F @ CENTER	MPP F @ 15'	70.0	62.0	65.0	63.0	77.0	75.0	67.0	74.0
LPP F 3' from TOP	MPP F @ 25'				64.0				
	MPP F @ 35'				63.0				
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,585.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 6"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox
Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU1-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU1-I4
PROCEDURES FOR STARTUP AND SHUTDOWN
MINIMIZING EXCESS EMISSIONS

Startup of the fossil-fuel boilers begins when fuel (propane, natural gas, spec used oil or No. 2 fuel oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10 to 15 percent load.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10 to 15 percent of maximum and continues until the final burner gun is removed from service.

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors. Continuous monitors are currently in place for NO_x, CO₂, SO₂, flow, and opacity. Audible and visual alarms are activated whenever the permitted value for opacity is approached.

Countermeasures which may be taken in the event of excess emissions include, but are not limited to:

- Burner elevation loading;
- Proper excess air adjustments;
- Recognizing and removal of faulty burners;
- Fuel oil temperature adjustments;
- Proper and timely operation of boiler cleaning devices;
- Removal of the unit from system-dispatch mode (load control);
- Reduction of unit megawatt load;
- Stopping and restarting of boiler cleaning devices;
- Lowering load ramp rate;
- Pressure rate changes;
- Placing boiler controls on manual; and
- Adjusting burner dampers to increase windbox/furnace air pressure.

Knowledge of the appropriate countermeasures to take when excess emissions occur is a part of the routine operator training for those who operate the boilers. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, and fuels and combustion training.

ATTACHMENT MC-EU1-I6

COMPLIANCE DEMONSTRATION REPORTS/RECORDS

VISIBLE EMISSION OBSERVATION FORM

METHOD USED (CIRCLE ONE)
 Method 9 203A 203B Other: _____

PAGE 1 OF 2

COMPANY NAME
 City of Lakeland - McIntosh Power Plant
 STREET ADDRESS
 3030 East Lake Parker Drive
 CITY STATE ZIP
 Lakeland FL 33805
 PHONE (KEY CONTACT) SOURCE ID NUMBER
 863-834-6600 1050004 EU ID# 001

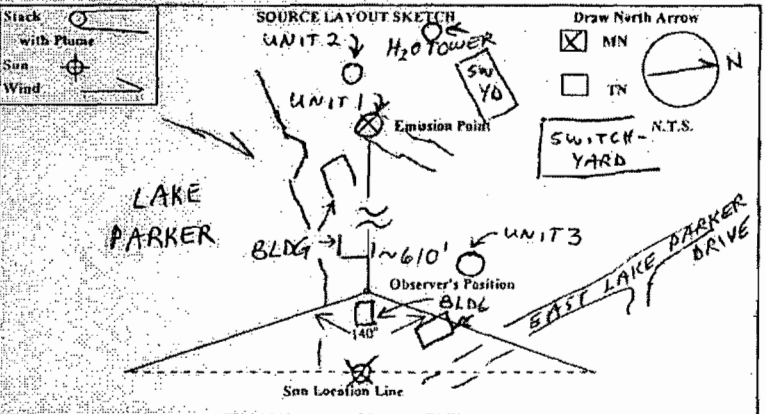
PROCESS EQUIPMENT OPERATING MODE
 Gas-fired steam generator 78 MW
 CONTROL EQUIPMENT OPERATING MODE
 None N/A

DESCRIBE EMISSION POINT
 Stack Exit

HEIGHT ABOVE GROUND LEVEL HEIGHT RELATIVE TO OBSERVER
 Start ~150' End same Start ~150' End same
 DISTANCE FROM OBSERVER DIRECTION FROM OBSERVER
 Start ~610' End same Start ~280° (W) End same

DESCRIBE EMISSIONS
 Start Heat Waves & Smoke End same
 EMISSION COLOR WATER DROPLET PLUME
 Start (None) End same Attached Detached N/A None
 POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
 Start Exit of Stack End same

DESCRIBE PLUME BACKGROUND
 Start Sky End same
 BACKGROUND COLOR SKY
 Start Blu/Whit End Blu/Whit Start Clear End Scattered
 WIND SPEED WIND DIRECTION
 Start 2-5 mph End 2-5 mph Start fm SSW End same
 AMBIENT TEMP WET BULB TEMP RH percent
 Start 90°F End 91°F 78°F / 77°F 58% / 53%



MIN	SEC				COMMENTS
	0	15	30	45	
1	0	0	5	5	
2	0	0	5	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	5	0	5	5	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	5	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	5	5	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME (PRINT)
 Christine D. More
 OBSERVER'S SIGNATURE
 Christine D. More
 DATE
 4-Jun-08
 ORGANIZATION
 City of Lakeland
 CERTIFIED BY
 Dept. of Env. Reg. thru EASTERN TECH. ASSC
 EXP. DATE
 7-Aug-08

ADDITIONAL INFORMATION (incl. INCLINE DEG., SET AVG., FUEL USED, etc.)
 Incline = 13.8°, Fuel burned during test = 843.24 KSCF
 40 CFR 60 App. A, Method 9, 2.5 Set Avg. = 1.04%
 UTM 17-409.0 km E, 3106.2 km N
 Lat 28° 04' 50" North, Long 81° 55' 32" West

VISIBLE EMISSION OBSERVATION FORM

METHOD USED (CIRCLE ONE)
 Method 9 203A 203B Other: _____

PAGE 2 OF 2

COMPANY NAME
 of Lakeland - McIntosh Power Plant

STREET ADDRESS
 3030 East Lake Parker Drive

CITY STATE ZIP

PHONE (KEY CONTACT) SOURCE ID NUMBER
 1050004 EU ID# 001

PROCESS EQUIPMENT OPERATING MODE
 CONTROL EQUIPMENT OPERATING MODE
 78 MW

DESCRIBE EMISSION POINT

HEIGHT ABOVE GROUND LEVEL HEIGHT RELATIVE TO OBSERVER
 Start End Start End

DISTANCE FROM OBSERVER DIRECTION FROM OBSERVER
 Start End Start End

DESCRIBE EMISSIONS

EMISSION COLOR WATER DROPLET PLUME
 Start End Attached Detached None

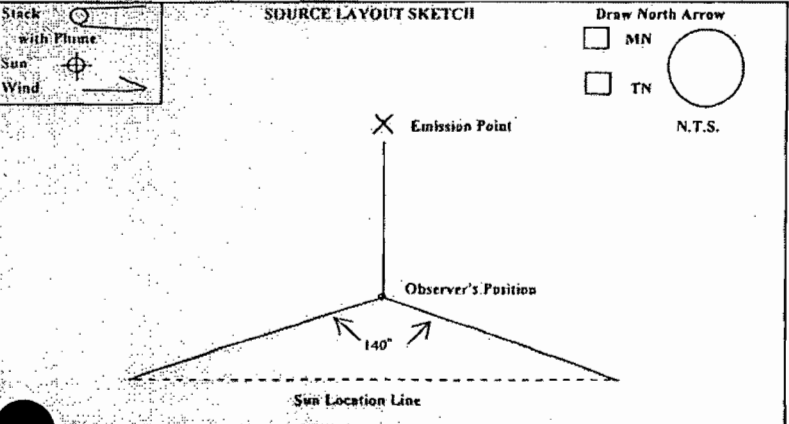
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
 Start End

DESCRIBE PLUME BACKGROUND

BACKGROUND COLOR SKY
 Start End Start End

WIND SPEED WIND DIRECTION
 Start End Start End

AMBIENT TEMP WET BULB TEMP RH percent
 Start End



ADDITIONAL INFORMATION (Incl. INCLINE DEG., SET AVG., FUEL USED, etc.)

OBSERVATION DATE		START TIME			END TIME	COMMENTS
4-Jun-08		0	15	30	45	
MIN	SEC	0	15	30	45	
31	0	0	5	0		
32	5	0	0	0		
33	0	0	0	0		
34	0	0	0	0		
35	0	0	0	0		
36	0	5	0	5		
37	0	0	0	0		
38	0	0	0	0		
39	0	0	0	0		
40	0	0	0	0		
41	0	0	0	0		
42	0	0	0	0		
43	0	0	0	0		
44	5	0	0	0		
45	0	0	0	5		
46	0	0	5	5		
47	0	0	0	0		
48	0	5	0	0		
49	0	0	0	0		
50	0	0	0	5		
51	0	0	0	0		
52	0	5	0	0		
53	0	0	0	0		
54	0	0	0	0		
55	0	0	0	0		
56	0	0	5	5		
57	0	0	0	0		
58	0	0	0	0		
59	0	0	0	0		
60	0	0	0	0		

OBSERVER'S NAME (PRINT)
 Christine D. More

OBSERVER'S SIGNATURE
Christine D. More

DATE
 4-Jun-08

ORGANIZATION
 City of Lakeland

CERTIFIED BY
 Dept. of Env. Reg. thru EASTERN TECH. ASSC

EXP. DATE
 7-Aug-08

ATTACHMENT MC-EU1-IV1

**IDENTIFICATION OF APPLICABLE REQUIREMENTS
(Title V Permit No. 1050004-016-AV
attached for applicable requirements)**

PERMIT NO. 1050004-016-AV

Lakeland Electric
C. D. McIntosh, Jr. Power Plant
Facility ID No.: 1050004
Polk County

Title V Air Operation Permit Renewal

FINAL Permit Project No.: 1050004-016-AV

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

Compliance Authority:

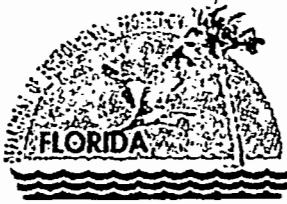
Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

Title V Air Operation Permit Renewal

FINAL Permit No.: 1050004-016-AV

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Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

Permittee:
Lakeland Electric
501 East Lemon Street
Lakeland, Florida 33801-5079

FINAL Permit No.: 1050004-016-AV
Facility ID No.: 1050004
SIC No(s): 49, 4911
Project: Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V Air Operation Permit for the C. D. McIntosh, Jr. Power Plant. 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.

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX TV-4, TITLE V CONDITIONS version dated 02/12/02
APPENDIX SS-1, STACK SAMPLING FACILITIES version dated 10/07/96
TABLE 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96
FIGURE 1 - SUMMARY REPORT-GASEOUS AND OPACITY EXCESS EMISSION AND
MONITORING SYSTEM PERFORMANCE REPORT version dated 07/96
Appendix CP-1, Compliance Plan for McIntosh Unit 5
Alternate Sampling Procedure: ASP Number 97-B-01
Appendix 40 CFR 60 Subpart A - General Provisions (version dated 07/23/97)
W501G McIntosh #5, Lakeland FL - Maximum Heat Input as a Function of Compressor Inlet Temperature (1/5/01)
Appendix CAM

Effective Date: January 1, 2004
Renewal Application Due Date: July 5, 2008
Expiration Date: December 31, 2008

Michael G. Cooke, Director
Division of Air Resource
Management

MGC/sms/es

"More Protection, Less Process"

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Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of three fossil fuel fired steam generators, two diesel powered generators, and two gas turbines. Fossil fuel fired steam generators 1 and 2 are fired with No. 6 fuel oil and natural gas, with distillate oil used as an igniter. Fossil fuel fired steam generator 3 is primarily fired with coal, refuse derived fuel and petroleum coke. Gas Turbine Peaking Unit 1 is primarily fired with natural gas, or No. 2 fuel oil with a maximum sulfur content of 0.5 percent by weight. McIntosh Unit 5, a 370 MW combined cycle stationary combustion turbine, is fired with natural gas, or No. 2 or superior grade fuel oil with a maximum sulfur content of 0.05 percent by weight.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received April 30, 2003, this facility is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	McIntosh Unit 1 - Fossil Fuel Fired Steam Generator
-002	Diesel Engine Peaking Unit 2
-003	Diesel Engine Peaking Unit 3
-004	Gas Turbine Peaking Unit 1
-005	McIntosh Unit 2 - Fossil Fuel Fired Steam Generator
-006	McIntosh Unit 3 - Fossil Fuel Fired Steam Generator
-028	McIntosh Unit 5 - 370 MW Combined Cycle Stationary Combustion Turbine

Unregulated Emissions Units and/or Activities

-007	Tanks with greater than 10,000 gallon capacity installed prior to July 23, 1984
-008	Diesel drive coal tunnel sump engine
-009	Fire water UPS diesel No. 31
-010	Fire water UPS diesel No. 32
-011	CT startup diesel
-012	General purpose diesel engines
-013	Emergency generators
-014	General purpose painting
-015	Parts Cleaning
-016	Sand Blasting (Maintenance only)
-017	Wastewater Treatment Tank
-018	Three Cooling Towers (Units 2 and 3)
-019	Northside Waste Water Treatment Facility - Wastewater treatment processes and tanks
-020	Northside Waste Water Treatment Facility - Two emergency diesel generators
-021	Northside Waste Water Treatment Facility - Chemical and petroleum storage
-022	Northside Waste Water Treatment Facility - Miscellaneous activities
-023	Coal processing and conveying system

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- 024 Coal storage system
- 025 Coal transfer and loading system
- 026 Limestone handling and storage system
- 027 Fly ash handling and storage system
- 029 1.05 million gallon storage tank for McIntosh Unit 5, subject only to the reporting requirements of 40CFR60, Subpart Kb
- 030 Mechanical Draft Cooling Tower

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s) on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

- Table 1-1: Summary of Air Pollutant Standards and Terms
- Table 2-1: Summary of Compliance Requirements
- Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
- Appendix H-1, Permit History
- Statement of Basis

These documents are on file with the permitting authority:

- Initial Title V Air Operation Permit effective January 1, 1999
- Title V Air Operation Permit Revision issued March 5, 1999
- Title V Air Operation Permit Revision issued November 19, 2000
- Title V Air Operation Permit Revision issued October 16, 2001
- Title V Air Operation Permit Administrative Correction issued December 18, 2001
- Title V Air Operation Permit Revision issued July 7, 2003
- Application for a Title V Air Operation Permit Renewal received April 30, 2003
- Additional Information Request dated June 11, 2003
- Additional Information Response received August 29, 2003
- Additional Information Request dated September 5, 2003
- Additional Information Response received by e-mail September 26, 2003

Documents on file with USEPA

The Responsible Official has certified that the Risk Management Plan was submitted to the RMP Reporting Center.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-4, TITLE V CONDITIONS, is a part of this permit.

{Permitting note: APPENDIX TV-4, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. [Not federally enforceable.] General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).

a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.

b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAA.

c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S., and Rule 9G-21, F.A.C.

Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to:

Department of Community Affairs
Division of Emergency Management
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
Telephone: 850/413-9921; Fax: 850/488-1739

Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 3346
Merrifield, VA 22116-3346
Telephone: 703/816-4434

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Any required reports to be sent to the National Response Center, should be sent to:

National Response Center
EPA Office of Solid Waste and Emergency Response
USEPA (5305 W)
401 M Street, SW
Washington, D.C. 20460
Telephone: 1/800/424-8802

Send the required annual registration fee using approved forms made payable to:

Cashier
Department of Community Affairs
State Emergency Response Commission
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S.; and, Rule 9G-21, F.A.C.]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]

6. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6) and 62-4.040(1)(b), F.A.C.]

7. Compliance Plan. Based on the application, an emissions unit has not completed compliance testing. Appendix CP-1, Compliance Plan, is a part of this permit.
[Rule 62-213.440(2), F.A.C.]

8. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

The following requirements are "not federally enforceable":

a. Containers shall be kept closed.

[Rule 62-296.320(1)(a), F.A.C.; Proposed by applicant in the initial Title V permit application received June 14, 1996; Revised by a letter received August 7, 1997]

9. Emissions of Unconfined Particulate Matter. Pursuant to Rules 62-296.320(4)(c)1., 3. & 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at this facility include the following requirements (see Condition 57. of APPENDIX TV-4, TITLE V CONDITIONS):

a. maintenance of paved areas;

b. regular mowing of grass and care of vegetation; and,

c. limiting access to plant property by unnecessary vehicles.

[Rule 62-296.320(4)(c)2., F.A.C.; Proposed by applicant in the initial Title V permit application received June 14, 1996, as amended in a request received July 8, 1997]

10. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one. [Rule 62-213.440, F.A.C.]

11. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. [Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-4, TITLE V CONDITIONS)}

12. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

13. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

14. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.

[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-001	McIntosh Unit 1 - Fossil Fuel Fired Steam Generator

McIntosh Unit 1 is a forced draft boiler rated at a nominal load of 90 megawatts. The unit is fired with natural gas at a maximum heat input rate of 985 million Btu per hour (approximately 970 million cubic feet per hour), or No. 6 fuel oil, having a maximum sulfur content of 2.5 percent by weight, at a maximum heat input rate of 950 million Btu per hour (approximately 6,300 gallons per hour). This unit is also permitted to burn "on-specification" used oil generated by the City of Lakeland, at a maximum heat input rate of 950 million Btu per hour. McIntosh Unit 1 began commercial service in February, 1971.

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

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum operation heat input rate is as follows:

<u>Unit No.</u>	<u>MMBtu/hr Heat Input</u>	<u>Fuel Type</u>
1	985	Natural Gas
	950	No. 6 Fuel Oil
	950	Used Oil

When a blend of fuel oil, "on-specification" used oil or natural gas is fired, the heat input is prorated based on the percent heat input of each fuel. The Acid Rain CEM will not be a method of compliance for the determination of the heat input rate.

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition A.23.
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation. Fuels. The only fuels allowed to be burned are natural gas, propane, No. 6 Fuel Oil, On-Specification Used Oil, No. 2 Fuel Oil and combinations of natural gas, propane, No. 6 Fuel Oil, No. 2 Fuel Oil and/or On-Specification Used Oil. On-Specification used oil containing any quantifiable levels of PCBs can only be fired when the emissions unit is at normal operating temperatures.
[Rule 62-213.410, F.A.C.; and, 40 CFR 271.20(e)(3)]

A.4. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging times for Specific Conditions A.5.-A.9. are based on the specified averaging time of the applicable test method.}

A.5. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one two-minute period per hour during which opacity shall not exceed 40 percent. Emissions units governed by this visible emissions limit shall compliance test for particulate matter emissions annually and as otherwise required by Chapter 62-297, F.A.C.
[Rule 62-296.405(1)(a), F.A.C.]

A.6. Visible Emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

A.7. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(b), F.A.C.]

A.8. Particulate Matter - Soot Blowing and Load Change. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
[Rule 62-210.700(3), F.A.C.]

A.9. Sulfur Dioxide. When burning liquid fuel, sulfur dioxide emissions shall not exceed 2.75 pounds per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1) (c)1 j., F.A.C.]

A.10. Sulfur Dioxide - Sulfur Content. The No. 6 fuel oil sulfur content shall not exceed 2.5 percent, by weight. See specific condition A.21.
[Rule 62-296.405(1)(e)3., F.A.C.; and, AO 53-243945]

A.11. "On-Specification" Used Oil. Only "on-specification" used oil generated by the City of Lakeland shall be fired in this unit. The quantity fired in this unit shall not exceed 1,000 barrels (42,000 gallons) per calendar year. "On-specification" used oil is defined as used oil that meets the 40 CFR 279 (Standards for the Management of Used Oil) specifications listed below. Used oil that does not meet all of the following specifications is considered "off-specification" oil and shall not be fired.

<u>CONSTITUENT / PROPERTY</u> *	<u>ALLOWABLE LEVEL</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	100 °F minimum
PCBs	less than 50 ppm

* As determined by ASTM Standard D140-70, or equivalent
[40 CFR 279.11; and, AO 53-243945]

Excess Emissions

A.12. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

A.13. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

A.14. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

A.15. Sulfur Dioxide. The permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery. This protocol is allowed because the emissions unit

does not have an operating flue gas desulfurization device. See specific conditions A.10., A.20. and A.21.

[Rule 62-296.405(1)(f)1.b., F.A.C.]

A.16. Determination of Process Variables.

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.17. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition A.18.

[Rule 62-296.405(1)(e)1., F.A.C.]

A.18. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.

2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:

a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.

b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for

the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

[Rule 62-297.401, F.A.C.]

A.19. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.

[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

A.20. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedances of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery.** See specific conditions A.10. and A.21.

[Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.; and, AO 53-243945]

A.21. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-91, or the respective successor ASTM method(s).

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

A.22. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may

accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

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

A.23. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

A.24. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

A.25. Applicable Test Procedures.

(a) **Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) **Minimum Sample Volume.** Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) **Required Flow Rate Range.** For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) **Calibration of Sampling Equipment.** Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) **Allowed Modification to EPA Method 5.** When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

A.26. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

A.27. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) **General Compliance Testing.**

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - a. Did not operate; or
 - b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - a. Visible emissions, if there is an applicable standard;
 - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c. Each NESHAP pollutant, if there is an applicable emission standard.
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours.
9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) **Special Compliance Tests.** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply. [Rule 62-297.310(7), F.A.C.; and, SIP approved]

A.28. By this permit, annual emissions compliance testing for visible emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

A.29. Annual and permit renewal compliance testing for particulate matter emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

A.30. Compliance with the "on-specification" used oil requirements will be determined as follows:

- (a) Analysis of a sample collected from each batch delivered for firing; or,
- (b) The new batch delivery is from a collection site that has an acceptable analysis already on file with the facility and the analytical results are assumed by the facility for the batch.

For quantification purposes, the highest concentration of each constituent as determined by any analysis is assumed to be the concentration of the constituent of the blended used oil. See specific condition A.11.

[AO 53-243945]

Record keeping and Reporting Requirements

A.31. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department or the appropriate Local Program.

[Rule 62-210.700(6), F.A.C.]

A.32. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and

cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.

[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

A.33. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.
[Rules 62-213.440 and 62-297.310(8), F.A.C.]

A.34. Records shall be kept of each delivery of "on-specification" used oil with a statement of the origin of the used oil and the quantity delivered/stored for firing. In addition, monthly records shall be kept of the quantity of "on-specification" used oil fired in this unit. The above records shall be maintained in a form suitable for inspection, retained for a minimum of five years, and be made available upon request.
[Rule 62-213.440(1)(b)2.b., F.A.C.; and, AO 53-243945]

A.35. The permittee shall include in the "Annual Operating Report for Air Pollutant Emitting Facility" a summary of the "on-specification" used oil analyses for the calendar year and a statement of the total quantity of "on-specification" used oil fired in Unit 1 during the calendar year.
[AO 53-243945]

Section III. Emissions Unit(s) and Conditions.

Subsection B. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-002	Diesel Engine Peaking Unit 2
-003	Diesel Engine Peaking Unit 3

Diesel Engine Peaking Units 2 and 3 are diesel fired internal combustion engines, which each drives a generator capable of producing electric power at a maximum rating of 2.5 megawatts. These units are each fired on No. 2 fuel oil, with a maximum sulfur content of 0.5 percent by weight, at a maximum firing rate of 201.6 gallons per hour. This corresponds to a maximum heat input of 28 million Btu per hour. Diesel Engine Peaking Units 2 and 3 began commercial service in 1970.

{Permitting note(s): The emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. Each diesel engine peaking unit has its own stack.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity.

- a. The maximum heat input rate of each diesel engine peaking unit is 28 million Btu per hour [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]
- b. **Not Federally Enforceable.** The maximum firing rate of each diesel engine peaking unit is 201.6 gallons per hour firing No. 2 fuel oil. [AO 53-244726]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition B.13. [Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation - Fuels. Only distillate (No. 2) fuel oil shall be fired in the diesel engine peaking units.
[Rule 62-213.410, F.A.C.]

B.4. Hours of Operation. These emissions units may operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AO 53-244726]

Emission Limitations and Standards

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging time for Specific Condition B.5. is based on the specified averaging time of the applicable test method.}

B.5. Visible Emissions. Visible emissions from each diesel engine peaking unit shall not be equal to or greater than 20 percent opacity.
[Rule 62-296.320(4)(b)1., F.A.C.; and, AO 53-244726]

B.6. Not federally enforceable. Sulfur Dioxide - Sulfur Content. The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent, by weight.
[AO 53-244726]

Excess Emissions

B.7. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

B.8. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

B.9. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or the permittee upon each fuel delivery. See specific condition **B.12.**
[Rule 62-213.440, F.A.C.]

B.10. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.11. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.

[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

B.12. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-91, or the respective successor ASTM method(s).

[Rules 62-213.440 and 62-297.440, F.A.C.; and, AO 53-244726]

B.13. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

B.14. Applicable Test Procedures.

(a) **Required Sampling Time.**

2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

- c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

[Rule 62-297.310(4)(a)2.c., F.A.C.]

B.15. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
- b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

- a. Visible emissions, if there is an applicable standard;

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; SIP approved; and, AO 53-244726]

B.16. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

Recordkeeping and Reporting Requirements

B.17. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700(6), F.A.C.]

B.18. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

[Rule 62-297.310(8), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection C. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-004	Gas Turbine Peaking Unit 1

Gas Turbine Peaking Unit 1 consists of a gas turbine, which drives a generator producing electrical power at a nominal nameplate rating of 20 megawatts. The gas turbine is fired with natural gas, or No. 2 fuel oil with a maximum sulfur content of 0.5 percent by weight. The maximum fuel firing rate is 320 million cubic feet per hour of natural gas (approximately 330 million Btu per hour) or 2,310 gallons per hour of No. 2 fuel oil (approximately 320 million Btu per hour). Gas Turbine Peaking Unit 1 began commercial service in 1973.

{Permitting notes: This emissions unit is regulated under Rule 62-210.300, F.A.C., Permits Required. This unit is not subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines.}

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity.

a. The maximum heat input rate of the turbine is 330 million Btu per hour (lower heating value) at 30 degrees F while firing natural gas and 320 million Btu per hour (lower heating value) at 30 degrees F while firing No. 2 fuel oil.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

b. **Not Federally Enforceable.** The maximum firing rate of the turbine is 320 million cubic feet per hour when firing natural gas or 2,310 gallons per hour when firing No. 2 fuel oil.

[AO 53-244727]

C.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.13.

[Rule 62-297.310(2), F.A.C.]

C.3. Methods of Operation - Fuels. Only natural gas or distillate (No. 2) fuel oil shall be fired in the combustion turbine.

[Rule 62-213.410, F.A.C.]

C.4. Hours of Operation. These emissions unit(s) may operate continuously, i.e., 8,760 hours/year.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AO 53-244727]

Emission Limitations and Standards

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging time for Specific Condition C.5. is based on the specified averaging time of the applicable test method.}

C.5. Visible Emissions. Visible emissions from each turbine shall not be equal to or greater than 20 percent opacity.

[Rule 62-296.320(4)(b)1., F.A.C.; and, AO 53-244727]

C.6. Not federally enforceable. Sulfur Dioxide - Sulfur Content. The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent, by weight.

[AO 53-244727]

Excess Emissions

C.7. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

C.8. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

C.9. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or the permittee upon each fuel delivery. See specific condition **C.12.**

[Rule 62-213.440, F.A.C.]

C.10. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.11. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.

[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

C.12. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-91, or the respective successor ASTM method(s).

[Rules 62-213.440 and 62-297.440, F.A.C.; and, AO 53-244727]

C.13. Not federally enforceable. Operating Rate During Testing.

Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.

[Requested in initial Title V permit application response for additional information dated February 10, 1997]

C.14. Applicable Test Procedures.

(a) **Required Sampling Time.**

2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test

observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

- c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

[Rule 62-297.310(4)(a)2.c., F.A.C.]

C.15. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
- b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

- a. Visible emissions, if there is an applicable standard;

8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; SIP approved; and, AO 53-244727]

C.16. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for this emissions unit while burning:

- a. only gaseous fuels; or
- b. gaseous fuels in combination with any amount of liquid fuels for less than 400 hours per year; or
- c. only liquid fuels for less than 400 hours per year.

[Rules 62-297.310(7)(a)4. & 8., F.A.C.]

Recordkeeping and Reporting Requirements

C.17. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700(6), F.A.C.]

C.18. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

[Rule 62-297.310(8), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection D. This section addresses the following emissions unit(s).

E.U.

ID No. Brief Description

-005 McIntosh Unit 2 - Fossil Fuel Fired Steam Generator

McIntosh Unit 2 is a nominal 114.7 megawatt (electric) fossil fuel fired steam generator. The unit is fired on low sulfur No. 6 or No. 2 fuel oil with a maximum heat input of 1,115 million Btu per hour, or natural gas with a maximum heat input of 1,184.5 million Btu per hour. McIntosh Unit 2 began commercial service in June, 1976.

{Permitting note(s): The emissions unit is regulated under Acid Rain, Phase II; and NSPS - 40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.}

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum operation heat input rate is as follows:

<u>Unit No.</u>	<u>MMBtu/hr Heat Input</u>	<u>Fuel Type</u>
2	1,184.5	Natural Gas
	1,115	No. 6 Fuel Oil
	1,115	No. 2 Fuel Oil

When a blend of fuel oil and natural gas is fired, the heat input is prorated based on the percent heat input of each fuel. The Acid Rain CEM will not be a method of compliance for the determination of the heat input rate.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

D.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition D.23.

[Rule 62-297.310(2), F.A.C.]

D.3. Methods of Operation. Fuels. The only fuels allowed to be burned are natural gas, propane, No. 6 Fuel Oil, No. 2 Fuel Oil and combinations of natural gas, propane, No. 6 Fuel Oil and/or No. 2 Fuel Oil.
[Rule 62-213.410, F.A.C.]

D.4. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging times for Specific Conditions D.5.-D.6.; and, D.8.-D.9. are based on the specified averaging time of the applicable test method.}

Particulate Matter

D.5. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which:

- (1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel or fossil fuel and wood residue.
- (2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

[40 CFR 60.42(a)(1) & (2)]

Sulfur Dioxide

D.6. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:

- (1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel.

[40 CFR 60.43(a)(1)]

D.7. Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.
[40 CFR 60.43(c)]

Nitrogen Oxides

D.8. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall

cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO₂ in excess of:

(1) 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.

(2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel.

[40 CFR 60.44(a)(1) & (2)]

D.9. When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PSNO_x = \frac{w(260)+x(86)+y(130)+z(300)}{w+x+y+z}$$

where:

PSNO_x = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = is the percentage of total heat input derived from lignite;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and,

z = is the percentage of total heat input derived from solid fossil fuel (except lignite).

[40 CFR 60.44(b)]

Excess Emissions

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS, NESHAP, or Acid Rain program provision.}

D.10. Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

[40 CFR 60.45(b)(2) and 60.45(g)(1)]

D.11. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

D.12. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

D.13. Determination of Process Variables.

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

D.14. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.46(d).
[40 CFR 60.46(a)]

D.15. The owner or operator shall determine compliance with the particulate matter and NO_x standards in 40 CFR 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter or NO_x shall be computed for each run using the following equation:

$$E = C F_d (20.9)/(20.9 - \% O_2)$$

E = emission rate of pollutant, ng/J (1b/million Btu).

C = concentration of pollutant, ng/dscm (1b/dscf).

% O₂ = oxygen concentration, percent dry basis.

F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particular matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14 °C (320 ± 25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If

the grab sampling procedure is used, the O₂ concentration for the run shall be the arithmetic mean of all the individual O₂ sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O₂ traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O₂ traverse points.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(5) Method 7 shall be used to determine the NO_x concentration.

(i) The sampling site and location shall be the same as for the SO₂ sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_x sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The sample shall be taken simultaneously with, and at the same point as, the NO_x sample.

(iii) The NO_x emission rate shall be computed for each pair of NO_x and O₂ samples. The NO_x emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

[40 CFR 60.46(b)(1), (2), (3), & (5)]

D.16. Compliance with the sulfur dioxide emission standard of specific condition **D.7.** shall be demonstrated using the fuel sampling and analysis procedures of specific condition **D.17.**

[Rule 62-213.440, F.A.C. and Applicant Request dated June 14, 1996]

D.17. The following fuel sampling and analysis program shall be used to demonstrate compliance with the sulfur dioxide standard and as the substitute for the sulfur dioxide continuous monitoring system:

a. Determine and record the as-fired fuel sulfur content, percent by weight, (1) for liquid fuels using either ASTM D2622-92, ASTM D4294-90, or both ASTM D4057-88 and ASTM D129-91, or the respective successor ASTM method(s), to analyze a representative sample of the blended fuel following each fuel delivery, (2) for gaseous fuels using ASTM D1072-90, or the respective successor ASTM method.

b. Record daily the amount of each fuel fired, the density of each fuel, and the percent sulfur content by weight of each fuel.

c. Utilize the information in a. and b., above, to calculate the SO₂ emission rate to ensure compliance at all times.

[Rule 62-213.440, F.A.C.]

D.18. When combinations of fossil fuels are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

[40 CFR 60.46(c)(1), (2), & (3)]

D.19. The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:

(1) The emission rate (E) of particulate matter, SO₂ and NO_X may be determined by using the F_c factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = C F_c (100 / \% \text{ CO}_2)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

% CO₂ = carbon dioxide concentration, percent dry basis.

F_c = factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F_c factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O₂ and CO₂ concentration according to the procedures in 40 CFR 60.46(b)(2)(ii), (4)(ii), or (5)(ii). Then if F_O (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average F_O value, as determined from the average values of F_d and F_c in Method 19, i.e., F_{Oa} = 0.209 (F_{da} / F_{ca}), then the following procedure shall be followed:

(A) When F_O is less than 0.97 F_{Oa}, then E shall be increased by that proportion under 0.97 F_{Oa}, e.g., if F_O is 0.95 F_{Oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When F_O is less than 0.97 F_{Oa} and when the average difference (\bar{d}) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{Oa}, e.g., if F_O is 0.95 F_{Oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When F_O is greater than 1.03 F_{Oa} and when \bar{d} is positive, then E shall be decreased by that proportion over 1.03 F_{Oa}, e.g., if F_O is 1.05 F_{Oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO₂ may be determined simultaneously with the Method 5 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of SO₂ (including moisture) are used.

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O₂ concentration (%O₂) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[40 CFR 60.46(d)(1), (2), (3), (5), (6), & (7)]

D.20. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

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

D.21. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

D.22. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

D.23. Applicable Test Procedures.

(a) **Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

- b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C.; Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
- c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
- (b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
- (c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
- (d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.
- (e) Allowed Modification to EPA Method 5: When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube. [Rule 62-297.310(4), F.A.C.]

D.24. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

D.25. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

- (a) General Compliance Testing.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
- a. Did not operate; or
 - b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
- a. Visible emissions, if there is an applicable standard;
 - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
[Rule 62-297.310(7), F.A.C.; and, SIP approved]

D.26. By this permit, annual emissions compliance testing for visible emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

D.27. Annual and permit renewal compliance testing for particulate matter emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

Continuous Monitoring Requirements

D.28. The owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions.

[40 CFR 60.45(a)]

D.29. Sulfur Dioxide. For a fossil fuel fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis under 40 CFR 60.45(d). **The applicant has elected to utilize fuel sampling and analysis in lieu of a continuous monitoring system for sulfur dioxide.** See specific condition **D.17.**

[40 CFR 60.45(b)(2)]

D.30. For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the following procedures shall be used:

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent.

[40 CFR 60.45(c)(3)]

Recordkeeping and Reporting Requirements

D.31. Excess emission and monitoring system performance reports shall be submitted to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c).

[40 CFR 60.45(g)]

D.32. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700(6), F.A.C.]

D.33. Submit to the Department a written report of emissions in excess of emission limiting standards for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.

[Rule 62-213.440, F.A.C.]

D.34. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

Miscellaneous Requirements.

D.35. The permittee shall comply with the requirements contained in Appendix 40 CFR 60, Subpart A, attached to this permit.

[Rule 62-204.800(7)(d), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection E. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-006	McIntosh Unit 3 - Fossil Fuel Fired Steam Generator

McIntosh Unit 3 is a nominal 364 megawatt (electric) dry bottom wall-fired fossil fuel fired steam generator. The unit is fired on coal, residual oil, natural gas and co-fires refuse derived fuel (RDF) 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 system (FGD), and low-NO_x burners to control emissions. McIntosh Unit 3 began commercial service in September, 1982. Compliance Assurance Monitoring (CAM) requirements for the ESP are included in APPAEDIX CAM. The FDG is exempted from CAM because the Acid Rain SO₂ continuous emissions monitor will be used to demonstrate continuous compliance.

{Permitting note(s): The emissions unit is regulated under Acid Rain, Phase II; and NSPS - 40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 212.400(6), F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT) Determination; and, Compliance Assurance Monitoring (CAM), adopted and incorporated by reference in Rule 62-204.800, F.A.C.}

The following conditions apply to the emissions unit(s) listed above:

{Permitting note: In addition to the requirements listed below, these emissions units are also subject to the standards and requirements contained in the Acid Rain Part of this permit (see Section IV).}

Essential Potential to Emit (PTE) Parameters

E.1. Capacity. The maximum heat input rate is 3,640 MMBtu per hour. The Acid Rain CEM will not be a method of compliance for the determination of the heat input rate. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel

determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

E.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition E.25. [Rule 62-297.310(2), F.A.C.]

E.3. Methods of Operation - Fuels. The only fuels allowed to be burned are:

Coal only

Low sulfur fuel oil (≤ 0.5 percent sulfur by weight)

Coal and up to 10 percent refuse (based on heat input)

Low sulfur fuel oil and up to 10 percent refuse (based on heat input)

Coal and up to 20 percent petroleum coke (based on weight)

Coal and up to 20 percent petroleum coke (based on weight) and 10 percent refuse (based on heat input)

High sulfur fuel oil (> 0.5 percent sulfur by weight)

Natural gas or propane only, or in combination with any of the other fuels or fuel combinations listed above

[Rules 62-4.160(2), 62-210.200, and 62-213.440(1), F.A.C.; and, PSD-FL-008(B)]

E.4. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging times for Specific Conditions E.5.-E.7.; E.9.-E.11.; and, E.13.-E.14. are based on the specified averaging time of the applicable test method.}

Particulate Matter

E.5. Particulate matter emitted to the atmosphere from the boiler shall not exceed:

(1)	<u>Mode of Firing</u>	<u>Pound / MMBtu Heat Input</u>
	Coal	0.044
	Coal/Petroleum Coke	0.044
	Coal/Refuse	0.050
	Coal/Petroleum Coke/Refuse	0.050
	Oil	0.070
	Oil/Refuse	0.075

(2) 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

[40 CFR 60.42(a)(2); and, PSD-FL-008(B)]

Sulfur Dioxide

E.6. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:

(1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 nanograms per joule heat input (1.2 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in 40 CFR 60.43(e).

[40 CFR 60.43(a)(1) and (2)]

E.7. When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PSSO_2 = [y(340) + z(520)]/(y+z)$$

where:

PSSO₂ is the prorated standard for sulfur dioxide when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired,

y is the percentage of total heat input derived from liquid fossil fuel, and

z is the percentage of total heat input derived from solid fossil fuel.

[40 CFR 60.43(b)]

E.8. Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

[40 CFR 60.43(c)]

E.9. A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pound per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of five years and made available by the City upon request of the Department. Whenever blends of petroleum coke with other fuels are co-fired, sulfur dioxide emissions shall not exceed 0.718 pound per million Btu heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

[PSD-FL-008(B); and, Rule 62-213.440, F.A.C.]

E.10. The burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse as an emergency fuel without the use of the SO₂ scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu heat input under this condition.

[PSD-FL-008(B)]

E.11. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO₂ scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu heat input under this condition.
[PSD-FL-008(B)]

E.12. Continuous burning of natural gas, low sulfur fuel oil (less than or equal to 0.5 percent sulfur by weight), or combinations of these two fuels with or without the use of the SO₂ scrubber will be allowed.
[PSD-FL-008(B)]

Nitrogen Oxides

E.13. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO₂ in excess of:

- (1) 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.
- (2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.
- (3) 300 nanograms per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

[40 CFR 60.44(a)(1), (2), & (3)]

E.14. Except as provided under paragraphs 40 CFR 60.44(c) and (d), when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PSNO_x = \frac{w(260)+x(86)+y(130)+z(300)}{w+x+y+z}$$

where:

PSNO_x = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = is the percentage of total heat input derived from lignite;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and,

z = is the percentage of total heat input derived from solid fossil fuel (except lignite).

[40 CFR 60.44(b)]

Excess Emissions

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS, NESHAP, or Acid Rain program provision.}

E.15. Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(2) Sulfur dioxide. Excess emissions for affected facilities are defined as:

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under 40 CFR 60.43.

[40 CFR 60.45(g)(1), & (2)]

E.16. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

E.17. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

E.18. In addition to the requirements of 40 CFR 60.7, each excess emissions report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.

[PSD-FL-008]

Monitoring of Operations

E.19. Determination of Process Variables.

(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

E.20. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.46(d).
[40 CFR 60.46(a)]

E.21. The owner or operator shall determine compliance with the particulate matter, SO₂, and NO_X standards in 40 CFR 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO₂, or NO_X shall be computed for each run using the following equation:

$$E = C F_d (20.9)/(20.9 - \% O_2)$$

E = emission rate of pollutant, ng/J (1b/million Btu).

C = concentration of pollutant, ng/dscm (1b/dscf).

% O₂ = oxygen concentration, percent dry basis.

F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14 °C (320 ± 25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O₂ concentration for the run shall be the arithmetic mean of all the individual O₂ sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O₂ traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O₂ traverse points.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO₂ concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be taken simultaneously with, and at the same point as, the SO₂ sample. The SO₂ emission rate shall be computed for each pair of SO₂ and O₂ samples. The SO₂ emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

- (5) Method 7 shall be used to determine the NO_X concentration.
- (i) The sampling site and location shall be the same as for the SO₂ sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.
 - (ii) For each NO_X sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The sample shall be taken simultaneously with, and at the same point as, the NO_X sample.
 - (iii) The NO_X emission rate shall be computed for each pair of NO_X and O₂ samples. The NO_X emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

[40 CFR 60.46(b)(1), (2), (3), (4), & (5)]

E.22. When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

- (1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.
- (2) ASTM Methods D 2015-77 (solid fuels), D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.
- (3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

[40 CFR 60.46(c)(1), (2), & (3)]

E.23. The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:

- (1) The emission rate (E) of particulate matter, SO₂ and NO_X may be determined by using the F_c factor, provided that the following procedure is used:

- (i) The emission rate (E) shall be computed using the following equation:

$$E = C F_c (100 / \% \text{CO}_2)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

% CO₂ = carbon dioxide concentration, percent dry basis.

F_c = factor as determined in appropriate sections of Method 19.

- (ii) If and only if the average F_c factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O₂ and CO₂ concentration according to the procedures in 40 CFR 60.46(b)(2)(ii), (4)(ii), or (5)(ii). Then if F_O (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average F_O value, as determined from the average values of F_d and F_c in Method 19, i.e., F_{Oa} = 0.209 (F_{da} / F_{ca}), then the following procedure shall be followed:

- (A) When F_O is less than $0.97 F_{Oa}$, then E shall be increased by that proportion under $0.97 F_{Oa}$, e.g., if F_O is $0.95 F_{Oa}$, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.
- (B) When F_O is less than $0.97 F_{Oa}$ and when the average difference (\bar{d}) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under $0.97 F_{Oa}$, e.g., if F_O is $0.95 F_{Oa}$, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
- (C) When F_O is greater than $1.03 F_{Oa}$ and when \bar{d} is positive, then E shall be decreased by that proportion over $1.03 F_{Oa}$, e.g., if F_O is $1.05 F_{Oa}$, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.
- (2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160°C (320°F). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.
- (3) Particulate matter and SO_2 may be determined simultaneously with the Method 5 train provided that the following changes are made:
- (i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.
 - (ii) All applicable procedures in Method 8 for the determination of SO_2 (including moisture) are used.
- (4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO_2 emission rate, under the conditions in 40 CFR 60.46(d)(1).
- (5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2 concentration (% O_2) for the emission rate correction factor.
- (6) For Method 3, Method 3A or 3B may be used.
- (7) For Method 3B, Method 3A may be used.
- [40 CFR 60.46(d)(1), (2), (3), (4), (5), (6), & (7)]

E.24. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

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

E.25. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

E.26. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

E.27. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube. [Rule 62-297.310(4), F.A.C.]

E.28. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit. [Rule 62-297.310(6), F.A.C.]

E.29. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply. [Rule 62-297.310(7), F.A.C.; and, SIP approved]

E.30. By this permit, annual emissions compliance testing for visible emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

E.31. Annual and permit renewal compliance testing for particulate matter emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

Continuous Monitoring Requirements

E.32. Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, and either oxygen or carbon dioxide except as provided in 40 CFR 60.45(b).

[40 CFR 60.45(a)]

E.33. Certain of the continuous monitoring system requirements under 40 CFR 60.45(a) do not apply to owners or operators under the following conditions:

- (1) For a fossil fuel-fired steam generator that burns only gaseous fossil fuel, continuous monitoring systems for measuring the opacity of emissions and sulfur dioxide emissions are not required.
- (2) For a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the

owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis under 40 CFR 60.45(d).

(3) Notwithstanding 40 CFR 60.13(b), installation of a continuous monitoring system for nitrogen oxides may be delayed until after the initial performance tests under 40 CFR 60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of nitrogen oxides are less than 70 percent of the applicable standards in 40 CFR 60.44, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a continuous monitoring system for nitrogen oxides within one year after the date of the initial performance tests under 40 CFR 60.8 and comply with all other applicable monitoring requirements under 40 CFR 60.

(4) If an owner or operator does not install any continuous monitoring systems for sulfur oxides and nitrogen oxides, as provided under 40 CFR 60.45(b)(1) and (b)(3) or (b)(2) and (b)(3), a continuous monitoring system for measuring either oxygen or carbon dioxide is not required.

[40 CFR 60.45(b)(1), (2), (3), & (4)]

E.34. For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the following procedures shall be used:

- (1) Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in 40 CFR 60.46(d).
- (2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.
- (3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined as follows:

[In parts per million]

Fossil fuel	Span value for sulfur dioxide
Gas.....	{1}
Liquid.....	1,000
Solid.....	1,500
Combinations.....	1,000y+1,500z

{1} Not applicable.

where:

- x = the fraction of total heat input derived from gaseous fossil fuel, and
- y = the fraction of total heat input derived from liquid fossil fuel, and
- z = the fraction of total heat input derived from solid fossil fuel.

(4) All span values computed under 40 CFR 60.45(c)(3) for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

(5) For a fossil fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Administrator's approval.

[40 CFR 60.45(c)(1), (2), (3), (4), & (5)]

E.35. For any continuous monitoring system installed under 40 CFR 60.45(a), the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF[20.9/(20.9\text{-percent O}_2)]$$

where:

E, C, F, and % O₂ are determined under 40 CFR 60.45(f).

(2) When a continuous monitoring system for measuring carbon dioxide is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_C [100/\text{percent CO}_2]$$

where:

E, C, F_C and % CO₂ are determined under 40 CFR 60.45(f).

[40 CFR 60.45(e)(1) and (2)]

E.36. The values used in the equations under 40 CFR 60.45(e)(1) and (2) are derived as follows:

- (1) E = pollutant emissions, ng/J (lb/million Btu).
- (2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for sulfur dioxide and 46.01 for nitrogen oxides.
- (3) % O₂, % CO₂ = oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under 40 CFR 60.45(a).
- (4) F, F_C = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F_C), respectively. Values of F and F_C are given as follows:

(i) For anthracite coal as classified according to ASTM D388-77 (incorporated by reference-see 40 CFR 60.17), $F = 2,723 \times 10^{-17}$ dscm/J (10,140 dscf/million Btu and $F_C = 0.532 \times 10^{-17}$ scm CO₂ /J (1,980 scf CO₂ /million Btu).

- (ii) For sub bituminous and bituminous coal as classified according to ASTM D388-77 (incorporated by reference-see 40 CFR 60.17), $F = 2.637 \times 10^{-7}$ dscm/J (9,820 dscf/million Btu) and $F_c = 0.486 \times 10^{-7}$ scm CO₂/J (1,810 scf CO₂/million Btu).
- (iii) For liquid fossil fuels including crude, residual, and distillate oils, $F = 2.476 \times 10^{-7}$ dscm/J (9,220 dscf/million Btu) and $F_c = 0.384 \times 10^{-7}$ scm CO₂/J (1,430 scf CO₂/million Btu).
- (iv) For gaseous fossil fuels, $F = 2.347 \times 10^{-7}$ dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels, $F_c = 0.279 \times 10^{-7}$ scm CO₂/J (1,040 scf CO₂/million Btu) for natural gas, 0.322×10^{-7} scm CO₂/J (1,200 scf CO₂/million Btu) for propane, and 0.338×10^{-7} scm CO₂/J (1,260 scf CO₂/million Btu) for butane.
- (5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO₂/J, or scf CO₂/million Btu) on either basis in lieu of the F or F_c factors specified in 40 CFR 60.45(f)(4):

$$F = 10^{-6} \frac{[227.2 (\text{pct. II}) + 95.5 (\text{pct. C}) + 35.6 (\text{pct. S}) + 8.7 (\text{pct. N}) - 28.7 (\text{pct. O})]}{\text{GCV}}$$

$$F_c = \frac{2.0 \times 10^{-5} (\text{pct. C})}{\text{GCV}}$$

(SI units)

$$F = 10^{-6} \frac{3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)}{\text{GCV}}$$

(English units)

$$F_c = \frac{20.0(\%C)}{\text{GCV}}$$

(SI units)

$$F_c = \frac{321 \times 10^3 (\%C)}{\text{GCV}}$$

(English units)

(i) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-74 or D3176 (solid fuels) or computed from results using ASTM method D1137-53(75), D1945-64(76), or D1946-77 (gaseous fuels) as applicable. (These five methods are incorporated by reference-see 40 CFR 60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 for solid fuels and D1826-77 for gaseous fuels as applicable. (These two methods are incorporated by reference-see 40 CFR 60.17.)

- (iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_C value shall be subject to the Administrator's approval.
- (6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_C factors determined by paragraphs 40 CFR 60.45(f)(4) or (f)(5) shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_C = \sum_{i=1}^n X_i (F_C)_i$$

where:

X_i = the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.)

F_i or (F_C)_i = the applicable F or F_C factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

n = the number of fuels being burned in combination.

[40 CFR 60.45(f)(1), (2), (3), (4), (5), & (6)]

E.37. Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel data shall be used in conjunction with emissions factors and the continuous monitoring data to calculate SO₂ reduction.

[PSD-FL-008(B)]

Recordkeeping and Reporting Requirements

E.38. Excess emission and monitoring system performance reports shall be submitted to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). The summary report form shall contain the information and be in the format shown in figure 1 (attached to this permit) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

[40 CFR 60.7(d) & 60.45(g)]

E.39. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700(6), F.A.C.]

E.40. Submit to the Department a written report of emissions in excess of emission limiting for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.

[Rule 62-213.440, F.A.C.]

E.41. Test Reports.

- (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
- (b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
1. The type, location, and designation of the emissions unit tested.
 2. The facility at which the emissions unit is located.
 3. The owner or operator of the emissions unit.
 4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 8. The date, starting time and duration of each sampling run.
 9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
 10. The number of points sampled and configuration and location of the sampling plane.
 11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 12. The type, manufacturer and configuration of the sampling equipment used.
 13. Data related to the required calibration of the test equipment.
 14. Data on the identification, processing and weights of all filters used.
 15. Data on the types and amounts of any chemical solutions used.
 16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 18. All measured and calculated data required to be determined by each applicable test procedure for each run.
 19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
 20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
 21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

Miscellaneous Requirements.

E.42. The permittee shall comply with the requirements contained in Appendix 40 CFR 60, Subpart A, attached to this permit.

[Rule 62-204.800(7)(d), F.A.C.]

E.43. The City shall maintain and submit to the Department on an annual basis for a period of five years from the date that the unit is initially co-fired with petroleum coke, information demonstration in accordance with 40 CFR 52.21(b)(33) and 40 CFR 52.21(b)(21)(v) that the operational changes did not result in emissions increases of carbon monoxide, nitrogen oxides, or sulfuric acid mist.

[PSD-FL-008(B)]

E.44. Use of SO₂ CEMS For Continuous Compliance. Pursuant to 40 CFR 64.2(b)(1)(vi), the applicant has elected to use the existing certified Acid Rain SO₂ continuous emissions monitor for continuous compliance in order to be exempted from the Compliance Assurance Monitoring (CAM) requirements contained in 40 CFR 64.

[40 CFR 64.2(b)(vi); and, Applicant Request]

Compliance Assurance Monitoring (CAM) Requirements

E.45. This emissions unit is subject to the CAM requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C.

[40 CFR 64; and, Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection F. This section addresses the following emissions unit(s).

E.U. ID

No.

Brief Description

-028 McIntosh Unit 5 – 370 MW Combined Cycle Stationary Combustion Turbine

McIntosh Unit 5 is a Westinghouse 501G combustion turbine operating in combined cycle with a HRSG and 120 MW steam electric turbine. The turbine is fired with natural gas or a maximum 0.05 percent, by weight, sulfur content No. 2 or superior grade of distillate fuel oil.

{Permitting note(s): The emissions unit is regulated under Acid Rain, Phase II; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT) Determination, dated July 10, 1998. Simple cycle combustion turbine operation began in March, 2000. Combined cycle combustion turbine operation began in January, 2002.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

F.1. Permitted Capacity. The maximum heat input rates, based on the lower heating value (LHV) of each fuel to Unit 5 at ambient conditions of 59°F temperature, 60% relative humidity, 100% load, and 14.7 psi pressure shall not exceed 2,407 million Btu per hour when firing natural gas, nor 2,236 million Btu per hour when firing No. 2 or superior grade of distillate fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves approved by the Department, attached in appendix W501G McIntosh #5, Lakeland FL – Maximum Heat Input as a Function of Compressor Inlet Temperature (1/5/01), for the heat input correction to other temperatures may be utilized to establish heat input rates over a range of temperatures for compliance determination. Monitoring required under condition F.17. shall satisfy periodic monitoring requirements for heat input.

[Rules 62-4.160(2), 62-210.200(PTE) and 62-213.440(1)(b)1.b., F.A.C.; and, PSD-FL-245C]

F.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition F.33.

[Rule 62-297.310(2), F.A.C.]

F.3. Methods of Operation. Fuels. Only pipeline natural gas or a maximum 0.05 percent, by weight, sulfur content No. 2 or superior grade of distillate fuel oil shall be fired in this unit.

[Rules 62-212.400, 62-212.410, and 62-213.410, F.A.C.; and, PSD-FL-245]

F.4. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours/year.

[Rule 62-210.200(PTE), F.A.C.; and, PSD-FL-245]

F.5. Fuel Usage as Heat Input.

(a) Natural Gas. Fuel usage as heat input shall not exceed 15.639×10^{12} Btu (LHV) per year (rolled monthly) until the unit achieves the NO_x emission limits (other than the initial limits) given in specific condition F.9. Thereafter, only the hourly heat input limits given in specific condition F.1. apply.

(b) Fuel Oil. Fuel usage as heat input shall not exceed 599×10^9 Btu (LHV) per year (rolled monthly).

[PSD-FL-245]

Control Technology

F.6. The permittee shall install SCR equipment and install an oxidation catalyst. The oxidation catalyst shall be designed for a minimum 90% destruction efficiency at base load.

[PSD Permit Modification dated October 8, 2002]

F.7. A water injection system shall be installed for use when firing No. 2 or superior grade distillate fuel oil for control of NO_x emissions.

[PSD-FL-245]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging times for Specific Conditions F.9.-F.13. are based on the specified averaging time of the applicable test method.}

F.8. The following table is a summary of the BACT determination and is followed by the applicable specific conditions F.9. through F.13. Values for NO_x are corrected to 15% O₂. Values for CO are corrected to 15% O₂.

Operational Mode	NO _x (ppm)	CO (ppm)	VOC (ppm)	PM/Visibility (% Opacity)	Technology and Comments
Combined Cycle	7.5 - NG (3 hr avg) 15 - FO (3-hr avg)	Oxidation Catalyst (annual test 2 ppm criteria at full load firing natural gas.)	Oxidation Catalyst	10	Conventional SCR with Oxidation Catalyst. Clean fuels, good combustion.

[PSD Permit Modification dated October 8, 2002]

F.9. Nitrogen Oxides. If conventional SCR is installed in conjunction with the conversion to combined cycle operation, achievable short-term NO_x concentrations in the exhaust gas shall be demonstrated at base load during the first compliance test following installation not to exceed 7.5 ppmvd at 15% O₂ when firing natural gas. If conventional SCR catalyst is installed, NO_x emissions shall not exceed 7.5 ppmvd at 15% O₂ when firing natural gas and 15 ppmvd at 15% O₂ when firing fuel oil on the basis of a 3-hour average, as measured by the CEMS. In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall not exceed 71.1 pounds per hour (when firing natural gas) and 148 pounds per hour (when firing fuel oil) to be demonstrated by stack tests.

[PSD-FL-245]

F.10. Carbon Monoxide. After July 31, 2003, the concentration of CO in the exhaust gas shall be additionally controlled by the use of an oxidation catalyst with a minimum of 90% CO removal efficiency (based upon design at base load). The CO emissions shall be tested annually at full load and shall not exceed 2 ppmvd when firing natural gas as measured by EPA Method 10. The oxidation catalyst shall be maintained according to manufacturers' recommendations, however in the event that CO emissions exceed 2ppmvd (as demonstrated by annual testing above) the permittee shall implement a remedy and re-test within 90 days of operation. Should the re-test result in CO emissions exceeding 2 ppmvd, the remedy shall be to completely replace the oxidation catalyst.

[PSD Permit Modification dated October 8, 2002]

F.11 Sulfur Dioxide. SO₂ emissions (at ISO conditions) shall not exceed 8 pounds per hour when firing pipeline natural gas and 127 pounds per hour when firing maximum 0.05 percent, by weight, sulfur content No. 2 or superior grade distillate fuel oil, as measured by applicable compliance methods (see specific condition F.29.). Emissions of SO₂ shall not exceed 38.4 tons per year.

[PSD-FL-245C and Applicant Request to Escape PSD Review]

F.12. Visible Emissions. Visible emissions shall not exceed 10 percent opacity.

[PSD-FL-245]

F.13. Volatile Organic Compounds. Prior to August 1, 2003, emissions shall be minimized through the use of best operating practices and properly tuned combustors. After July 31, 2003, VOC emissions shall be additionally controlled through the use of an oxidation catalyst. CO emissions shall be employed as a surrogate for VOC emissions and no further annual testing will be required.

[PSD Permit Modification dated October 8, 2002]

Excess Emissions

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS, NESHAP, or Acid Rain program provision.}

F.14. Excess emissions from this emissions unit resulting from startup, shutdown, malfunction or fuel switching shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized. Excess

emissions occurrences shall in no case exceed four hours in any 24 hour period for cold startup or two hours in any 24 hour period for other reasons unless specifically authorized by the Department for longer duration. During any calendar day in which a start-up, shutdown, or fuel change occurs, the following alternative NO_x limit applies:

- a. 100 lbs/hr on the basis of a 24-hour average
- b. 200 lbs/hr on the basis of a 24-hour average if fuel oil is fired during a start-up or shut-down within the 24-hour period

[Rule 62-210.700(1), F.A.C.; and, PSD Permit Modification dated October 8, 2002]

F.15. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

F.16. At all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 CFR 60.11(d)]

F.17. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG and using water injection to control NO_x emissions shall operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within ± 5.0 percent and shall be approved by the Administrator.

[40 CFR 60.334(a)]

F.18. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

- (1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
- (2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with 40 CFR 60.334(b).

[40 CFR 60.334(b)(1) & (2)]

F.19. Fuel Oil Monitoring Schedule. The following monitoring schedule for No. 2 or superior grade fuel oil shall be followed: For all bulk shipments of No. 2 or superior grade fuel oil received at the C. D. McIntosh, Jr. Power Plant, an analysis which reports the sulfur content and

the nitrogen content of the fuel shall be provided by the vendor. The analysis shall also specify the methods by which the analysis was conducted and shall comply with the requirements of 40 CFR 60.335(d). See specific condition F.29.
[PSD-FL-245]

F.20. Natural Gas Monitoring Schedule. The following custom monitoring schedule for natural gas is approved (pending EPA concurrence) in lieu of the daily sampling requirements of 40 CFR 60.334(b)(2):

- Monitoring of natural gas nitrogen content shall not be required.
- Analysis of the sulfur content of natural gas shall be conducted using one of the EPA-approved ASTM reference methods in specific condition F.29. for the measurement of sulfur in gaseous fuels, or an approved alternate method. Once Unit 5 becomes operational, monitoring of the sulfur content of the natural gas shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then fuel sulfur monitoring shall be conducted once per quarter for six quarters and after that, semiannually.
- Should any sulfur analysis indicate noncompliance with 40 CFR 60.333, the City shall notify DEP of such excess emissions and the custom fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while the monitoring schedule is reexamined.
- The City shall notify DEP of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content variation of greater than one grain per 100 cubic feet of natural gas) shall be considered as a change in the natural gas supply. Sulfur content of the natural gas will be monitored weekly by the natural gas supplier during the interim period when this monitoring schedule is being reexamined.
- Records of sampling analyses and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of five years, and shall be made available for inspection by the appropriate regulatory personnel.
- The City may obtain the sulfur content of the natural gas from the fuel supplier (Florida Gas Transmission or Gulfstream) provided the test methods listed in specific condition F.29. are used.

[PSD-FL-245]

F.21. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

F.22. To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Department to determine the nitrogen content of the fuel being fired.
[40 CFR 60.335(a)]

F.23. During performance tests to determine compliance, measured NO_X emissions at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$\text{NO}_X = [\text{NO}_X \text{ obs}] \left[\left(\frac{P_{\text{ref}}}{P_{\text{obs}}} \right)^{0.5} e^{19 [H_{\text{obs}} - 0.00633]} \left[\frac{288^\circ \text{K}}{T_{\text{amb}}} \right]^{1.53} \right]$$

where:

NO_X = Emissions of NO_X at 15 percent oxygen and ISO standard ambient conditions.

NO_X obs = Measured NO_X emission at 15 percent oxygen, ppmv.

P_{ref} = Reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

e = Transcendental constant (2.718)

H_{obs} = Specific humidity of ambient air at test.

T_{amb} = Temperature of ambient air at test.

[40 CFR 60.335(c)(1)]

F.24. When determining compliance with 40 CFR 60.332, Subpart GG - Standards of Performance for Stationary Gas Turbines, the monitoring device of 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with the permitted NO_X standard at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.

[40 CFR 60.335(c)(2)]

F.25. The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in 40 CFR 60.332 as follows:

c. U.S. EPA Method 20 (40 CFR 60, Appendix A) shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO_X emissions shall be determined at each of the load conditions specified in 40 CFR 60.335(c)(2).

[40 CFR 60.335(c)(3)]

F.26. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, for each fuel, at which this unit will be operated, but not later than 180 days after initial operation of the unit for that fuel, and annually

thereafter as indicated in this permit, by using the reference methods as described in the latest edition of 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C. [PSD-FL-245]

F.27. Compliance Testing. Initial (I) performance tests shall be performed on Unit 5 while firing natural gas as well as while firing fuel oil. Initial tests shall also be conducted after any modifications (and shakedown period not to exceed 100 days after restarting the combustion turbine) of air pollution control equipment, including installation of Ultra Low NO_x burners, Hot SCR, or conventional SCR. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 – September 30) pursuant to Rule 62-297.310(7), F.A.C., on Unit 5, as indicated. The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (I,A).
- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (I,A).
- EPA Reference Method 20, "Determination of Oxides of Nitrogen, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines." Initial test only for compliance with 40 CFR 60, Subpart GG and (I,A) short-term NO_x BACT limits (Method 7E or RATA test data may be used to demonstrate compliance for the annual test requirement).
- EPA Reference Method(s) 18 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.

[PSD-FL-245]

F.28. Continuous compliance with the NO_x emission limits: Continuous compliance with the NO_x emission limits shall be demonstrated with the CEM system based on the applicable averaging time of 24-hr block average (DLN or ULN technology) or a 3-hr average (if SCR is used). Based on CEMS data, a separate compliance determination is conducted at the end of each operating day (or 3-hr period when applicable) and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous operating day (or 3-hr period when applicable). Valid hourly emission rates shall not include periods of startup (including fuel switching), shutdown, or malfunction as defined in Rule 62-210.200, F.A.C., where emissions exceed the applicable NO_x standard. These excess emissions periods shall be reported as required in specific condition **F.59**. A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at least 15 minutes apart.

[PSD-FL-245]

F.29. Compliance with the SO₂ and PM/PM₁₀ emission limits: Notwithstanding the requirements of Rule 62-297.340, F.A.C., the use of pipeline natural gas and maximum 0.05 percent sulfur (by weight) No. 2 or superior grade distillate fuel oil, is the method for determining compliance for SO₂ and PM/PM₁₀. For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard and the 0.05% S limit, fuel oil analysis using ASTM D2880-71 or D4294 (or latest version) for the sulfur content of liquid fuels and D1072-80, D3031-81, D4084-82 or D3246-81 (or latest version) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA-approved custom fuel monitoring schedule. The applicant is responsible for ensuring that the procedures above are used for determination of fuel sulfur content. Analysis may be performed by the owner or operator, a service contractor retained by

the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e).

[PSD-FL-245]

F.30. Compliance with CO emission limit: An initial test for CO shall be conducted concurrently with the initial NO_x test, as required. The initial NO_x and CO test results shall be the average of three valid one-hour runs. Annual compliance testing for CO may be conducted concurrent with the annual RATA testing for NO_x required pursuant to 40 CFR 75 (required for gas only).

[PSD-FL-245]

F.31. Compliance with the VOC emission limit: An initial test is required to demonstrate compliance with the BACT VOC emission limit. Thereafter, the CO emission limit will be employed as a surrogate and no annual testing is required.

[PSD-FL-245]

F.32. To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and (d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. See specific conditions F.18. through F.20.

[40 CFR 60.335(e)]

F.33. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 95-100 percent of the maximum heat input rate allowed by the permit, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input verses ambient temperature). If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than permitted capacity. In this case, subsequent emissions unit operation is limited by adjusting the entire heat input verses ambient temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for ambient temperature) and 105 percent of the value reached during the test until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rule 62-297.310(2), F.A.C.; and, PSD-FL-245]

F.34. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic

mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.

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

F.35. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.]

F.36. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached to this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

F.37. The permittee shall comply with the requirements contained in APPENDIX SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

F.38. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not

require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
 - b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
- a. Visible emissions, if there is an applicable standard;
 - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c. Each NESHAP pollutant, if there is an applicable emission standard.
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
8. Any combustion turbine that does not operate for more than 400 hours per year shall term of its air operation permit.
9. The owner or operator shall notify the Department's Southwest District office, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department's Southwest District office, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
[Rule 62-297.310(7), F.A.C.; and, SIP approved]

Continuous Monitoring Requirements

F.39. Continuous Monitoring System. The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides emissions from Unit 5. Periods when NO_x emissions (ppmvd @ 15% oxygen) are above the BACT standards, listed in specific conditions F.8. and F.9., shall be reported to the DEP Southwest District office pursuant to Rule 62-4.160(8), F.A.C. Following the format of 40 CFR

60.7, periods of startup, shutdown, malfunction and fuel switching shall be monitored, recorded and reported as excess emissions when emission levels exceed the BACT standards listed in specific conditions F.8. and F.9.
[PSD-FL-245 and 40 CFR 60.7]

F.40. CEMS in lieu of Water to Fuel Ratio. Subject to EPA approval, the NO_x CEMS shall be used in lieu of the water/fuel monitoring system for reporting excess emissions in accordance with 40 CFR 60.334(c)(1) specified in specific condition F.48. Subject to EPA approval, calibration of the water/fuel monitoring device required in 40 CFR 60.335(c)(2) and specified in specific condition F.24. will be replaced by the 40 CFR 75 certification tests of the NO_x CEMS. Upon request from DEP, the CEMS emissions rates for NO_x on Unit 5 shall be corrected to ISO conditions to demonstrate compliance with the NO_x standard established in 40 CFR 60.332.
[PSD-FL-245]

F.41. When NO_x monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.
[PSD-FL-245]

F.42. A performance evaluation of the CEMS shall be conducted during any required performance test or within 30 days thereafter in accordance with the applicable performance specifications of 40 CFR 60, Appendix B and at other times as required by the Administrator.
[40 CFR 60.13(c)]

F.43. The zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts shall be checked at least once daily in accordance with a written procedure. The zero and span shall, at a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications of 40 CFR 60, Appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified.
[40 CFR 60.13(d)(1)]

F.44. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d)(1), all continuous monitoring systems shall be in continuous operation and shall meet the minimum frequency of operation as follows:
(2) All continuous monitoring systems for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
[40 CFR 60.13(e)]

F.45. All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained.
[40 CFR 60.13(f)]

F.46. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdown, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or

non-reduced form (e.g. ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit. (e.g. rounded to the nearest 1 percent opacity).

[40 CFR 60.13(h)]

F.47. Continuous Monitoring System. The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40 CFR 75.

[PSD-FL-245]

Record Keeping and Reporting Requirements

F.48. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as follows:

- a. Nitrogen oxides. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the permitted nitrogen oxide standard by the initial performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the initial performance test. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335(a).

[Rule 62-296.800, F.A.C.; and, 40 CFR 60.334(c)(1)]

F.49. The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form [see 40 CFR 60.7(d)] to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or, the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or, the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

- (1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

Quarterly excess emission reports, in accordance with 40 CFR 60.7(a), shall be submitted to the DEP's Southwest District office.

[40 CFR 60.7(c)(1), (2), (3), & (4); and, PSD-FL-245]

F.50. The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

[40 CFR 60.7(d)(1) & (2)]

F.51. (1) Notwithstanding the frequency of reporting requirements specified in 40 CFR 60.7(c), an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in 40 CFR 60, Subpart A, and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in 40 CFR 60.7(e)(2).

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to

the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in 40 CFR 60.7(e)(1) and (e)(2).
[40 CFR 60.7(e)(1)]

F.52. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department's Southwest District office within one (1) working day of: the nature, extent, and duration of the excess emissions; and, the actions taken to correct the problem. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.; and, PSD-FL-245]

F.53. All recorded data shall be maintained on file by the Source for a period of five years.
[Rule 62-213.440, F.A.C.]

F.54. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department's Southwest District office on the results of each such test.

(b) The required test report shall be filed with the Department's Southwest District office as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department's Southwest District office to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

- 10: The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department's Southwest District office or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

Miscellaneous Requirements.

F.55. Definitions. For the purposes of Rule 62-204.800(7), F.A.C., the definitions contained in the various provisions of 40 CFR 60, shall apply except that the term "Administrator" when used in 40 CFR 60, shall mean the Secretary or the Secretary's designee.
[40 CFR 60.2; and, Rule 62-204.800(7)(a), F.A.C.]

F.56. Circumvention. No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.
[40 CFR 60.12]

F.57. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment.
[PSD-FL-245]

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

**FINAL Permit No.: 1050004-016-AV
Facility ID No.: 1050004**

F.58. Compliance Plan. Based on the application, initial compliance has been demonstrated for natural gas firing, but not for distillate fuel oil firing. Therefore, Appendix CP-1, Compliance Plan for McIntosh Unit 5, has been established and is a part of this permit.
[Rule 62-213.440(2), F.A.C.]

Section IV. This section is the Acid Rain Part.

Operated by: Lakeland Electric
ORIS code: 676

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions unit(s) listed below are regulated under Acid Rain, Phase II.

E.U.

ID No.	Brief Description
-001	Boiler - McIntosh Unit 1
-005	Boiler - McIntosh Unit 2
-006	Boiler - McIntosh Unit 3
-028	McIntosh Unit 5 – 370 MW Combined Cycle Stationary Combustion Turbine

A.1. The Phase II permit application(s) submitted for this facility, as approved by the Department, are a part of this permit. The owners and operators of these Phase II acid rain unit(s) must comply with the standard requirements and special provisions set forth in the application(s) listed below:

a. DEP Form No: 62-210.900(1)(a), dated 04/29/2003.
 [Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO₂) allowance allocations for each Acid Rain unit is as follows:

E.U. ID No.	EPA ID	Year	2004	2005	2006	2007	2008
-001	No. 01	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	907*	907*	907*	907*	907*
-005	No. 02	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	1029*	1029*	1029*	1029*	1029*
-006	No. 03	SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	9928*	9928*	9928*	9928*	9928*
-028		SO ₂ allowances, under Table 2 or 3 of 40 CFR Part 73	0*	0*	0*	0*	0*

* The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.]

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.

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

**FINAL Permit No.: 1050004-016-AV
Facility ID No.: 1050004**

1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.
[Rules 62-213.440(1)(c)1., 2. & 3., F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62- 214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, F.A.C.
[Rules 62-213.413 and 62-214.370(4), F.A.C.]

A.5. Comments, notes, and justifications: None.

Subsection B. This subsection addresses Acid Rain, Phase I.

{Permitting note: The U.S. EPA issues Acid Rain Phase I permit(s)}

The emissions unit listed below is regulated under Acid Rain Part, Phase I, for Lakeland Electric, C. D. McIntosh, Jr. Power Plant, **Facility ID No.:** 1050004, **ORIS code:** 676

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-006	Boiler - McIntosh Unit 3

B.1. The owners and operators of these Phase I acid rain unit(s) must comply with the standard requirements and special provisions set forth in the permit(s) listed below:

a. Phase I permit dated 03/27/97.

[Chapter 62-213, F.A.C.]

B.2. Nitrogen oxide (NO_x) requirements for the following Acid Rain unit is as follows:

<u>E.U. ID No.</u>	<u>EPA ID</u>	<u>NO_x limit</u> *
-006	No. 03	<p>Pursuant to 40 CFR 76.8(d)(2), the Florida Department of Environmental Protection approves a NO_x early election compliance plan for unit No. 03. The compliance plan is effective for calendar year 2000 through calendar year 2007. Under the compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation, under "40 CFR 76.5(a)(2) of 0.50 lb/MMBtu" for dry bottom wall-fired boilers. If the unit is in compliance with its applicable emission limitation for each year of the plan, then the unit shall not be subject to the applicable emission limitation, under "40 CFR 76.7(a)(2) of 0.46 lb/MMBtu" for dry bottom wall-fired boilers until calendar year 2008.</p> <p>In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and the requirements covering excess emissions.</p>

* Based on the Phase II NO_x Compliance Plan dated December 4, 1997.

B.3. Comments, notes, and justifications: none

Appendix U-1: List of Unregulated Emissions Units and/or Activities.

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

FINAL Permit No.: 1050004-016-AV
Facility ID No.: 1050004

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

E.U. ID

<u>No.</u>	<u>Brief Description of Emissions Units and/or Activity</u>
-007	Tanks with greater than 10,000 gallon capacity installed prior to July 23, 1984
-008	Diesel drive coal tunnel sump engine
-009	Fire water UPS diesel No. 31
-010	Fire water UPS diesel No. 32
-011	CT startup diesel
-012	General purpose diesel engines
-013	Emergency generators
-014	General purpose painting
-015	Parts Cleaning
-016	Sand Blasting (Maintenance only)
-017	Wastewater Treatment Tank
-018	Three Cooling Towers (Units 2 and 3)
-019	Northside Waste Water Treatment Facility - Wastewater treatment processes and tanks
-020	Northside Waste Water Treatment Facility - Two emergency diesel generators
-021	Northside Waste Water Treatment Facility - Chemical and petroleum storage
-022	Northside Waste Water Treatment Facility - Miscellaneous activities
-023	Coal processing and conveying system
-024	Coal storage system
-025	Coal transfer and loading system
-026	Limestone handling and storage system
-027	Flyash handling and storage system
-029	1.05 million gallon fuel storage tank for McIntosh Unit 5, subject only to the reporting requirements of 40 CFR 60, Subpart Kb
-030	Mechanical Draft Cooling Tower

Appendix I-1: List of Insignificant Emissions Units and/or Activities.

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

FINAL Permit No.: 1050004-016-AV
Facility ID No.: 1050004

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, or that meet the criteria specified in Rule 62-210.300(3)(b)1., F.A.C., Generic Emissions Unit Exemption, are exempt from the permitting requirements of Chapters 62-210, 62-212 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rules 62-210.300(3)(a) and (b)1., F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and/or Activities

1. Diesel Storage Tank (T-021)
2. Heavy Oil Tank (T-113)
3. Heavy Oil Tank (T-114)
4. Heavy Oil Tank (T-115)
5. Used Oil Tank (T-116)
6. Comfort Heating <1 MMBtu/hr
7. Non-Industrial Vacuum Cleaning
8. Refrigeration Units
9. Vacuum Pumps for Labs
10. Steam Cleaning Equipment
11. Sanders <5 square feet
12. Space Heating Equipment; non-boilers
13. Bakery Ovens
14. Lab Equipment
15. Brazing, Soldering, or Welding
16. Laundry Dryers
17. Fire and Safety Equipment
18. Surface Coating <5% VOC, by volume

Appendix H-1: Permit History

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

FINAL Permit Renewal No.: 1050004-016-AV
Facility ID No.: 1050004

E.U. ID No.	Description	Permit No.	Effective Date	Expiration Date	Project Type ¹
All	Facility	1050004-003-AV	01/01/1999	12/31/2003	Initial
-028 -029	McIntosh Unit 5 1.05 MM gal. Storage Tank	1050004-004-AC	07/10/1998	07/10/2003	Construction (new)
-006	McIntosh Unit 3	1050004-005-AV	03/05/1999	12/31/2003	Revision
-002	Lime Silo #[x]	1050004-006-AC	01/29/1999	01/29/2004	Construction (mod.)
-006	McIntosh Unit 3	1050004-007-AC	Withdrawn		Construction (mod.)
-024	Boiler #[x]	1050004-008-AC	12/13/1999	12/13/2004	Construction (mod.)
-028 -029	McIntosh Unit 5 1.05 MM gal. Storage Tank	1050004-009-AV	11/19/2000	12/31/2003	Revision
-028	McIntosh Unit 5	1050004-010-AC	06/26/2001	12/31/2003	Construction (mod.)
-028	McIntosh Unit 5	1050004-011-AV	10/16/2001	12/31/2003	Revision
All	Facility	1050004-012-AV	12/18/2001	12/31/2003	Admin. Correction
-028	McIntosh Unit 5	1050004-013-AC	12/28/2001	05/01/2002	Construction (mod.)
-028	McIntosh Unit 5	1050004-014-AC	10/08/2002	10/08/2002	Construction (mod.)
-028	McIntosh Unit 5	1050004-015-AV	07/07/2003	12/31/2003	Revision
-030	Mechanical Draft Cooling Tower				
All	Facility	1050004-016-AV	01/01/2004	12/31/2008	Renewal

¹ Project Type (select one): Title V: Initial, Revision, Renewal, or Admin. Correction; Construction (new or mod.); or, Extension (AC only).

² Change to an actual date, which is day 55 from the date of posting the PROPOSED Permit for EPA review (see confirmation e-mail from Tallahassee) or the date that EPA confirms resolution of any objections.

Table 1-1, Summary of Air Pollutant Standards and Terms

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

FINAL Permit Renewal No.: 1050004-016-AV
Facility ID No.: 1050004

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

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

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions			Equivalent Emissions*		Regulatory Citation(s)	See permit condition(s)
			Standard(s)	lbs./hour	TPY	lbs./hour	TPY		
VE	All	8,760	20% w/ 40% for 2 min/hr					62-296.405(1)(a),FAC	III.A.5.
VE	All		60% 3 hrs/24 hrs					62-210.700(3),FAC	III.A.6.
PM	Gas	8,760	0.1 lb/MMBtu			98.5	431.4	62-296.405(1)(b),FAC	III.A.7.
PM	Oil	8,760	0.1 lb/MMBtu			95.0	415.1	62-296.405(1)(b),FAC	III.A.7.
PM	Gas	1,095	0.3 lb/MMBtu			295.5	161.8	62-210.700(3),FAC	III.A.8.
PM	Oil	1,095	0.3 lb/MMBtu			285.0	156.0	62-210.700(3),FAC	III.A.8.
SO ₂	Oil	8,760	2.75 lb/MMBtu			2,612.5	11,442.8	62-296.405(1)(c)1.,FAC	III.A.9.
SO ₂	Oil	8,760	2.5% S by weight			2,612.5	11,442.8	AO 53-243945	III.A.10.
Arsenic	Used Oil		5 ppm (42,000 gal/yr)				0.0008	AO 53-243945	III.A.11.
Cadmium	Used Oil		2 ppm (42,000 gal/yr)				0.0003	AO 53-243945	III.A.11.
Chromium	Used Oil		10 ppm (42,000 gal/yr)				0.0017	AO 53-243945	III.A.11.
Lead	Used Oil		100 ppm (42,000 gal/yr)				0.017	AO 53-243945	III.A.11.
Total Halogens	Used Oil		1,000 ppm (42,000 gal/yr)				0.17	AO 53-243945	III.A.11.
PCBs	Used Oil		<50 ppm (42,000 gal/yr)				0.0084	AO 53-243945	III.A.11.

Notes:
* The "Equivalent Emissions" listed are for informational purposes only.

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Table 2-1, Summary of Compliance Requirements

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

FINAL Permit Renewal No.: 1050004-016-AV
Facility ID No.: 1050004

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

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

Pollutant Name or Parameter	Fuel(s)	Compliance Method	Testing Time Frequency	Frequency Base Date *	Min. Compliance Test Duration	CMS**	See permit condition(s)
VE	Gas	DEP Method 9	Renewal	1-Jul	60 minutes		III.A.17. & 18. & 28.
VE	Oil	DEP Method 9	Annual	1-Jul	60 minutes		III.A.17. & 18. & 28.
PM	Gas	EPA Method 17, 5, 5B, or 5F	ASP No. 97-B-01	1-Jul	1 hour		III.A.19. & 29.
PM	Oil	EPA Method 17, 5, 5B, or 5F	Annual	1-Jul	1 hour		III.A.19. & 29.
SO ₂	Oil	EPA Method 6, 6A, 6B, or 6C	Annual	1-Jul	1 hour		III.A.15. & 20. & 27.
SO ₂	Oil	2.5% S by weight	Each Delivery				III.A.15. & 20. & 21.
Arsenic	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
Cadmium	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
Chromium	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
Lead	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
Total Halogens	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
Flash Point	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.
PCBs	Used Oil	ASTM Standard D140-70	Each Delivery				III.A.11. & 30. & 34.

Notes:

* The frequency base date is established for planning purposes only; see Rule 62-297.310, F.A.C.

**CMS [=] continuous monitoring system

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ATTACHMENT MC-EU1-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT MC-EU1-IV3
ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR

The fossil fuel steam generator Unit 1 can operate on both natural gas and fuel oil (No. 6 through No. 2 fuel oil). The maximum sulfur content in the fuel oil shall not exceed 2.5 percent. The No. 2 fuel oil is used as pilot fuel during startup, shutdown, and malfunctions. On-spec oil is co-fired with other fuels. This unit can operate for the entire year at varying loads (i.e., 8,760 hours 0 to 100 percent load) and can fire fuels, alone or in combination, with no restrictions on hours of operation.

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
McIntosh Unit 2 – Fossil Fuel Fired Steam Generator (FFSG)

3. Emissions Unit Identification Number: **005**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: June 1976	7. Emissions Unit Major Group SIC Code: 49
--	--------------------------------	--	--

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **115 MW**

11. Emissions Unit Comment:
Emission unit is a natural gas, No. 6 fuel oil, or No. 2 fuel oil-fired steam generator.

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

Emissions Unit Control Equipment/Method: Control 1 of 1

- | |
|---|
| 1. Control Equipment/Method Description:
NO _x control incorporated in furnace design through use of flue gas recirculation (FGR). |
| 2. Control Device or Method Code: 026 |

Emissions Unit Control Equipment/Method: Control ____ of ____

- | |
|--|
| 1. Control Equipment/Method Description: |
| 2. Control Device or Method Code: |

Emissions Unit Control Equipment/Method: Control ____ of ____

- | |
|--|
| 1. Control Equipment/Method Description: |
| 2. Control Device or Method Code: |

Emissions Unit Control Equipment/Method: Control ____ of ____

- | |
|--|
| 1. Control Equipment/Method Description: |
| 2. Control Device or Method Code: |

EMISSIONS UNIT INFORMATIONSection [2]
McIntosh Unit 2**C. EMISSION POINT (STACK/VENT) INFORMATION**
(Optional for unregulated emissions units.)**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: S002		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: 005			
5. Discharge Type Code: V	6. Stack Height: 157 feet	7. Exit Diameter: 10.5 Feet	
8. Exit Temperature: 277°F	9. Actual Volumetric Flow Rate: 380,200 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 409.2 North (km): 3106.2		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters from Application for Permit No. 1050004-016-AV.			

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Natural-Gas Boilers > 100 MMBtu/hr		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: Million cubic feet natural gas burned
4. Maximum Hourly Rate: 1.16	5. Maximum Annual Rate: 10,162	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,024
10. Segment Comment: Maximum hourly rate = 1,184.5 MMBtu/hr / (1,024 MMBtu/MM ft ³) = 1.16 MM ft ³ /hr Maximum annual rate = 1.16 MM ft ³ /hr x 8,760 hr/yr = 10,161.6 MM ft ³ /yr. Propane is used for ignition/startup only (SCC 1-01-010-02).		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Residual Oil No. 6 – Normal Firing		
2. Source Classification Code (SCC): 1-01-004-01		3. SCC Units: 1,000 gallons burned
4. Maximum Hourly Rate: 7.43	5. Maximum Annual Rate: 65,116	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
10. Segment Comment: Maximum hourly rate = 1,115 MMBtu/hr / (150 MMBtu/1000 gallons) = 7,433.3 gallons/hr Maximum annual rate = 7,433.3 gallons/hr x 8,760 hr/yr = 65,116 x 10 ³ gallons/yr.		

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Distillate Oil No. 2 – Normal Firing		
2. Source Classification Code (SCC): 1-01-005-01		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 7.96	5. Maximum Annual Rate: 69,767	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 140
10. Segment Comment: Maximum hourly rate = $1,115 \text{ MMBtu/hr} / (140 \text{ MMBtu/1000 gallon}) = 7,964.3 \text{ gallons/hr}$ Maximum annual rate = $7,964.3 \text{ gallons/hr} \times 8,760 \text{ hr/yr} = 69,767.3 \times 10^3 \text{ gallons/yr}$.		

Segment Description and Rate: Segment ___ of ___

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM ₁₀			NS
CO			NS
VOC			NS
SO ₂			EL
NO _x	026		EL

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

POLLUTANT DETAIL INFORMATION

Page [1] of [2]
Total Particulate Matter

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 118.5 lb/hour 518.8 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.1 lb/MMBtu Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.1 lb/MMBtu x 1,184.5 MMBtu/hr = 118.45 lb/hr (Natural gas firing scenario) Hourly emissions = 0.1 lb/MMBtu x 1,115.0 MMBtu/hr = 111.5 lb/hr (No. 6 or No. 2 fuel oil firing scenario) Annual emissions = 118.45 lb/hr x 8760 hrs/yr x 1 TPY/2,000 lbs = 518.8 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Potential emissions based on maximum heat input of natural gas = 1,184.5 MMBtu/hr.			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [2]
McIntosh Unit 2

Page [1] of [2]
Total Particulate Matter

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1 lb/MMBtu	4. Equivalent Allowable Emissions: 111.5 lb/hour 488.4 tons/year
5. Method of Compliance: Annual stack test; EPA Methods 5 or 17, if greater than 400 hr/yr oil firing.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on No. 6 or No. 2 fuel oil firing during normal operations. 40 CFR 60.42(a)(1)&(2) and Permit No. 1050004-016-AV. Annual compliance test not required if firing only gaseous fuel(s).	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1 lb/MMBtu	4. Equivalent Allowable Emissions: 118.5 lb/hour 518.8 tons/year
5. Method of Compliance: None	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on natural gas firing during normal operations.	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

POLLUTANT DETAIL INFORMATION

Page [2] of [2]
Sulfur Dioxide

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 892 lb/hour 3,907 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.8 lb/MMBtu Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.8 lb/MMBtu x 1115 MMBtu/hr = 892 lb/hr (Oil firing scenario) Annual emissions = (892 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 3,907.0 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly emissions based on oil firing.			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [2]
McIntosh Unit 2

Page [2] of [2]
Sulfur Dioxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.8 lb/MMBtu	4. Equivalent Allowable Emissions: 892 lb/hour 3,907 tons/year
5. Method of Compliance: Fuel oil analysis and total heat input from all fossil fuels burned including gaseous fuels.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on oil firing. 40 CFR Part 60, Subpart D and Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [2]
McIntosh Unit 2

Page [1] of [2]
Nitrogen Oxides

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 334.5 lb/hour 1,465.1 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.3 lb/MMBtu Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.3 lb/MMBtu x 1,115 MMBtu/hr = 334.5 lb/hr (Oil firing scenario) Hourly emissions = 0.2 lb/MMBtu x 1184.5 MMBtu/hr = 236.9 lb/hr (Natural gas firing scenario) Annual emissions = (334.5 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 1,465.1 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly emissions based on oil firing.			

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

POLLUTANT DETAIL INFORMATION

Page [2] of [2]
Nitrogen Oxides

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.3 lb/MMBtu	4. Equivalent Allowable Emissions: 334.5 lb/hour 1,465.1 tons/year
5. Method of Compliance: Annual stack test; EPA Method 7, 7A, 7C, 7D, or 7E.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on fuel oil firing. 40 CFR 60.44(a)(1)&(2) and Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.2 lb/MMBtu	4. Equivalent Allowable Emissions: 2,36.9 lb/hour 1,037.6 tons/year
5. Method of Compliance: Annual stack test; EPA Method 7, 7A, 7C, 7D, or 7E.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on natural gas firing. 40 CFR 60.44(a)(1)&(2) and Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: VE test using EPA Method 9, and CEMS.	
5. Visible Emissions Comment: 40 CFR 60.42(a)(1)&(2) and Permit No. 1050004-016-AV. Annual compliance test not required if firing only gaseous fuel(s). Annual VE test required if > 400 hrs/yr oil operation.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: Excess emissions for startup, shutdown, or malfunction, see rule 62-296.700 (1) and (2), F.A.C. Permit No. 1050004-016-AV.	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 5

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 252 Serial Number: 139	
5. Installation Date: 14 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor 2 of 5

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 152 Serial Number: 170	
5. Installation Date: 14 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 3 of 5

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: United Science Inc. Model Number: 500C Serial Number: 0993687	
5. Installation Date: 14 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor 4 of 5

1. Parameter Code: CO ₂	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: California Analytical Model Number: 3300 Serial Number: N3H4430T	
5. Installation Date: 14 Dec 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 5 of 5

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Air Monitor Model Number: Musstron	Serial Number: 6232D
5. Installation Date: 14 Feb 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor _ of _

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [2]
McIntosh Unit 2

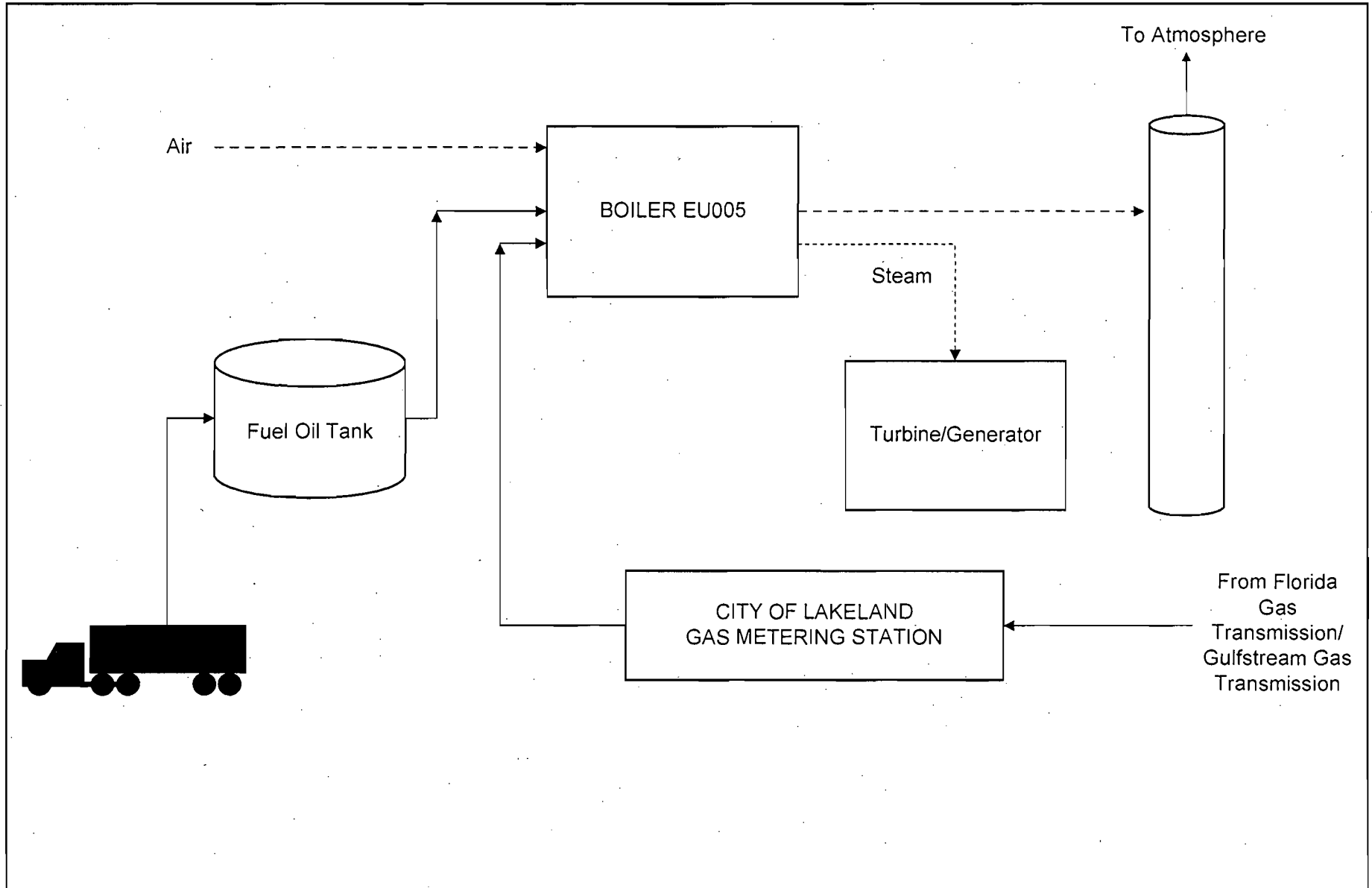
I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU2-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU2-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU2-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU2-16</u> Test Date(s)/Pollutant(s) Tested: <u>5/28/2008, VE</u> <input checked="" type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: <u>June 12 to 17, 2007</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT MC-EU2-I1

PROCESS FLOW DIAGRAM



Attachment MC-EU2-I1
 Process Flow Diagram
 City of Lakeland

Process Flow Legend

- Solid/Liquid
- Gas
- Steam

REV.	SCALE:	
DESIGN	SL	SL
CADD	--	--
CHECK
REVIEW	KK	KK



ATTACHMENT MC-EU2-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

Monthly Natural Gas Report

Day	FGT BTU	GS	50% avg btu	50% wkly avg	FGT Avg Grains/hcf	GS	50% avg	50% wkly avg
5/1/2008	1030	1017	1023.5	1023.929	0.04	0.16	0.16	0.117143
5/2/2008	1031	1017	1024		0.042	0.166	0.104	
5/3/2008	1030	1019	1024.5		0.04	0.175	0.1075	
5/4/2008	1030	1019	1024.5		0.046	0.182	0.114	
5/5/2008	1030	1018	1024		0.045	0.182	0.1135	
5/6/2008	1029	1018	1023.5		0.041	0.175	0.108	
5/7/2008	1028	1019	1023.5		0.046	0.18	0.113	
5/8/2008	1029	1017	1023	1024.357	0.046	0.151	0.0985	0.085071
5/9/2008	1030	1016	1023		0.042	0.131	0.0865	
5/10/2008	1030	1018	1024		0.043	0.114	0.0785	
5/11/2008	1030	1018	1024		0.042	0.134	0.088	
5/12/2008	1031	1021	1026		0.042	0.104	0.073	
5/13/2008	1031	1022	1026.5		0.038	0.14	0.089	
5/14/2008	1029	1019	1024		0.036	0.128	0.082	
5/15/2008	1032	1020	1026	1025.214	0.042	0.149	0.0955	0.1025
5/16/2008	1031	1019	1025		0.042	0.19	0.116	
5/17/2008	1032	1021	1026.5		0.034	0.195	0.1145	
5/18/2008	1030	1022	1026		0.041	0.167	0.104	
5/19/2008	1029	1019	1024		0.04	0.16	0.1	
5/20/2008	1029	1019	1024		0.023	0.159	0.091	
5/21/2008	1030	1020	1025		0.017	0.176	0.0965	
5/22/2008	1029	1020	1024.5	1023.643	0.022	0.152	0.087	0.093714
5/23/2008	1035	1021	1028		0.033	0.174	0.1035	
5/24/2008	1029	1018	1023.5		0.031	0.136	0.0835	
5/25/2008	1027	1018	1022.5		0.041	0.151	0.096	
5/26/2008	1027	1017	1022		0.04	0.147	0.0935	
5/27/2008	1028	1017	1022.5		0.031	0.026	0.0285	
5/28/2008	1028	1017	1022.5		0.033	0.295	0.164	
5/29/2008	1028	1018	1023	1022.875	0.048	0.258	0.153	0.145625
5/30/2008	1028	1015	1021.5		0.032	0.273	0.1525	
5/31/2008	1029	1018	1023.5		0.03	0.226	0.128	

FGT - Florida Gas Transmission
 GS - Gulfstream Gas Transmission

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM	MPP F @ 5'	78.5		65.0	63.0				
LPP F @ CENTER	MPP F @ 15'	70.0	62.0	65.0	63.0	77.0	75.0	67.0	74.0
LPP F 3' from TOP	MPP F @ 25'				64.0				
	MPP F @ 35'				63.0				
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,595.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 6"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox

Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU2-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU2-I4
PROCEDURES FOR STARTUP AND SHUTDOWN
MINIMIZING EXCESS EMISSIONS

Startup of the fossil-fuel boilers begins when fuel (propane, natural gas or No. 2 fuel oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10-15 percent load.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10-15 percent of maximum and continues until the final burner gun is removed from service.

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors. Continuous monitors are currently in place for NO_x, CO₂, SO₂, flow, and opacity. Audible and visual alarms are activated whenever the permitted value for opacity is approached.

Countermeasures that may be taken in the event of excess emissions include, but are not limited to:

- Burner elevation loading;
- Proper excess air adjustments;
- Recognizing and removal of faulty burners;
- Fuel oil temperature adjustments;
- Proper and timely operation of boiler cleaning devices;
- Removal of the unit from system-dispatch mode (load control);
- Reduction of unit megawatt load;
- Stopping and restarting of boiler cleaning devices;
- Lowering load ramp rate;
- Pressure rate changes;
- Placing boiler controls on manual; and
- Adjusting burner dampers to increase windbox/furnace air pressure.

Knowledge of the appropriate countermeasures to take when excess emissions occur is a part of the routine operator training for those who operate the boilers. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, and fuels and combustion training.

ATTACHMENT MC-EU2-I6

COMPLIANCE DEMONSTRATION REPORTS/RECORDS

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME
Lakeland Electric

STREET ADDRESS
3030 E. Lake Parker Dr.

CITY
Lakeland STATE
FL ZIP
33805

PHONE (KEY CONTACT)
803-834-6684 SOURCE ID NUMBER
1050004 EU005

PROCESS EQUIPMENT
Steam generating boiler OPERATING MODE
100 MW

CONTROL EQUIPMENT
None OPERATING MODE
None

DESCRIBE EMISSION POINT
Western-most stack in group

HEIGHT ABOVE GROUND LEVEL
156' HEIGHT RELATIVE TO OBSERVER
Start *150'* End *Same*

DISTANCE FROM OBSERVER
200 yards DIRECTION FROM OBSERVER
Start *E* End *Same*

DESCRIBE EMISSIONS
Start *heat* End *Same*

EMISSION COLOR
Start *None* End *None* IF WATER DROPLET PLUME
Attached *None* Detached *None*

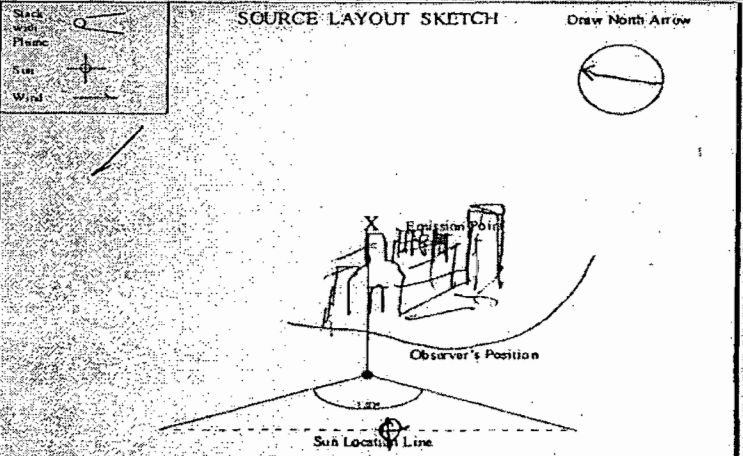
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
Start *top of stack* End *Same*

DESCRIBE PLUME BACKGROUND
Start *sky* End *Same*

SKY COLOR
Start *blue/white* End *Same* SKY CONDITIONS
Start *scattered* End *Same*

WIND SPEED
Start *5-7 mph* End *Same* WIND DIRECTION
Start *E* End *Same*

AMBIENT TEMP
Start *93°F* End *93°F* WET BULB TEMP
63°F RH percent
38%



ADDITIONAL INFORMATION
Firing PNG

OBSERVATION DATE	START TIME				END TIME
	00	15	30	45	
06/05/2008	12:50 CEMS				13:50
	00	15	30	45	CEMS
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11	0	0	0	0	
12	0	0	0	0	
13	0	0	0	0	
14	0	0	0	0	
15	0	0	0	0	
16	0	0	0	0	
17	0	0	0	0	
18	0	0	0	0	
19	0	0	0	0	
20	0	0	0	0	
21	0	0	0	0	
22	0	0	0	0	
23	0	0	0	0	
24	0	0	0	0	
25	0	0	0	0	
26	0	0	0	0	
27	0	0	0	0	
28	0	0	0	0	
29	0	0	0	0	
30	0	0	0	0	

OBSERVER'S NAME
Margaret S. Cangro

OBSERVER'S SIGNATURE
Margaret S. Cangro DATE
6/5/08

ORGANIZATION
Catalyst Air Management, Inc.

CERTIFIED BY
E.T.A. DATE
6/13/08

PAGE *1* OF *2*

VISIBLE EMISSION OBSERVATION FORM

(CONTINUED)

COMPANY NAME <i>Lakeland Electric</i>					TYPE OF FACILITY <i>Electric Power Generation</i>						
CITY <i>Lakeland</i>					EMISSION POINT <i>EU 005 Unit 2</i>						
TEST NO. <i>PN6 fired</i>			PAGE <i>2</i> OF <i>2</i>		OBSERVER <i>Margaret Canpro</i>						
OBSERVATION DATE <i>6/5/2008</i>					START TIME <i>12:50 CEMS</i>		END TIME <i>13:50</i>				
	0	15	30	45	COMMENTS		0	15	30	45	COMMENTS
1	0	0	0	0		61					
2	0	0	0	0		62					
3	0	0	0	0		63					
4	0	0	0	0		64					
5	0	0	0	0		65					
6	0	0	0	0		66					
7	0	0	0	0		67					
8	0	0	0	0		68					
9	0	0	0	0		69					
10	0	0	0	0		70					
11	0	0	0	0		71					
12	0	0	0	0		72					
13	0	0	0	0		73					
14	0	0	0	0		74					
15	0	0	0	0		75					
16	0	0	0	0		76					
17	0	0	0	0		77					
18	0	0	0	0		78					
19	0	0	0	0		79					
20	0	0	0	0		80					
21	0	0	0	0		81					
22	0	0	0	0		82					
23	0	0	0	0		83					
24	0	0	0	0		84					
25	0	0	0	0		85					
26	0	0	0	0		86					
27	0	0	0	0		87					
28	0	0	0	0		88					
29	0	0	0	0		89					
30	0	0	0	0		90					

ATTACHMENT MC-EU2-IV3

ALTERNATIVE METHODS OF OPERATION

**ATTACHMENT MC-EU2-IV3
ALTERNATIVE METHODS OF OPERATION
FOSSIL FUEL STEAM GENERATOR**

The fossil fuel steam generator Unit 2 can operate on both natural gas and fuel oil (No. 6 through No. 2 fuel oil). Propane is used as pilot fuel during startup, shutdown, and malfunctions. This unit can operate for the entire year at varying loads (i.e., 8,760 hours 0 to 100 percent load) and can fire fuels, alone or in combination, with no restrictions on hours of operation.

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
McIntosh Unit 3 – Fossil Fuel Fired Steam Generator (FFFSG)

3. Emissions Unit Identification Number: **006**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: 1982	7. Emissions Unit Major Group SIC Code: 49
--	--------------------------------	---	--

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **364 MW**

11. Emissions Unit Comment:
This emission unit is a coal, residual oil, and natural gas fired steam-generating unit which also co-fires refuse derived fuel (RDF) and petroleum coke.

EMISSIONS UNIT INFORMATION

**Section [3]
McIntosh Unit 3**

Emissions Unit Control Equipment/Method: Control 1 of 3

1. Control Equipment/Method Description: PM – Electrostatic Precipitator (ESP)
2. Control Device or Method Code: 010

Emissions Unit Control Equipment/Method: Control 2 of 3

1. Control Equipment/Method Description: SO₂ – Flue Gas Desulfurization (FGD) system.
2. Control Device or Method Code: 067

Emissions Unit Control Equipment/Method: Control 3 of 3

1. Control Equipment/Method Description: NO_x – Low NO_x burners (LNB), Overfire air (OFA) system.
2. Control Device or Method Code: 205, 204

Emissions Unit Control Equipment/Method: Control _____ of _____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATIONSection [3]
McIntosh Unit 3**C. EMISSION POINT (STACK/VENT) INFORMATION**
(Optional for unregulated emissions units.)**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: S003		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: 006			
5. Discharge Type Code: V	6. Stack Height: 250 feet	7. Exit Diameter: 18 Feet	
8. Exit Temperature: 125°F	9. Actual Volumetric Flow Rate: 1,260,536 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 409.3 North (km): 3106.3		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters based on permit application for the draft/proposed Title V permit No. 105004-020-AV.			

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type): External combustion Boilers; Electric Generation, Coal.		
2. Source Classification Code (SCC): 1-01-001-01		3. SCC Units: Tons
4. Maximum Hourly Rate: 151.7	5. Maximum Annual Rate: 1,328,892	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 3.3	8. Maximum % Ash: 16	9. Million Btu per SCC Unit: 24
10. Segment Comment: Up to 20 percent petroleum coke is authorized to be co-fired with coal. Maximum hourly rate = 3,640 MMBtu/hr / 24 MMBtu/ton (HHV) = 151.7 tons/hr.		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Residual Oil.		
2. Source Classification Code (SCC): 1-01-004-01		3. SCC Units: 1,000 Gallons Burned
4. Maximum Hourly Rate: 24.27	5. Maximum Annual Rate: 212,579	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.73	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
Up to 10 percent RDF is authorized to be confined with low sulfur ($\leq 0.5\%$ S) oil. Maximum hourly rate = 3,640 MMBtu/hr / (150 MMBtu/1000 gallons) = 24,267 gallons/hr		

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Petroleum Coke.		
2. Source Classification Code (SCC): 1-01-008-01		3. SCC Units: Tons
4. Maximum Hourly Rate: 151.7	5. Maximum Annual Rate: 1,328,892	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 3.3	8. Maximum % Ash:	9. Million Btu per SCC Unit: 24
10. Segment Comment:		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type): Natural Gas		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: Million Cubic Feet
4. Maximum Hourly Rate: 3.56	5. Maximum Annual Rate: 31,139	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,024
10. Segment Comment: Natural gas or propane only or in combination with any other fuels or fuel combinations. Maximum hourly rate = 3,640 MMBtu/hr / (1,024 MMBtu/MMft³) = 3.56 MMft³/hr		

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010		EL
SO2	067		EL
NOx	205, 204		EL
CO			EL
VOC			NS
PM10	067		NS
HCl	067		NS
H107	010		NS

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
Particulate Matter - Total

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 273 lb/hour 1,196 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.075 lb/MMBtu Reference: Permit 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.075 lb/MMBtu x 3,640 MMBtu/hr = 273.0 lb/hr Annual emissions = (273.0 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 1,196 TPY			
11. Potential, Fugitive, and Actual Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
Particulate Matter - Total

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.070 lb/MMBtu	4. Equivalent Allowable Emissions: 254 lb/hour 1,116 tons/year
5. Method of Compliance: Annual stack test; EPA Method 5, 5B, or 17, if greater than 400 hours on oil.	
6. Allowable Emissions Comment (Description of Operating Method): From Permit: Based on oil firing. Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.075 lb/MMBtu	4. Equivalent Allowable Emissions: 273 lb/hour 1,196 tons/year
5. Method of Compliance: Annual stack test; EPA Method 5, 5B, or 17, if greater than 400 hours on oil.	
6. Allowable Emissions Comment (Description of Operating Method): Based on oil/RDF firing. Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.05 lb/MMBtu	4. Equivalent Allowable Emissions: 182 lb/hour 797.2 tons/year
5. Method of Compliance: Annual stack test; EPA Method 5, 5B, or 17.	
6. Allowable Emissions Comment (Description of Operating Method): Based on coal/petroleum coke/RDF firing and coal/RDF firing. Permit No. 1050004-016-AV.	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
Particulate Matter - Total

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **4** of **4**

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.044 lb/MMBtu	4. Equivalent Allowable Emissions: 160 lb/hour 702 tons/year
5. Method of Compliance: Annual stack test; EPA Method 5, 5B, or 17.	
6. Allowable Emissions Comment (Description of Operating Method): From Permit: Based on coal firing and coal/petroleum coke firing. Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [2] of [4]
Sulfur Dioxide

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO2		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 4,368 lb/hour 19,131.8 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 1.2 lb/MMBtu Reference: Permit 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 1.2 lb/MMBtu x 3,640 MMBtu/hr = 4,368 lb/hr Annual emissions = (4,368 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 19,132 TPY			
11. Potential, Fugitive, and Actual Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [2] of [4]
Sulfur Dioxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.2 lb/MMBtu (3-Hour average)	4. Equivalent Allowable Emissions: 4,368 lb/hour 19,132 tons/year
5. Method of Compliance: Annual stack test; EPA Method 6 and 6B.	
6. Allowable Emissions Comment (Description of Operating Method): From Permit: Based on solid fuel firing. Allowable emissions based on 40 CFR 60, Subpart D for solid fuel firing.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.08 lb/MMBtu (3-Hour average)	4. Equivalent Allowable Emissions: 2,912 lb/hour 12,755 tons/year
5. Method of Compliance: Fuel analysis.	
6. Allowable Emissions Comment (Description of Operating Method): Based on oil firing. Allowable emissions based on 40 CFR 60, Subpart D for oil firing.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.718 lb/MMBtu	4. Equivalent Allowable Emissions: 2,613.5 lb/hour 11,447 tons/year
5. Method of Compliance: CEM	
6. Allowable Emissions Comment (Description of Operating Method): Allowable when blends of petroleum coke with other fuels are co-fired, based on 30-day rolling average [PSD-FL-008(B) and Permit No. 1050004-016-AV].	

E EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [3] of [4]
Nitrogen Oxides

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NOx		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2,548 lb/hour 11,160 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.7 lb/MMBtu Reference: 40 CFR 60.44 and Permit 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.7 lb/MMBtu x 3,640 MMBtu/hr = 2,548 lb/hr Annual emissions = (2,548 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 11,160 TPY			
11. Potential, Fugitive, and Actual Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [3] of [4]
Nitrogen Oxides

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.7 lb/MMBtu (3-Hour average)	4. Equivalent Allowable Emissions: 2,548 lb/hour 11,160 tons/year
5. Method of Compliance: Annual stack test; EPA Method 7, 7A, 7C, 7D, or 7E	
6. Allowable Emissions Comment (Description of Operating Method): From Permit: Allowable emissions based on solid fossil fuel or solid fossil fuel and wood residue.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.30 lb/MMBtu (3-Hour average)	4. Equivalent Allowable Emissions: 1,092 lb/hour 4,783 tons/year
5. Method of Compliance: Annual stack test; EPA Method 7, 7A, 7C, 7D, or 7E	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions based on liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.2 lb/MMBtu	4. Equivalent Allowable Emissions: 728 lb/hour 3,189 tons/year
5. Method of Compliance: Annual stack test; EPA Method 7, 7A, 7C, 7D, or 7E	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions based on gaseous fossil fuel.	

MISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [4] of [4]
Carbon Monoxide

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 728 lb/hour 3,189 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.20 lb/MMBtu Reference: Permit 1050004-018-AC (PSD-FL-387) and 1050004-020-AV (proposed)		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly emissions = 0.20 lb/MMBtu x 3,640 MMBtu/hr = 728.0 lb/hr Annual emissions = (728.0 lb/hr x 8760 hrs/yr) x 1 Ton/2,000 lbs = 3,188.6 TPY			
11. Potential, Fugitive, and Actual Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

POLLUTANT DETAIL INFORMATION

Page [4] of [4]
Carbon Monoxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.20 lb/MMBtu	4. Equivalent Allowable Emissions: 728 lb/hour 3,189 tons/year
5. Method of Compliance: Initial compliance test; CEMS 30-operating-day rolling average.	
6. Allowable Emissions Comment (Description of Operating Method): From Permit: Permit No. 1050004-018-AC (PSD-FL-387) and 1050004-020-AV (proposed).	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: VE test using DEP Method 9	
5. Visible Emissions Comment: Permit No. 1050004-016-AV	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: None	
5. Visible Emissions Comment: Excess VE emissions allowed under FDEP Rule 62-210.700(1) and 40 CFR 60.8(c), and 60.11(c) for 2 hours (160 minutes) per 24-hour period for startup, shutdown, and malfunction.	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 9

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 152 Serial Number: 139/176 and 172/156	
5. Installation Date: 09 Nov 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75, PSD-FL-008(B), and Title V Permit No. 1050004-016-AV.	

Continuous Monitoring System: Continuous Monitor 2 of 9

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Advanced Pollution Inst. Model Number: 252 Serial Number: 165 and 136	
5. Installation Date: 09 Nov 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75, PSD-FL-008(B), and Title V Permit No. 1050004-016-AV.	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor 3 of 9

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: United Science Inc. Model Number: 500C Serial Number: 0993688	
5. Installation Date: 09 Nov 1994	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75, PSD-FL-008(B), and Title V Permit No. 1050004-016-AV.	

Continuous Monitoring System: Continuous Monitor 4 of 9

1. Parameter Code: CO₂	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: California Instruments Model Number: 3300 Serial Number: N3L2487T and N3L2490T	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR Part 75.	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor 5 of 9

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: United Science Ultraflow Model Number: 100 Serial Number: 1001060	
5. Installation Date: 10 Nov 1995	6. Performance Specification Test Date:
7. Continuous Monitor Comment: FLOW monitor required pursuant to 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor 6 of 9

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Lear Siegler Model Number: SM 810 Serial Number: 29259M	
5. Installation Date: 17 Sep 1982	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR 60.45.	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor 9 of 9

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information... Manufacturer: Thermo Model Number: 48i - TLE Serial Number: 0712221616	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [3]
McIntosh Unit 3

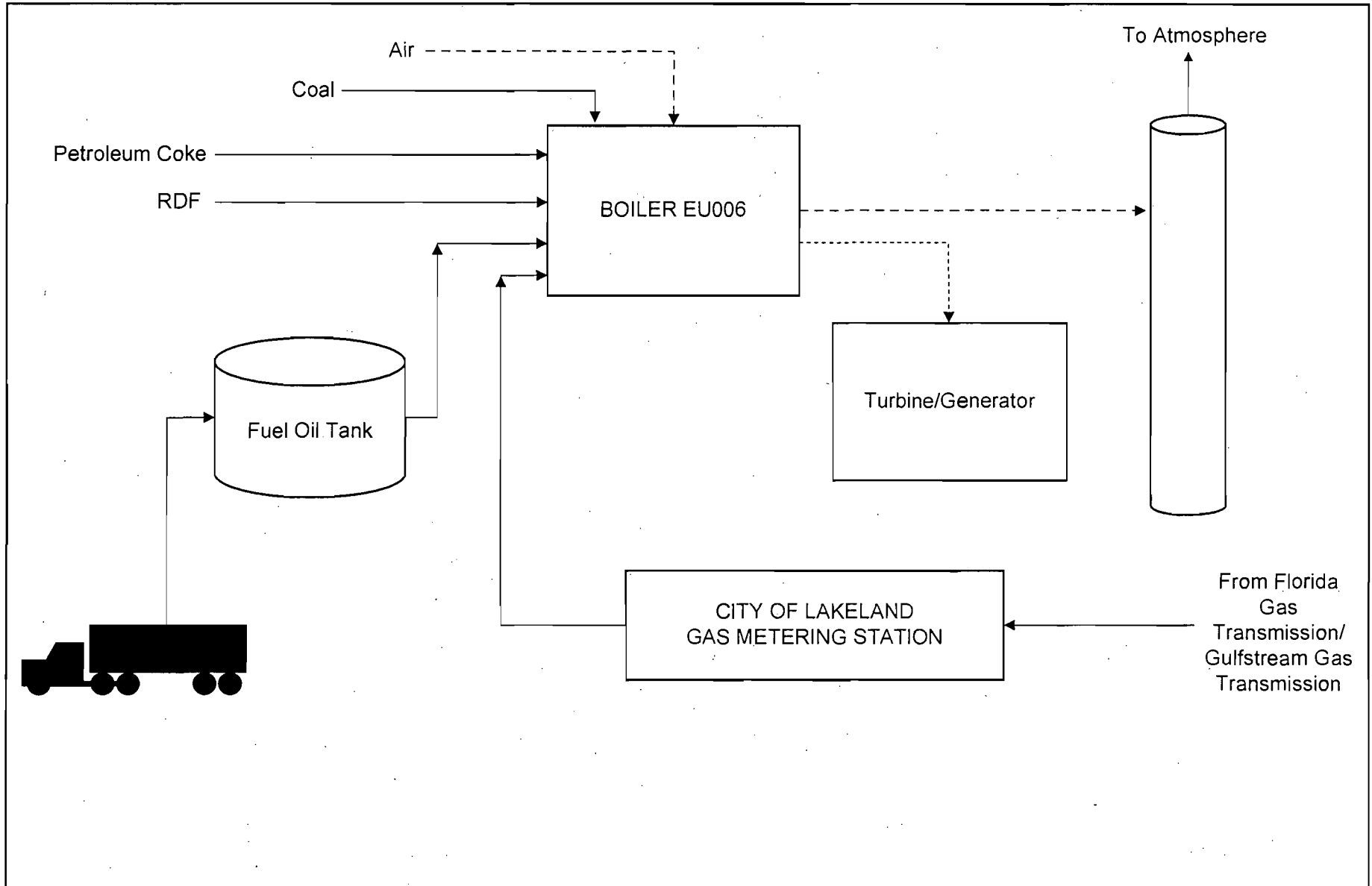
I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU3-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU3-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU3-13</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU3-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU3-16</u> Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT MC-EU3-I1

PROCESS FLOW DIAGRAM



Attachment MC-EU3-I1
 Process Flow Diagram
 City of Lakeland

Process Flow Legend

- Solid/Liquid
- Gas
- Steam

REV.	SCALE:	
DESIGN	SL	SL
CADD	--	--
CHECK		
REVIEW	KK	KK



ATTACHMENT MC-EU3-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

Monthly Natural Gas Report

Day	FGT BTU	GS	50% avg btu	50% wkly avg	FGT Avg Grains/hcf	GS	50% avg	50% wkly avg
5/1/2008	1030	1017	1023.5	1023.929	0.04	0.16	0.16	0.117143
5/2/2008	1031	1017	1024		0.042	0.166	0.104	
5/3/2008	1030	1019	1024.5		0.04	0.175	0.1075	
5/4/2008	1030	1019	1024.5		0.046	0.182	0.114	
5/5/2008	1030	1018	1024		0.045	0.182	0.1135	
5/6/2008	1029	1018	1023.5		0.041	0.175	0.108	
5/7/2008	1028	1019	1023.5		0.046	0.18	0.113	
5/8/2008	1029	1017	1023	1024.357	0.046	0.151	0.0985	0.085071
5/9/2008	1030	1016	1023		0.042	0.131	0.0865	
5/10/2008	1030	1018	1024		0.043	0.114	0.0785	
5/11/2008	1030	1018	1024		0.042	0.134	0.088	
5/12/2008	1031	1021	1026		0.042	0.104	0.073	
5/13/2008	1031	1022	1026.5		0.038	0.14	0.089	
5/14/2008	1029	1019	1024		0.036	0.128	0.082	
5/15/2008	1032	1020	1026	1025.214	0.042	0.149	0.0955	0.1025
5/16/2008	1031	1019	1025		0.042	0.19	0.116	
5/17/2008	1032	1021	1026.5		0.034	0.195	0.1145	
5/18/2008	1030	1022	1026		0.041	0.167	0.104	
5/19/2008	1029	1019	1024		0.04	0.16	0.1	
5/20/2008	1029	1019	1024		0.023	0.159	0.091	
5/21/2008	1030	1020	1025		0.017	0.176	0.0965	
5/22/2008	1029	1020	1024.5	1023.643	0.022	0.152	0.087	0.093714
5/23/2008	1035	1021	1028		0.033	0.174	0.1035	
5/24/2008	1029	1018	1023.5		0.031	0.136	0.0835	
5/25/2008	1027	1018	1022.5		0.041	0.151	0.096	
5/26/2008	1027	1017	1022		0.04	0.147	0.0935	
5/27/2008	1028	1017	1022.5		0.031	0.026	0.0285	
5/28/2008	1028	1017	1022.5		0.033	0.295	0.164	
5/29/2008	1028	1018	1023	1022.875	0.048	0.258	0.153	0.145625
5/30/2008	1028	1015	1021.5		0.032	0.273	0.1525	
5/31/2008	1029	1018	1023.5		0.03	0.226	0.128	

FGT - Florida Gas Transmission
 GS - Gulfstream Gas Transmission

COL McIntosh Power Plant
Summary of Coal Sampling Reports

			HOURS			Actual	Actual	
	Coal		OF	Coal	Actual	Actual	Actual	Actual
Date	Sample Date		BOILER OPERATION	Sample ID #	% sulfur of coal	% sulfur coal	Average	HHV coal btu/lb
28-Apr-08	27-Apr-08		24.00	8042802-04A	1.25	0.97	0.97	12537
29-Apr-08	28-Apr-08		24.00	8042903-01A	1.09	0.97	0.97	12647
30-Apr-08	29-Apr-08		24.00	8043006-01A	1.19	0.98	0.98	12269
1-May-08	30-Apr-08		24.00	8050401-01A	1.04	0.99	0.99	12513
2-May-08	1-May-08		24.00	8050502-01A	0.90	0.98	0.98	12292
3-May-08	2-May-08		24.00	No Sample	0.84	0.99	0.99	12180
4-May-08	3-May-08		24.00	8050502-02A	0.78	0.98	0.98	12061
5-May-08	4-May-08		24.00	8050502-03A	0.83	0.98	0.98	12463
6-May-08	5-May-08		24.00	8050603-01A	0.89	0.98	0.98	12468
7-May-08	6-May-08		24.00	8050705-01A	1.04	0.98	0.98	12116
8-May-08	7-May-08		24.00	8050806-01A	1.11	0.98	0.98	12522
9-May-08	8-May-08		24.00	No Sample	1.09	0.99	0.99	12500
10-May-08	9-May-08		24.00	8051203-01A	1.06	0.99	0.99	12438
11-May-08	10-May-08		24.00	8051203-02A	1.09	1.00	1.00	12741
12-May-08	11-May-08		24.00	8051203-03A	1.12	0.99	0.99	12633
13-May-08	12-May-08		24.00	8051305-01A	0.91	0.98	0.98	12371

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM		MPP F @ 5'							
LPP F @ CENTER		MPP F @ 15'							
LPP F 3' from TOP		MPP F @ 25'							
		MPP F @ 35'							
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,585.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 6"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox
Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU3-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT MC-EU3-I3
DETAILED DESCRIPTION OF CONTROL EQUIPMENT

McIntosh Unit 3 has air pollution control equipment for nitrogen oxides (NO_x), particulate matter (PM), and sulfur dioxide (SO₂). The information that follows presents a description of the equipment controlling these pollutants.

NITROGEN OXIDES.

NO_x is controlled using Low NO_x burners (LNB) and an overfire air (OFA) system. The boiler and burner was manufactured by Babcock and Wilcox (B&W).

PARTICULATE MATTER

The PM from the combustion of fuels in Unit 3 is controlled by an electro-static precipitator (ESP). The ESP has the following design parameters:

- Plate Height - 47.6 ft.
- Number of Casings - 2
- Field Depth - 16.4 ft
- Number of Lanes per Casing - 50
- Number of Fields/Casing - 5
- Effective Area/Plate - 1,559.3 ft²
- Total Effective Area - 779,700 ft²

SULFUR DIOXIDE

SO₂ is controlled using a wet limestone scrubbing system. The scrubber is of a tray tower type consisting of two absorber modules. Each module provides a 55-percent capacity of total unit output. The components of the scrubbing system are listed below:

Quencher - Flue gases exiting the ESP enters the quenchers for each absorber, which condition the flue gas. Each absorber has a venturi-type quencher with a throat of 27 feet long and 5 feet wide. The quench water is recirculated from the quencher sump.

Absorber Tray Tower - After adiabatic saturation in the quencher, the gases pass up through the tray tower absorber for SO₂ removal. The limestone slurry is introduced at the top of the tray

absorber from a series of spray headers. The flow is countercurrent through the 36 ft wide (diameter) absorber.

Demister - Before exiting the absorber, aerosols in the flue gas are removed in a z-shaped demister made from reinforced fiberglass material.

Associated Equipment - Supporting the operation of the scrubber are the following equipment: absorber recirculation tank, quencher recirculation tank, and quencher and absorber recirculation pumps. The scrubber is equipped with a hot air reheat system (steam coil) and a bypass flue. The latter bypasses flue gases around the absorber system and mixes with air exiting the absorber tower. This increases the exit gas temperatures. A continuous emission monitoring system is installed to assure compliance with the SO₂ emission limit.

Additional equipment/processes supporting the scrubber system include limestone slurry preparation system, slurry storage and transfer system, and dewatering system.

The scrubber is of a Babcock & Wilcox design.

ATTACHMENT MC-EU3-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU3-I4
PROCEDURES FOR STARTUP AND SHUTDOWN
MINIMIZING EXCESS EMISSIONS

Startup of the fossil-fuel boilers begins when fuel (No. 2 fuel oil, natural gas or propane) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10-15 percent load.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10 percent of maximum and continues until the final burner gun is removed from service.

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors. Continuous monitors are currently in place for NO_x, CO₂, SO₂, flow, and opacity. Audible and visual alarms are activated whenever the permitted value for opacity is approached.

Countermeasures which may be taken in the event of excess emissions include, but are not limited to:

- Burner elevation loading;
- Proper excess air adjustments;
- Recognizing and removal of faulty burners;
- Fuel oil temperature adjustments;
- Proper and timely operation of boiler cleaning devices;
- Removal of the unit from system-dispatch mode (load control);
- Reduction of unit megawatt load;
- Stopping and restarting of boiler cleaning devices;
- Lowering load ramp rate;
- Pressure rate changes;
- Placing boiler controls on manual; and
- Adjusting burner dampers to increase windbox/furnace air pressure.

Knowledge of the appropriate countermeasures to take when excess emissions occur is a part of the routine operator training for those who operate the boilers. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, and fuels and combustion training.

ATTACHMENT MC-EU3-I6

COMPLIANCE DEMONSTRATION REPORTS/RECORDS



FEDEX DELIVERY

November 14, 2007

Air Compliance Section, Compliance Supervisor
Department of Environmental Protection
13051 Telecom Parkway
Temple Terrace, Florida 33637-0926

Re: Facility Name: Lakeland Electric, C.D. McIntosh, Jr. Power Plant
Facility ID No. 1050004, E.U. ID No. 006 (McIntosh Unit 3)

Subject: CO and NOX Initial Compliance Report

Dear Sir or Madam:

Enclosed please find the CO and NOX Compliance Emissions (E.U. 006 Unit 3) report for the above referenced facility. Source Testing and Consulting Services, Inc. conducted the testing on October 1 and October 2, 2007 in connection with (Permit 1050004-18-AC) the retro fit of Unit 3 with low NOX burners (LNB) and over-fire air (OFA).

Also enclosed is a Responsible Official Certification form signed by Mr. Timothy Bachand, Manager of Engineering for Lakeland Electric.

If you should have any questions concerning this submittal please contact me at (863) 834-6169.

Sincerely,

Douglas Doerr
Environmental Coordinator
doug.doerr@lakelandelectric.com

BEST AVAILABLE COPY

**Table 3-1. Emissions Test Results
Lakeland Electric Company
Lakeland, Florida
McIntosh Unit 3**

Parameter	2	3	4	Average	Permit Limit
Run Number	2	3	4		
Test Date:	2-Oct-07	2-Oct-07	2-Oct-07		
Start Time:	7:46	10:35	14:55		
Stop Time:	9:46	12:49	16:58		
Operating Parameters:					
Unit Load, MW	364.0	363.0	361.0	362.7	
Steam Rate, klb/hr	292.8	292.7	293.4	293.0	
Fuel Flow, ton/hr	146.5	146.5	146.5	146.5	
Fuel Gross Heating Value, Btu/lb	12,263	12,263	12,263	12,263	
Gross Heat Input:	3592.2	3592.2	3592.2	3592.2	
Fc, Fuel Factor	1800	1800	1800	1800	
Emissions Data:					
Carbon Dioxide, % vol dry	11.81	11.65	11.62	11.69	
Stack Gas Moisture Content, % vol	11.66	14.65	12.71	13.01	
Nitrogen Oxides:					
Concentration, ppmvd	179.7	177.0	171.6	176.1	
Concentration, ppmvd at 12% CO2	176.9	171.8	166.2	171.6	
Emission Factor, lb/MMBtu	0.327	0.327	0.317	0.324	0.70
Emission Rate, lb/hr	1175.1	1173.4	1140.5	1163.0	
Carbon Monoxide:					
Concentration, ppmvd	9.5	10.1	8.6	9.4	
Concentration, ppmvd at 12% CO2	9.3	9.8	8.3	9.2	
Emission Factor, lb/MMBtu	0.0105	0.0113	0.0097	0.0105	0.20
Emission Rate, lb/hr	37.8	40.7	34.8	37.8	

Notes:

Fuel Factor (Fc) = 1800 scf / MMBtu from 40CFR60 Appendix A, Method 19

Reference - Source Testing And Consulting Services, Inc. 2007

BEST AVAILABLE COPY



FEDEX DELIVERY

November 16, 2007

Air Compliance Section, Compliance Supervisor
Department of Environmental Protection
13051 Telecom Parkway
Temple Terrace, Florida 33637-0926

Re: Facility Name: Lakeland Electric, C.D. McIntosh, Jr. Power Plant
Facility ID No. 1050004, E.U. ID No. 006 (McIntosh Units 3)

Subject: CO RATA Report

Dear Sir or Madam:

Enclosed please find the RATA (E.U. 006; Unit 3) report for the above referenced facility. Source Testing and Consulting Services, Inc. conducted the testing between the dates of October 5, 2007 and October 6, 2007. The RATA results for this unit qualify for the reduced frequency testing, annually instead of semi-annual.

Also enclosed is a Responsible Official Certification form signed by Mr. Timothy Bachand, Manager of Engineering for Lakeland Electric.

If you should have any questions concerning this submittal please contact me at (863) 834-6169.

Sincerely,

Douglas Doerr
Environmental Coordinator
doug.doerr@lakelandelectric.com

Table 3-1. Relative Accuracy Test Results

**LAKELAND ELECTRIC
McINTOSH UNIT 3
CO (ppmV - Wet Basis)**

Run #	Date	Time	Reference Method CO (ppmV)	CEMS CO (ppmV)	Difference CO (ppmV)
1	5/Oct/07	1510 - 1610	6.30	7.10	-0.80
2	5/Oct/07	1623 - 1740	5.14	5.50	-0.36
3	5/Oct/07	1801 - 1902	6.32	5.50	0.82
4	5/Oct/07	1924 - 2032	6.75	6.20	0.55
5	5/Oct/07	2050 - 2151	7.44	8.40	-0.96
6 *	5/Oct/07	2210 - 2314	7.30	9.20	-1.90
7	6/Oct/07	0909 - 1012	3.77	3.90	-0.13
8 *	6/Oct/07	1030 - 1133	4.14	5.60	-1.46
9	6/Oct/07	1148 - 1258	5.35	5.00	0.35
10	6/Oct/07	1320 - 1426	5.45	6.20	-0.75
11	6/Oct/07	1443 - 1549	6.04	6.00	0.04
12 *	6/Oct/07	1607 - 1710	9.27	10.70	-1.43
Averages:			5.84	5.98	-0.14
Number of Runs:					9
Standard Deviation:					0.6340
t-Value:					2.3060
Confidence Coefficient:					0.4873
Absolute Value of Average Difference Plus Confidence Coefficient:					0.6253
Relative Accuracy (%)					10.71%

Notes:

* = Not included in average.

The CO analyzer meets the criteria of 40CFR60, Appendix B, Performance Specification 4A since the average difference in concentration plus the confidence coefficient is 0.62 ppmv which is less than the requirement of 5 ppmv or less.

ATTACHMENT MC-EU3-IV1
IDENTIFICATION OF APPLICABLE REQUIREMENTS

DRAFT PERMIT NO. 1050004-020-AV

PERMITTEE:

City of Lakeland, Department of Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801-5079

Permit No. 1050004-020-AV
C.D. McIntosh, Jr. Power Plant
Facility ID No. 1050004
Title V Air Operation Permit

The purpose of this permit is to revise Title V air operation Permit No. 1050004-016-AV to incorporate air construction Permit No. PSD-FL-387 (Project No. 1050004-018-AC) which included installation of a newer generation set of low NO_x burners (LNBs) and an overfire air (OFA) system on Unit 3 (EU-006). The existing facility is located at 3030 East Lake Parker Drive, Lakeland, Florida in Polk County. The map coordinates are: Zone 17, 409.0 km East and 3106.2 km North; Latitude: 28° 04' 50" North and Longitude: 81° 55' 32" West. The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Effective Date: January 1, 2004
Title V Permit Revision Effective Date: July 1, 2008
Renewal Application Due Date: July 1, 2008
Expiration Date: December 31, 2008

(DRAFT/PROPOSED)

Joseph Kahn, Director
Division of Air Resource Management

JK/tlv/raw/bxt

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This permitting action will revise the following specific conditions in the current Title V operating permit No. 1050004-016-AV. Deletions are shown in strikethrough; additions are shown in double-underline.

Section III. Emissions Unit(s) and Conditions.

Subsection E. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-006	McIntosh Unit 3 - Fossil Fuel Fired Steam Generator

Carbon Monoxide

E.15. 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.]

E.16. 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

E.17. Continuous Compliance with CO limits: Upon certification of the CO CEMS pursuant to condition E.11, 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.]

E.18. 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.]

E.19. Test Methods: Required tests shall be performed in accordance with the following reference methods.

<u>Method</u>	<u>Description of Method and Comments</u>
<u>7E</u>	<u>Determination of Nitrogen Oxide Emissions (Instrumental).</u>
<u>1Q</u>	<u>Determination of Carbon Monoxide Emissions</u>

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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. and 40 CFR 60, Appendix A]

E.20. 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

E.21. Performance Specifications and Quality Assurance:

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

E.22. 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

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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

E.23. 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

E.24. 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.]

E.25. 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]

E.26. 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.]

E.27. 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 Title V Permitting 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.

Excess Emissions

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS, NESHAP, or Acid Rain program provision.}

E.15-E.28. Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

- (1) **Opacity.** Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.
- (2) **Sulfur dioxide.** Excess emissions for affected facilities are defined as:
 - (i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under 40 CFR 60.43.

[40 CFR 60.45(g)(1), & (2)]

E.16-E.29. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

E.17-E.30. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

E.18-E.31. In addition to the requirements of 40 CFR 60.7, each excess emissions report shall include the periods of oil consumption due to flue gas desulfurization system malfunction. [PSD-FL-008]

Monitoring of Operations

E.19-E.32. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

E.20-E.33. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.46(d). [40 CFR 60.46(a)]

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E.21-E.34. The owner or operator shall determine compliance with the particulate matter, SO₂, and NO_x standards in 40 CFR 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO₂, or NO_x shall be computed for each run using the following equation:

$$E = C F_d (20.9)/(20.9 - \% O_2)$$

E = emission rate of pollutant, ng/J (1b/million Btu).

C = concentration of pollutant, ng/dscm (1b/dscf).

% O₂ = oxygen concentration, percent dry basis.

F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14 °C (320 ± 25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O₂ concentration for the run shall be the arithmetic mean of all the individual O₂ sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O₂ traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O₂ traverse points.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO₂ concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be taken simultaneously with, and at the same point as, the SO₂ sample. The SO₂ emission rate shall be computed for each pair of SO₂ and O₂ samples. The SO₂ emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO_x concentration.

(i) The sampling site and location shall be the same as for the SO₂ sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_x sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The sample shall be taken simultaneously with, and at the same point as, the NO_x sample.

(iii) The NO_x emission rate shall be computed for each pair of NO_x and O₂ samples. The NO_x emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

[40 CFR 60.46(b)(1), (2), (3), (4), & (5)]

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E-22-E.35. When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 2015-77 (solid fuels), D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

[40 CFR 60.46(c)(1), (2), & (3)]

E-23-E.36. The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:

(1) The emission rate (E) of particulate matter, SO₂ and NO_x may be determined by using the F_c factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = C F_C (100 / \% \text{CO}_2)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

% CO₂ = carbon dioxide concentration, percent dry basis.

F_c = factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F_c factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O₂ and CO₂ concentration according to the procedures in 40 CFR 60.46(b)(2)(ii), (4)(ii), or (5)(ii). Then if F_O (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average F_O value, as determined from the average values of F_d and F_c in Method 19, i.e., F_{Oa} = 0.209 (F_{da} / F_{ca}), then the following procedure shall be followed:

(A) When F_O is less than 0.97 F_{Oa}, then E shall be increased by that proportion under 0.97 F_{Oa}, e.g., if F_O is 0.95 F_{Oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When F_O is less than 0.97 F_{Oa} and when the average difference (\bar{d}) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{Oa}, e.g., if F_O is 0.95 F_{Oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When F_O is greater than 1.03 F_{Oa} and when \bar{d} is positive, then E shall be decreased by that proportion over 1.03 F_{Oa}, e.g., if F_O is 1.05 F_{Oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The

procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO₂ may be determined simultaneously with the Method 5 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of SO₂ (including moisture) are used.

(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO₂ emission rate, under the conditions in 40 CFR 60.46(d)(1).

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O₂ concentration (%O₂) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[40 CFR 60.46(d)(1), (2), (3), (4), (5), (6), & (7)]

E.24-E.37. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards. [Rule 62-297.310(1), F.A.C.]

E.25-E.38. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rules 62-297.310(2) & (2)(b), F.A.C.]

E.26-E.39. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

E.27-E.40. Applicable Test Procedures.

(a) **Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60)

minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

- a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
- b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
- c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

E.28.E.41. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.]

E.29.E.42. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
- b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - a. Visible emissions, if there is an applicable standard;
 - b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
[Rule 62-297.310(7), F.A.C.; and, SIP approved]

~~E.30-E.43~~. By this permit, annual emissions compliance testing for visible emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

~~E.31-E.44~~. Annual and permit renewal compliance testing for particulate matter emissions is not required for this emissions unit while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

Continuous Monitoring Requirements

~~E.32-E.45~~. Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, and either oxygen or carbon dioxide except as provided in 40 CFR 60.45(b). [40 CFR 60.45(a)]

~~E.33-E.46~~. Certain of the continuous monitoring system requirements under 40 CFR 60.45(a) do not apply to owners or operators under the following conditions:

- (1) For a fossil fuel-fired steam generator that burns only gaseous fossil fuel, continuous monitoring systems for measuring the opacity of emissions and sulfur dioxide emissions are not required.
- (2) For a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis under 40 CFR 60.45(d).
- (3) Notwithstanding 40 CFR 60.13(b), installation of a continuous monitoring system for nitrogen oxides may be delayed until after the initial performance tests under 40 CFR 60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of nitrogen oxides are less than 70 percent of the applicable standards in 40 CFR 60.44, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a continuous monitoring system for nitrogen oxides within one year after the date of the initial performance tests under 40 CFR 60.8 and comply with all other applicable monitoring requirements under 40 CFR 60.
- (4) If an owner or operator does not install any continuous monitoring systems for sulfur oxides and nitrogen oxides, as provided under 40 CFR 60.45(b)(1) and (b)(3) or (b)(2) and (b)(3), a continuous monitoring system for measuring either oxygen or carbon dioxide is not required.

[40 CFR 60.45(b)(1), (2), (3), & (4)]

~~E.34-E.47~~. For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the following procedures shall be used:

- (1) Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in 40 CFR 60.46(d).
- (2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.
- (3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined as follows:

[In parts per million]

Fossil fuel	Span value for sulfur dioxide
Gas.....	{1}
Liquid.....	1,000
Solid.....	1,500
Combinations.....	1,000y+1,500z

{1} Not applicable.

where:

- x = the fraction of total heat input derived from gaseous fossil fuel, and
- y = the fraction of total heat input derived from liquid fossil fuel, and
- z = the fraction of total heat input derived from solid fossil fuel.

(4) All span values computed under 40 CFR 60.45(c)(3) for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

DRAFT/PROPOSED TITLE V PERMIT REVISION

(5) For a fossil fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Administrator's approval.

[40 CFR 60.45(c)(1), (2), (3), (4), & (5)]

~~E.35.E.48~~. For any continuous monitoring system installed under 40 CFR 60.45(a), the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF[20.9/(20.9\text{-percent } O_2)]$$

where:

E, C, F, and % O₂ are determined under 40 CFR 60.45(f).

(2) When a continuous monitoring system for measuring carbon dioxide is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c [100/\text{percent } CO_2]$$

where:

E, C, F_c and % CO₂ are determined under 40 CFR 60.45(f).

[40 CFR 60.45(e)(1) and (2)]

~~E.36.E.49~~. The values used in the equations under 40 CFR 60.45(e)(1) and (2) are derived as follows:

(1) E = pollutant emissions, ng/J (lb/million Btu).

(2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for sulfur dioxide and 46.01 for nitrogen oxides.

(3) % O₂, % CO₂ = oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under 40 CFR 60.45(a).

(4) F, F_c = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows:

(i) For anthracite coal as classified according to ASTM D388-77 (incorporated by reference-see 40 CFR 60.17), $F = 2,723 \times 10^{-17}$ dscm/J (10,140 dscf/million Btu) and $F_c = 0.532 \times 10^{-17}$ scm CO₂ /J (1,980 scf CO₂ /million Btu).

(ii) For sub bituminous and bituminous coal as classified according to ASTM D388-77 (incorporated by reference-see 40 CFR 60.17), $F = 2.637 \times 10^{-7}$ dscm/J (9,820 dscf/million Btu) and $F_c = 0.486 \times 10^{-7}$ scm CO₂ /J (1,810 scf CO₂ /million Btu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, $F = 2.476 \times 10^{-7}$ dscm/J (9,220 dscf/million Btu) and $F_c = 0.384 \times 10^{-7}$ scm CO₂ /J (1,430 scf CO₂ /million Btu).

(iv) For gaseous fossil fuels, $F = 2.347 \times 10^{-7}$ dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels, $F_c = 0.279 \times 10^{-7}$ scm CO₂ /J (1,040 scf CO₂ /million Btu) for natural gas, 0.322×10^{-7} scm CO₂ /J (1,200 scf CO₂/million Btu) for propane, and 0.338×10^{-7} scm CO₂ /J (1,260 scf CO₂ /million Btu) for butane.

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO₂ /J, or scf CO₂ /million Btu) on either basis in lieu of the F or F_c factors specified in 40 CFR 60.45(f)(4):

$$F = 10^{-6} \frac{[227.2 (\% H) + 95.5 (\text{pct. C}) + 35.6 (\% S) + 8.7 (\% N) - 28.7 (\% O)]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-5} (\text{pct. C})}{GCV} \quad (\text{SI units})$$

$$F = 10^6 \frac{3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)}{GCV} \quad (\text{English units})$$

$$F_c = \frac{20.0(\%C)}{GCV} \quad (\text{SI units})$$

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV} \quad (\text{English units})$$

(i) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-74 or D3176 (solid fuels) or computed from results using ASTM method D1137-53(75), D1945-64(76), or D1946-77 (gaseous fuels) as applicable. (These five methods are incorporated by reference-see 40 CFR 60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 for solid fuels and D1826-77 for gaseous fuels as applicable. (These two methods are incorporated by reference-see 40 CFR 60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_c value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_c factors determined by paragraphs 40 CFR 60.45(f)(4) or (f)(5) shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

where:

X_i = the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.)

F_i or $(F_c)_i$ = the applicable F or F_c factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

n = the number of fuels being burned in combination.

[40 CFR 60.45(f)(1), (2), (3), (4), (5), & (6)]

E.37.E.50. Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel data shall be used in conjunction with emissions factors and the continuous monitoring data to calculate SO₂ reduction. [PSD-FL-008(B)]

Recordkeeping and Reporting Requirements

E.38.E.51. Excess emission and monitoring system performance reports shall be submitted to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in 40 CFR 60.7(c). The summary report form shall contain the information and be in the format shown in figure 1 (attached to this permit) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. [40 CFR 60.7(d) & 60.45(g)]

E.39.E.52. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

E.40.E.53. Submit to the Department a written report of emissions in excess of emission limiting for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years. [Rule 62-213.440, F.A.C.]

E.41.E.54. Test Reports.

- (a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
- (b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- (c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
 1. The type, location, and designation of the emissions unit tested.
 2. The facility at which the emissions unit is located.
 3. The owner or operator of the emissions unit.
 4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.

7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

Miscellaneous Requirements.

E.42-E.55. The permittee shall comply with the requirements contained in Appendix 40 CFR 60, Subpart A, attached to this permit. [Rule 62-204.800(7)(d), F.A.C.]

E.43-E.56. The City shall maintain and submit to the Department on an annual basis for a period of five years from the date that the unit is initially co-fired with petroleum coke, information demonstration in accordance with 40 CFR 52.21(b)(33) and 40 CFR 52.21(b)(21)(v) that the operational changes did not result in emissions increases of carbon monoxide, nitrogen oxides, or sulfuric acid mist. [PSD-FL-008(B)]

E.44-E.57. Use of SO₂ CEMS For Continuous Compliance. Pursuant to 40 CFR 64.2(b)(1)(vi), the applicant has elected to use the existing certified Acid Rain SO₂ continuous emissions monitor for continuous compliance in order to be exempted from the Compliance Assurance Monitoring (CAM) requirements contained in 40 CFR 64. [40 CFR 64.2(b)(vi); and, Applicant Request]

Compliance Assurance Monitoring (CAM) Requirements

E.45-E.58. This emissions unit is subject to the CAM requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; and, Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]



Florida Department of Environmental Protection

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

Charlie Crist
Governor

Jeff Labadie
Deputy Governor

May 20, 2008

Electronic Mail – Received Receipt Requested

Mr. Timothy Bachand, Manager of Engineering
City of Lakeland, Department of Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801

Re: Draft/Proposed Permit No. 1050004-020-AV
City of Lakeland, Department of Electric Utilities, C.D. McIntosh, Jr. Power Plant
Title V Permit Revision

Dear Mr. Bachand:

Enclosed is the draft permit package to revise the Title V air operation permit for the C.D. McIntosh, Jr. Power Plant. This facility is located in Polk County at 3030 East Lake Parker Drive, Lakeland, Florida. The permit package includes the following documents:

- The Statement of Basis, which summarizes the facility, the equipment, the primary rule applicability, and the changes since the last Title V revision.
- The Draft/Proposed Title V air operation permit revision, which include the specific permit conditions that regulate the emissions units covered by the proposed project.
- The Written Notice of Intent to Issue Air Permit provides important information regarding: the Permitting Authority's intent to issue an air permit for the proposed project; the requirements for publishing a Public Notice of the Permitting Authority's intent to issue an air permit; the procedures for submitting comments on the revised Draft Permit; the process for filing a petition for an administrative hearing; and the availability of mediation.
- The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Bruce Thomas, by telephone at 850/921-7744 or by email at Bruce.X.Thomas@dep.state.fl.us.

Sincerely,

Trina L. Vielhauer, Chief
Bureau of Air Regulation

TLV/raw/bxt

Enclosures

WRITTEN NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT REVISION

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

City of Lakeland, Department of Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801

Responsible Official:

Mr. Timothy Bachand
Manager of Engineering

Draft/Proposed 1050004-020-AV
Facility ID No. 1050004
C.D. McIntosh, Jr. Power Plant
Unit 3 Retrofit
Polk County, Florida

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

Project: The purpose of this project is to revise Title V air operation permit No. 1050004-016-AV to incorporate the revisions made in air construction Permit No. 1050004-018-AC. The project included 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). Details of the project are provided in the application and the enclosed Statement of Basis.

Permitting Authority: Applications for Title V air operation permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-213, of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and a Title V air operation permit is required to operate the facility. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the address indicated above for the Permitting Authority. The complete project file includes the Draft/Proposed Permit, the Statement of Basis, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the Draft/Proposed Permit by visiting the following website: <http://www.dep.state.fl.us/air/eproducts/apds/default.asp> and entering the permit number shown above. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue a revised Title V air operation permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft/Proposed Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the

City of Lakeland, Department of Electric Utilities
C.D. McIntosh, Jr. Power Plant

Draft/Proposed 1050004-020-AV
Unit 3 Retrofit

WRITTEN NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT REVISION

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

Comments: The Permitting Authority will accept written comments concerning the Draft/Proposed Title V air operation permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments and all e-mail comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address or email. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the official web site for notices at Florida Administrative Weekly (FAW) at <http://faw.dos.state.fl.us/> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft/Proposed Permit, the Permitting Authority shall issue a Revised Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

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

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed

WRITTEN NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT REVISION

action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

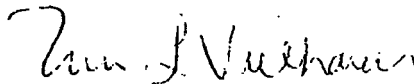
Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests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

Mediation: Mediation is not available in this proceeding.

EPA Review: EPA has agreed to treat the Draft/Proposed Title V air operation permit as a Proposed Title V air operation permit and to perform its 45-day review provided by the law and regulations concurrently with the public comment period. Although EPA's 45-day review period will be performed concurrently with the public comment period, the deadline for submitting a citizen petition to object to the EPA Administrator will be determined as if EPA's 45-day review period is performed after the public comment period has ended. The Final Title V air operation permit will be issued after the conclusion of the 45-day EPA review period so long as no adverse comments are received that results in a different decision or significant change of terms or conditions. The status regarding EPA's 45-day review of this project and the deadline for submitting a citizen petition can be found at the following website address: <http://www.epa.gov/region4/air/permits/Florida.htm>.

Objections: Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at <http://www.epa.gov/region4/air/permits/Florida.htm>.

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

WRITTEN NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT REVISION

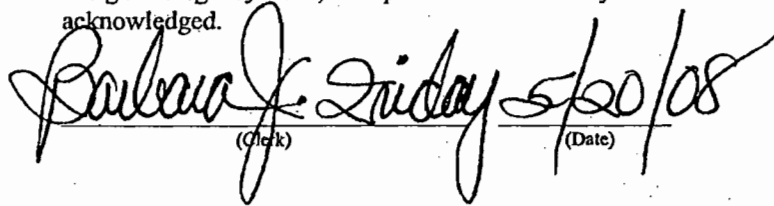
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intert to Issue Air Permit package (including the Public Notice, the Statement of Basis, and the Draft/Proposed Permit) was sent by electronic mail with received receipt requested before the close of business on 5/20/08 to the persons listed below.

Mr. Timothy Bachand, Lakeland Electric (Timothy.Bachand@lakelandelectric.com)
Ms. Farzie Shelton, Lakeland Electric (Farzie.Shelton@lakelandelectric.com)
Mr. Bret Galbraith, Lakeland Electric (Bret.Galbraith@lakelandelectric.com)
Mr. Kennard Kosky, Golder Associates Inc. (kkosky@golder.com)
Ms. Gracy Danois, U.S. EPA Region 4: danois.gracy@epa.gov
Ms. Cindy Zhang-Torres, Southwest District Office (Cindy.Zhang-Torres@dep.state.fl.us)
Ms. Barbara Friday, DEP BAR: Barbara.Friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)

Clerk Stamp

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


(Clerk) 5/20/08 (Date)

ATTACHMENT MC-EU3-IV2
COMPLIANCE ASSURANCE MONITORING

APPENDIX CAM

Compliance Assurance Monitoring Requirements

Lakeland McIntosh Electric Generating Station

Facility ID No: 1050004

Compliance Assurance Monitoring Requirements

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17. are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

40 CFR 64.6 Approval of Monitoring.

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3.
[40 CFR 64.6(a)]
2. The attached CAM plan(s) include the following information:
 - (i) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
 - (ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
 - (iii) The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.[40 CFR 64.6(c)(1)]
3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 9.**) and reporting exceedances or excursions (see **CAM Conditions 10. - 14.**).
[40 CFR 64.6(c)(2)]
4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 17.**).
[40 CFR 64.6(c)(3)]

40 CFR 64.7 Operation of Approved Monitoring.

5. Commencement of operation. The owner or operator shall conduct the monitoring required under this appendix upon the effective date of this Title V permit.
[40 CFR 64.7(a)]
6. Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 CFR 64.7(b)]
7. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the

operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.7(c)]

8. Response to excursions or exceedances.

- a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions, if allowed by this permit). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 CFR 64.7(d)(1) & (2)]

9. Documentation of need for improved monitoring. If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.7(e)]

40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.

10. Based on the results of a determination made under **CAM Condition 8.a.**, above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with **CAM Condition 4.**, an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.

[40 CFR 64.8(a)]

11. Elements of a QIP:

- a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.
- b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

- (i) Improved preventive maintenance practices.
- (ii) Process operation changes.
- (iii) Appropriate improvements to control methods.
- (iv) Other steps appropriate to correct control performance.
- (v) More frequent or improved monitoring (only in conjunction with one or more steps under **CAM Condition 11.b(i)** through (iv), above).

[40 CFR 64.8(b)]

12. If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

[40 CFR 64.8(c)]

13. Following implementation of a QIP, upon any subsequent determination pursuant to **CAM Condition 8.b.**, the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

- a. Failed to address the cause of the control device performance problems; or
- b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

[40 CFR 64.8(d)]

14. Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

[40 CFR 64.8(e)]

40 CFR 64.9 Reporting And Recordkeeping Requirements.

15. General reporting requirements.

- a. On and after the date specified in **CAM Condition 5.** by which the owner or operator must use monitoring that meets the requirements of this appendix, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C.
- b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:
 - (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - (iii) A description of the actions taken to implement a QIP during the reporting period as specified in **CAM Conditions 10.** through 14. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

16. General recordkeeping requirements.

- a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data,

monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to **CAM Conditions 10. through 14.** and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

- b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

40 CFR 64.10 Savings Provisions.

17. It should be noted that nothing in this appendix shall:

- a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.
- b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.
- c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

[40 CFR 64.10]

Emissions Unit 003

**3,640 MMBtu/Hr Coal And Petroleum Coke-Fired Boiler
Particulate Matter Emissions Controlled By an Electrostatic Precipitator**

Monitoring Approach

		<u>Compliance Indicator</u>
I.	Indicator	Opacity.
	Measurement Approach	Continuous opacity monitoring system (COMS).
II.	Indicator Range	<p>An excursion is defined as any 1-hour average of opacity greater than 12.0%, excluding periods of start-up, shutdown and malfunction pursuant to Rule 62-210.700, F.A.C.</p> <p>An excursion will trigger an evaluation of operation of the boiler and ESP. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
III.	Performance Criteria	
	A. Data Representativeness	VE measurements are made in the stack
	B. Verification of Operational Status	N/A
	C. QA/QC Practices and Criteria	The COMS is automatically calibrated every 24 hours. Calibration information is recorded through a data acquisition system (DAS). A neutral density filter test is performed quarterly, as well as, preventative maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.
	D. Monitoring Frequency	Opacity is monitored continuously.
	E. Data Collection Procedures	Six-minute averages are recorded through the DAS. Daily reports with all six-minute and hourly averages are generated. One-hour averages are determined every six minutes from the average of the previous ten consecutive six-minute averages.
F. Averaging Period	The averaging period for opacity observations is a 6-minute block average.	

ATTACHMENT MC-EU3-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT MC-EU3-IV3
ALTERNATIVE METHODS OF OPERATION

The unit can be fired with multiple fuels up to 3,640 MMBtu/hour. The following fuels and fuel combinations may be burned:

1. Coal only;
2. Low sulfur fuel oil only (0.5 percent sulfur by weight);
3. Coal and up to 10 percent refuse (based on heat input);
4. Low sulfur fuel oil and up to 10 percent refuse (based on heat input);
5. Coal and up to 20 percent petroleum coke (based on weight);
6. Coal and up to 20 percent petroleum coke (based on weight) and 10 percent refuse (based on heat input);
7. High sulfur fuel oil (>0.5 percent sulfur by weight); and
8. Natural gas only, or in combination with any of the other fuels or fuel combinations listed above.

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
 - The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)
- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
 - This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
 - This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Diesel Engine Peaking Units 2 and 3

3. Emissions Unit Identification Number: **EU 002 and EU 003**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: January 1970	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit
- Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **5 MW (2.5 MW per unit)**

11. Emissions Unit Comment:
Each diesel electric generating unit rated at 2.5-MW fired with diesel (No. 2 distillate) fuel only. These units are identical.

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: S004, S005		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Each emission unit (diesel) has a separate stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: S004 = Diesel Unit 2 S005 = Diesel Unit 3			
5. Discharge Type Code: V	6. Stack Height: 20 feet	7. Exit Diameter: 2.6 Feet	
8. Exit Temperature: 715°F	9. Actual Volumetric Flow Rate: 24,529 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 409.1 North (km): 3106.3		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters based on application for Permit No. 1050004-016-AV.			

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Turbine		
2. Source Classification Code (SCC): 2-01-001-01		3. SCC Units: 1,000 gallons burned
4. Maximum Hourly Rate: 0.203	5. Maximum Annual Rate: 1,777	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 138
10. Segment Comment: Maximum hourly and annual rates are for each gas turbine. Maximum hourly rate = 28 MMBtu/hr / (138 MMBtu/1,000 gallons) = 202.9 gallons/hr. Maximum annual rate = 202.9 gallons/hr x 8,760 hr/yr = 1,777.4x10 ³ gallons/yr.		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
PM ₁₀			NS
CO			NS
VOC			NS
SO ₂			EL*
NO _x			NS

*Sulfur content limited to 0.5%; not federally enforceable.

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [4]
 Diesel Engine Peaking Units 2 and 3

Page [1] of [1]
 SO₂

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
 (Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 14.3 lb/hour 62.6 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor 0.5% sulfur fuel oil Reference: Permit No. 1050004-016-AV		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Potential hourly emissions = 201.6 gallons/hr × 7.1 lb/gallon × (0.5/100) × 2 lb SO ₂ /lb S = 14.3 lb/hr Potential annual emissions = 14.3 lb/hr × 8,760 hrs/yr × ton/2000 lb = 62.6 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Potential emissions are for each unit.			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [4]

Page [] of []

Diesel Engine Peaking Units 2 and 3

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: VE testing using EPA Method 9 if >400 hrs/yr oil operation.	
5. Visible Emissions Comment: Rule 62-296.320(4)(b)1. and Permit No. 1050004-016-AV.	

Visible Emissions Limitation: Visible Emissions Limitation of

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: None	
5. Visible Emissions Comment: FDEP Rule 62-210.700(1) allows up to 100% for 2 hr (120 minutes) per 24-hour period for startup, shutdown or malfunction.	

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [4]

Diesel Engine Peaking Units 2 and 3

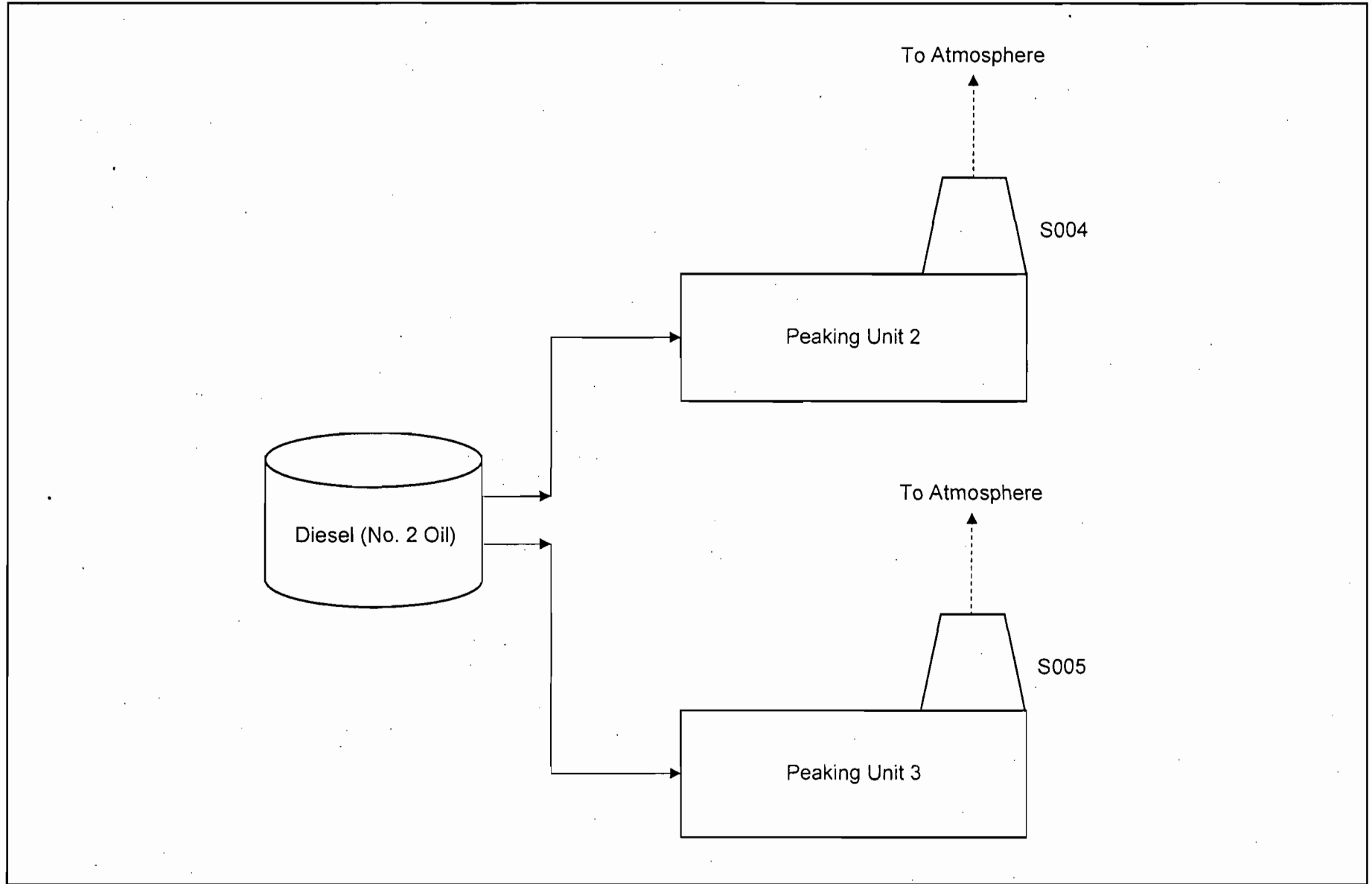
I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU4-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU4-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU4-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU4-16</u> Test Date(s)/Pollutant(s) Tested: <u>5/28/2008, VE</u> <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable <p>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.</p>
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT MC-EU4-I1

PROCESS FLOW DIAGRAM



Attachment MC-EU4-I1
Process Flow Diagram
City of Lakeland

Process Flow Legend

- Solid/Liquid
- Gas
- Steam

REV.	SCALE:	
DESIGN	SL	SL
CADD	--	--
CHECK		
REVIEW	KK	KK



ATTACHMENT MC-EU4-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM		MPP F @ 5'		65.0	63.0				
LPP F @ CENTER	70.0		62.0	65.0	63.0	77.0	75.0	67.0	74.0
LPP F 3' from TOP		MPP F @ 25'			64.0				
		MPP F @ 35'			63.0				
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,585.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 6"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox

Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU4-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU4-I4
PROCEDURES FOR STARTUP/SHUTDOWN

Startup and shutdown for these units are fully automatic.

Startup for the diesel units begin at low loads using distillate oil (i.e., diesel).

Corrective actions may include switching the unit from automatic (remote) to local control or changing load conditions. Best Operating Practices based on manufacturer recommendations are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit from the system electrical grid), shutting off the fuel, and coasting down to stop.

ATTACHMENT MC-EU4-I6

COMPLIANCE DEMONSTRATION REPORTS/RECORDS

VISIBLE EMISSION OBSERVATION FORM

METHOD USED (CIRCLE ONE)
 Method 9 203A 203B Other: _____

PAGE 1 OF 1

COMPANY NAME
City of Lakeland - McIntosh Power Plant

STREET ADDRESS
3030 East Lake Parker Drive

CITY STATE ZIP
Lakeland FL 33805

PHONE (KEY CONTACT) SOURCE ID NUMBER
863-834-6600 1050004 EU ID# 002

PROCESS EQUIPMENT OPERATING MODE
Diesel peaking unit (D1) 2.5 MW (avg.)

CONTROL EQUIPMENT OPERATING MODE
None N/A

DESCRIBE EMISSION POINT
Stack Exit

HEIGHT ABOVE GROUND LEVEL HEIGHT RELATIVE TO OBSERVER

Start ~ 20' End same Start ~ 20' End same

DISTANCE FROM OBSERVER DIRECTION FROM OBSERVER

Start ~ 135' End same Start ~ 358° (N) End same

DESCRIBE EMISSIONS

Start Smoke & Heat Waves End same

EMISSION COLOR WATER DROPLET PLUME

Start Black End same Attached Detached N/A None

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED

Start Exit of Stack End same

DESCRIBE PLUME BACKGROUND

Start Sky & electric wires End same

BACKGROUND COLOR SKY

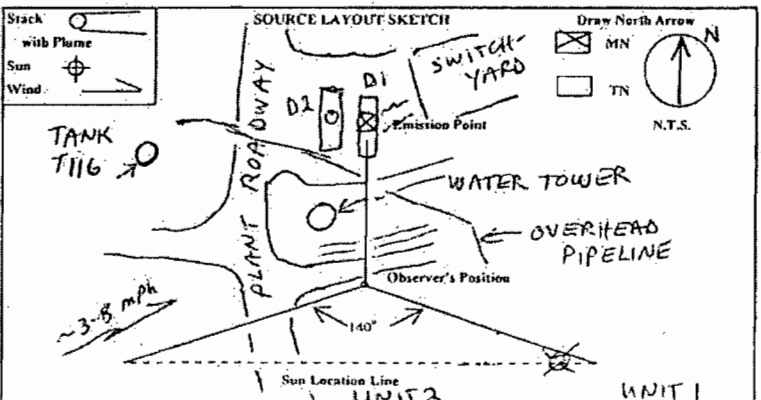
Start Gry/Wh/Blu End Wh/Gry/Blu Start Broken End Broken

WIND SPEED WIND DIRECTION

Start ~ 3-8 mph End ~ 3-8 mph Start fm SW End fm SW

AMBIENT TEMP WET BULB TEMP RH percent

Start 80°F End 83°F 72°F / 72°F 67% / 58%



OBSERVATION DATE	START TIME				END TIME	COMMENTS
	SEC	MIN	MIN	MIN		
28-May-08		10	15	10	15	
		10	15	15	15	
		10	5	15	10	
		5	15	15	15	
		10	10	15	10	
		10	15	10	10	
		10	15	15	10	
		10	10	15	5	
		10	5	10	5	
		15	20	10	15	
		10	10	15	15	
		10	10	5	10	
		15	5	5	10	
		10	10	15	10	
		10	15	15	10	
		15	10	20	15	
		15	15	10	15	
		15	15	10	10	
		10	15	10	15	
		5	10	10	10	
		10	15	10	10	
		10	10	10	10	
		15	10	5	5	
		5	5	10	10	
		10	10	5	10	
		10	10	15	15	
		10	5	5	10	
		15	15	15	15	
		15	10	10	15	
		15	10	15	10	

ADDITIONAL INFORMATION (incl. INCLINE DEG., SET AVG., FUEL USED, etc.)

Minor Source. Incline = 8.4°. Fuel burned during test = 90 gals.
 40 CFR 60, App. A, Method 9, 2.5 Set Avg. = 12.9%.

OBSERVER'S NAME (PRINT)
Christine D. More

OBSERVER'S SIGNATURE
Christine D. More DATE: 28-May-08

ORGANIZATION
City of Lakeland

CERTIFIED BY
Dept. of Env. Reg. thru EASTERN TECH. ASSC. EXP. DATE: 7-Aug-08

VISIBLE EMISSION OBSERVATION FORM

METHOD USED (CIRCLE ONE)
 Method 9 203A 203B Other: _____

PAGE 1 OF 1

COMPANY NAME
 City of Lakeland - McIntosh Power Plant

STREET ADDRESS
 3030 East Lake Parker Drive

CITY Lakeland STATE FL ZIP 33805

PHONE (KEY CONTACT) 863-834-6600 SOURCE ID NUMBER 1050004 EU ID# 003

PROCESS EQUIPMENT Diesel peaking unit (D2) OPERATING MODE 2.5 MW (avg.)

CONTROL EQUIPMENT None OPERATING MODE N/A

DESCRIBE EMISSION POINT
 Stack Exit

HEIGHT ABOVE GROUND LEVEL Start ~20' End same HEIGHT RELATIVE TO OBSERVER Start ~20' End same

DISTANCE FROM OBSERVER Start ~115' End same DIRECTION FROM OBSERVER Start ~339° (NNW) End same

DESCRIBE EMISSIONS Start Smoke & Heat Waves End same

EMISSION COLOR Start Black End same WATER DROPLET PLUME Attached Detached N/A None

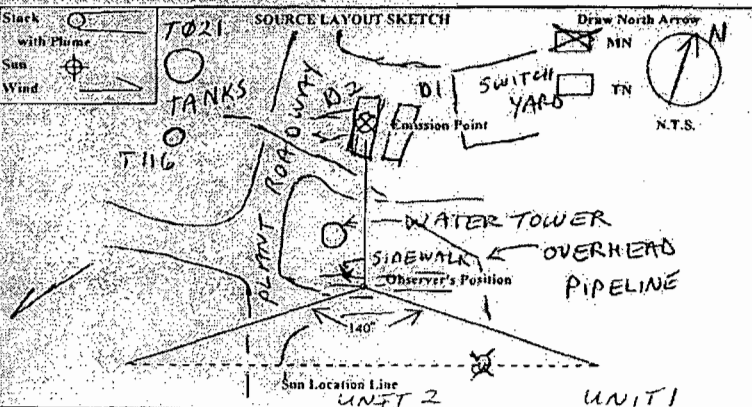
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED Start Exit of Stack End same

DESCRIBE PLUME BACKGROUND Start Sky & electric wires End same

BACKGROUND COLOR Start Wht/Gry/Blu End Wht/Gry/Blu WATER DROPLET PLUME Scattered Broken

WIND SPEED Start ~2.5 mph End ~3-8 mph WIND DIRECTION Start fm NE End fm E

AMBIENT TEMP Start 82°F End 84°F WET BULB TEMP 71°F / 72°F RH percent 57% / 56%



OBSERVATION DATE 28-May-08	START TIME 1150				END TIME 1220	COMMENTS
	SEC	0	15	30		
1	10	15	10	15		
2	20	15	10	15		
3	15	15	10	15		
4	15	15	15	10		
5	10	15	15	10		
6	15	10	15	10		
7	5	15	5	5		
8	10	5	5	15		
9	10	15	10	15		
10	15	5	10	10		
11	15	10	15	10		
12	15	15	15	10		
13	15	10	15	15		
14	20	15	15	10		
15	10	10	15	10		
16	15	15	10	15		
17	10	15	15	10		
18	10	10	10	15		
19	10	10	15	15		
20	15	15	10	10		
21	10	5	5	10		
22	5	10	15	10		
23	10	10	10	10		
24	5	10	15	15		
25	10	15	15	15		
26	10	10	10	10		
27	10	5	10	15		
28	10	10	10	15		
29	15	10	15	15		
30	20	15	10	10		

ADDITIONAL INFORMATION (incl. INCLINE DEG., SET AVG., FUEL USED, etc.)
 Minor Source: Incline = 9.0° Fuel burned during test ~ 90 gals.
 40 CFR 60, App. A, Method 9: 2.5 Set Avg. = 13.3%

OBSERVER'S NAME (PRINT) Christine D. More

OBSERVER'S SIGNATURE *Christine D. More* DATE 28-May-08

ORGANIZATION City of Lakeland

CERTIFIED BY Dept. of Env. Reg. thru EASTERN TECH. ASSC EXP. DATE 7-Aug-08

ATTACHMENT MC-EU4-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT MC-EU4-IV3
ALTERNATIVE METHODS OF OPERATION

The diesel unit can operate from 0 to 100 percent load on diesel/distillate fuel oil with no limitation on the hours of operation.

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Gas Turbine Peaking Unit 1

3. Emissions Unit Identification Number: **004**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: January 1973	7. Emissions Unit Major Group SIC Code: 49
--	--------------------------------	---	--

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **20 MW**

11. Emissions Unit Comment:
The gas turbine is fired with natural gas, or No. 2 fuel oil.

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: S006		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 35 feet	7. Exit Diameter: 13.5 Feet	
8. Exit Temperature: 900°F	9. Actual Volumetric Flow Rate: 682,334 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 409.2 North (km): 3106.4		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Exit diameter based on equivalent diameter based on stack area. Stack dimensions: rectangular 13'2" x 10'11". Volumetric flow for distillate oil: natural gas = 742,174 acfm. Stack parameters based on application for Permit No. 1050004-016-AV.			

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): Internal Combustion Engines; Electric Generation; Natural Gas; Turbine		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million cubic feet natural gas burned
4. Maximum Hourly Rate: 0.32	5. Maximum Annual Rate: 2,803.2	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,024
10. Segment Comment: Maximum hourly rate = 330 MMBtu/hr / 1,024 MMBtu/MM ft³ (HHV) = 0.32 MM ft³/hr Maximum annual rate = 0.32 MM ft³/hr x 8,760 hr/yr = 2,803.2 MMft³/yr		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Internal Combustion Engines; Electric Generation; Distillate Oil (Deisel); Turbine		
2. Source Classification Code (SCC): 2-01-001-01		3. SCC Units: 1,000 gallons burned
4. Maximum Hourly Rate: 2.319	5. Maximum Annual Rate: 20,313	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 138
10. Segment Comment: Maximum hourly rate = 320 MMBtu/hr / (138 MMBtu/1,000 gallons) = 2,318.8 gallons/hr Maximum annual rate = 2,318.8 gallons/hr x 8,760 hr/yr = 20,313x10³ gallons/yr		

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
PM ₁₀			NS
CO			NS
VOC			NS
SO ₂			EL*
NO _x			NS

*Sulfur content limited to 0.5%; not federally enforceable.

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: VE test using EPA Method 9, if > 400 hrs/yr oil operation.	
5. Visible Emissions Comment: Rule 62-296.320(4)(b)1. F.A.C., and Permit No. 1050004-016-AV.	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: None	
5. Visible Emissions Comment: FDEP Rule 62-210.700(1), startup, shutdown or malfunction. Excess emissions allowed for 2 hours (120 minutes) in any 24-hour period.	

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [5]

Gas Turbine Peaking Unit 1

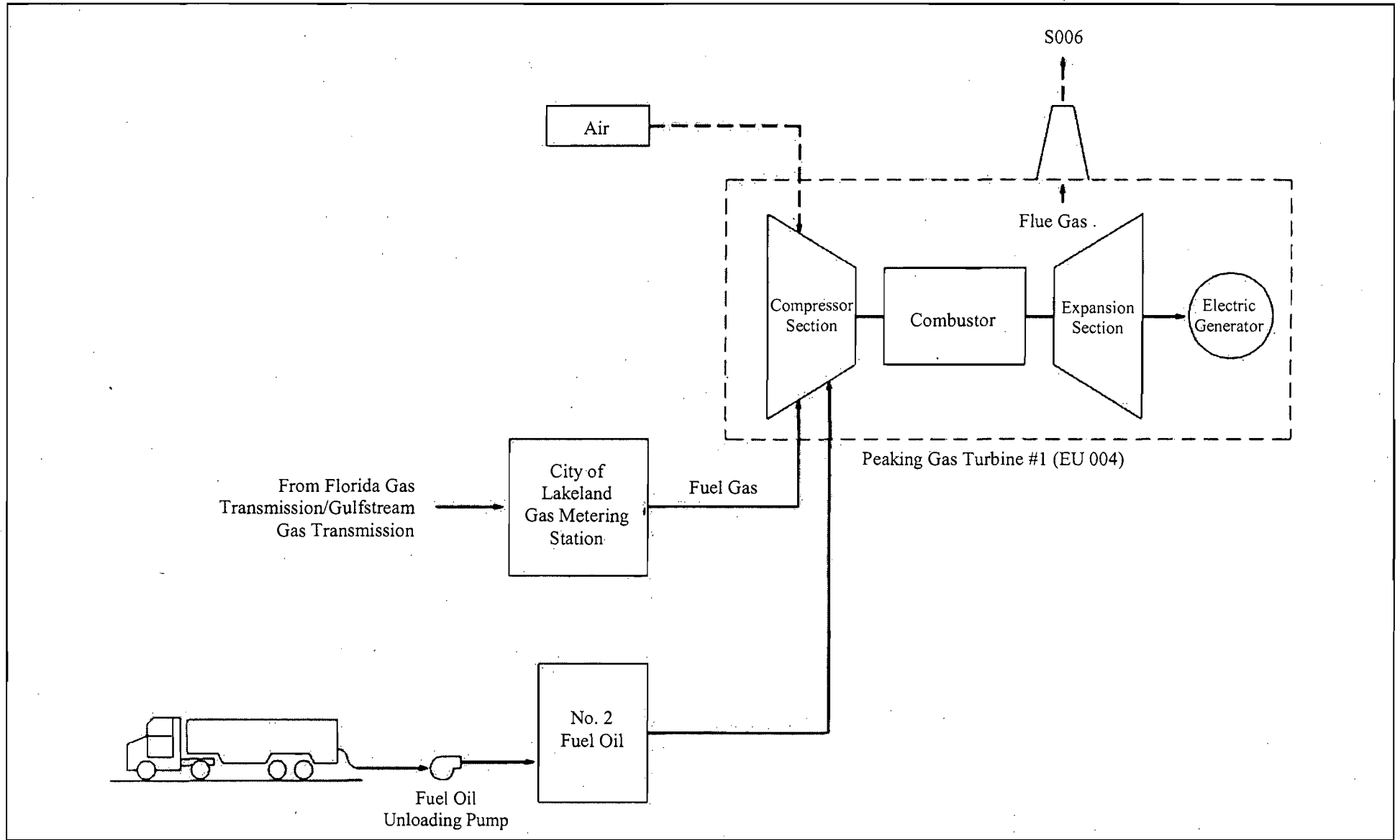
I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU5-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU5-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU5-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU5-16</u> Test Date(s)/Pollutant(s) Tested: <u>5/30/08, VE</u> <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT MC-EU5-I1

PROCESS FLOW DIAGRAM



Attachment MC-EU5-I1
 Lakeland Electric & Water Utilities, Larson Power Plant
 Gas Turbine Generator No. 3, Title V Process Flow Diagram
 MC-EU5-I1.docx

Source: Golder, 2008.

REV.	SCALE:	
DESIGN	SL	SL
CADD		
CHECK		
REVIEW	KK	KK



ATTACHMENT MC-EU5-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

Monthly Natural Gas Report

Day	FGT BTU	GS	50% avg btu	50% wkly avg	FGT Avg Grains/hcf	GS	50% avg	50% wkly avg
5/1/2008	1030	1017	1023.5	1023.929	0.04	0.16	0.16	0.117143
5/2/2008	1031	1017	1024		0.042	0.166	0.104	
5/3/2008	1030	1019	1024.5		0.04	0.175	0.1075	
5/4/2008	1030	1019	1024.5		0.046	0.182	0.114	
5/5/2008	1030	1018	1024		0.045	0.182	0.1135	
5/6/2008	1029	1018	1023.5		0.041	0.175	0.108	
5/7/2008	1028	1019	1023.5		0.046	0.18	0.113	
5/8/2008	1029	1017	1023	1024.357	0.046	0.151	0.0985	0.085071
5/9/2008	1030	1016	1023		0.042	0.131	0.0865	
5/10/2008	1030	1018	1024		0.043	0.114	0.0785	
5/11/2008	1030	1018	1024		0.042	0.134	0.088	
5/12/2008	1031	1021	1026		0.042	0.104	0.073	
5/13/2008	1031	1022	1026.5		0.038	0.14	0.089	
5/14/2008	1029	1019	1024		0.036	0.128	0.082	
5/15/2008	1032	1020	1026	1025.214	0.042	0.149	0.0955	0.1025
5/16/2008	1031	1019	1025		0.042	0.19	0.116	
5/17/2008	1032	1021	1026.5		0.034	0.195	0.1145	
5/18/2008	1030	1022	1026		0.041	0.167	0.104	
5/19/2008	1029	1019	1024		0.04	0.16	0.1	
5/20/2008	1029	1019	1024		0.023	0.159	0.091	
5/21/2008	1030	1020	1025		0.017	0.176	0.0965	
5/22/2008	1029	1020	1024.5	1023.643	0.022	0.152	0.087	0.093714
5/23/2008	1035	1021	1028		0.033	0.174	0.1035	
5/24/2008	1029	1018	1023.5		0.031	0.136	0.0835	
5/25/2008	1027	1018	1022.5		0.041	0.151	0.096	
5/26/2008	1027	1017	1022		0.04	0.147	0.0935	
5/27/2008	1028	1017	1022.5		0.031	0.026	0.0285	
5/28/2008	1028	1017	1022.5		0.033	0.295	0.164	
5/29/2008	1028	1018	1023	1022.875	0.048	0.258	0.153	0.145625
5/30/2008	1028	1015	1021.5		0.032	0.273	0.1525	
5/31/2008	1029	1018	1023.5		0.03	0.226	0.128	

FGT - Florida Gas Transmission
 GS - Gulfstream Gas Transmission

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM	MPP F @ 5'	78.5		65.0	63.0				
LPP F @ CENTER	MPP F @ 15'	70.0	62.0	65.0	63.0	77.0	75.0	67.0	74.0
LPP F 3' from TOP	MPP F @ 25'				64.0				
	MPP F @ 35'				63.0				
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,585.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 6"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox
Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU5-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU5-I4
PROCEDURES FOR STARTUP/SHUTDOWN

Startup for the gas turbine begins with an electric control system using a switch to initiate the unit startup cycle. The unit generator is synchronized with the grid and can be "on line" (electrical power production) within 5 minutes from startup.

The gas turbine has no emission controls. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective action taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best Operating Practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit generator from the system electrical grid), shutting off the fuel, and coasting to a stop.

ATTACHMENT MC-EU5-16

COMPLIANCE DEMONSTRATION REPORTS/RECORDS

BEST AVAILABLE COPY

VISIBLE EMISSION OBSERVATION FORM

METHOD USED (CIRCLE ONE): Method 9 203A 203B Other: _____

PAGE 1 OF 1

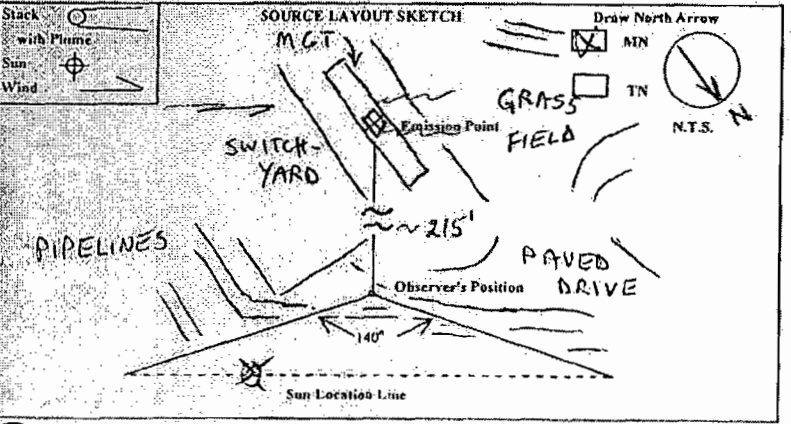
COMPANY NAME: City of Lakeland - McIntosh Power Plant
 STREET ADDRESS: 3030 East Lake Parker Drive
 CITY: Lakeland STATE: FL ZIP: 33805
 PHONE (KEY CONTACT): 863-834-6600 SOURCE ID NUMBER: 1050004 EU ID# 004

PROCESS EQUIPMENT: Diesel-fired gas turbine (MGT) OPERATING MODE: 18.8 MW (avg.)
 CONTROL EQUIPMENT: None OPERATING MODE: N/A

DESCRIBE EMISSION POINT: Stack Exit
 HEIGHT ABOVE GROUND LEVEL: Start ~ 50' End same HEIGHT RELATIVE TO OBSERVER: Start ~ 50' End same
 DISTANCE FROM OBSERVER: Start ~ 215' End same DIRECTION FROM OBSERVER: Start ~ 220° (SW) End same

DESCRIBE EMISSIONS: Start Heat Waves & Smoke End same
 EMISSION COLOR: Start Black End same WATER DROPLET PLUME: Attached Detached N/A None
 POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: Start Exit of Stack End same

DESCRIBE PLUME BACKGROUND: Start Sky & electric wires End same
 BACKGROUND COLOR: Start Blu/Wht End Wht/Blu SKY: Start Scattered End Broken
 WIND SPEED: Start ~ 2-5 mph End ~ 2-8 mph WIND DIRECTION: Start fm SE End fm SE
 AMBIENT TEMP: Start 88°F End 88°F WET BULB TEMP: 76°F / 77°F RH percent: 58% / 60%



OBSERVATION DATE		START TIME				END TIME
30-May-08		1110				1140
MIN	SEC				COMMENTS	
	0	15	30	45		
1	15	15	20	15		
2	15	15	20	15		
3	15	20	20	20		
4	15	15	15	15		
5	15	20	20	10		
6	15	15	10	15		
7	15	15	10	20		
8	15	10	15	15		
9	25	15	20	20		
10	15	15	10	20		
11	15	10	25	10		
12	10	15	15	15		
13	20	20	20	15		
14	15	15	10	15		
15	10	10	15	25		
16	20	20	15	15		
17	15	15	20	10		
18	15	20	15	15		
19	15	25	20	20		
20	15	20	15	15		
21	10	10	15	15		
22	15	10	15	10		
23	15	15	10	15		
24	15	15	15	15		
25	15	20	20	15		
26	15	20	10	15		
27	15	15	20	15		
28	15	20	15	20		
29	15	15	20	15		
30	10	15	15	15		

ADDITIONAL INFORMATION (incl. INCLINE DEG., SET AVG., FUEL USED, etc.):
 Minor Source, Incline = 8.8°, Fuel burned during test ~ 1029.1 gals.
 40 CFR 60, App. A, Method 9: 2.5 Set Avg. = 16.7%

OBSERVER'S NAME (PRINT): Christine D. More
 OBSERVER'S SIGNATURE: *Christine D. More* DATE: 30-May-08
 ORGANIZATION: City of Lakeland
 CERTIFIED BY: Dept. of Env. Reg. thru EASTERN TECH. ASSC. EXP. DATE: 7-Aug-08

ATTACHMENT MC-EU5-IV3

ALTERNATIVE METHODS OF OPERATION

**ATTACHMENT MC-EU5-IV3
ALTERNATIVE METHODS OF OPERATION
GAS TURBINE UNIT 1**

The gas turbine can operate on both natural gas and fuel oil (No. 2 fuel). The maximum sulfur content in the fuel oil will not exceed 0.5 percent. This unit can operate from 0 to 100 percent load for the entire year (i.e., 8,760 hours) and can fire either fuel oil or natural gas fire with no restrictions on hours of operation.

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)
- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
McIntosh Unit 5 – Combined Cycle Stationary Combustion Turbine

3. Emissions Unit Identification Number: **028**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: January 2002	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit
- Hg Budget Unit

9. Package Unit:

Manufacturer: **Westinghouse**

Model Number: **501G**

10. Generator Nameplate Rating: **370 MW**

11. Emissions Unit Comment:

Emission unit is a Westinghouse 501G combustion turbine operating in combined cycle with a HRSG and 120 MW steam electric turbine. The Turbine is fired with natural gas or a maximum 0.05 percent sulfur No. 2 fuel oil. The diesel fuel may contain the additive Soltron as recommended by the manufacturer.

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

Emissions Unit Control Equipment/Method: Control 1 of 4

1. Control Equipment/Method Description:
Water Injection – Oil firing.

2. Control Device or Method Code: **028**

Emissions Unit Control Equipment/Method: Control 2 of 4

1. Control Equipment/Method Description:
Selective Catalytic Reduction (SCR) – Natural gas firing.

2. Control Device or Method Code: **139**

Emissions Unit Control Equipment/Method: Control 3 of 4

1. Control Equipment/Method Description:
Dry Low NO_x combustion – Natural gas firing.

2. Control Device or Method Code: **205**

Emissions Unit Control Equipment/Method: Control 4 of 4

1. Control Equipment/Method Description:
Oxidation catalyst.

2. Control Device or Method Code: **039**

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: S007		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 300 feet	7. Exit Diameter: 20 Feet	
8. Exit Temperature: 187°F	9. Actual Volumetric Flow Rate: 1,271,428 acfm	10. Water Vapor: 12.44 %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 408.79 North (km): 3106.66		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters for ISO turbine inlet operating condition firing natural gas at baseload. For oil firing, 188°F exit temperature, 1,291,502 ACFM flow rate and 12.05% water vapor at baseload; ISO conditions.			

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Natural-Gas Boilers; Turbine		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million cubic feet natural gas burned
4. Maximum Hourly Rate: 2.53	5. Maximum Annual Rate: 16,462	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 950
10. Segment Comment: Maximum hourly rate = 2,407 MMBtu/hr / 950 MMBtu/MM ft³ (LHV) = 2.53 MM ft³/hr Annual fuel heat input limited to 15.639 X 10¹² Btu (LHV) per year. Max hourly a function of turbine inlet temperature. See Permit Nos. PSD-FL-245 and 1050004-016-AV.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): External Combustion Boilers; Electric Generation; Distillate Oil (Diesel); Turbine.		
2. Source Classification Code (SCC): 2-01-001-01		3. SCC Units: 1,000 gallons burned
4. Maximum Hourly Rate: 17.0	5. Maximum Annual Rate: 4,251	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 132
10. Segment Comment: Maximum hourly rate = 2,236 MMBtu/hr x 1,000 gallons / 131.5 MMBtu = 17,003 gallons/hr Annual limited by Permit No. 1050004-016-AV to 15.639 X 10¹² Btu (LHV) per year. Max hourly a function of turbine inlet temperature. The diesel fuel may contain the additive Soltron as recommended by the manufacturer. See MSDS for Soltron.		

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM ₁₀			NS
CO	039		EL
VOC	039		WP
SO ₂			EL
NO _x	205, 028	139	EL
SAM			NS

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [1] of [5]
Total Particulate Matter

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 139.6 lb/hour 49 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: Reference: Permit No. 1050004-016-AV, and PSD-FL-245.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: (8,510 hr gas x 8.8 lb/hr + 250 hr oil x 92.8 lb/hr)/2,000 lb/ton = 49.0 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly based on oil firing, baseload; Annual based on 8,510 hr/yr gas firing and 250 hr/yr oil firing = 49 tons/yr, PSD-FL-245.			

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [1] of [5]
Total Particulate Matter

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10 % Opacity	4. Equivalent Allowable Emissions: 139.6 lb/hour 11.6 tons/year
5. Method of Compliance: Annual VE test; EPA Method 9.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on oil firing during normal operations. PSD-FL-245 and Permit No. 1050004-016-AV. Oil firing; annual based on 250 hr/yr at ISO conditions.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10% Opacity	4. Equivalent Allowable Emissions: 9.1 lb/hour 38.5 tons/year
5. Method of Compliance: Annual VE test; EPA Method 9.	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-245 and Permit No. 1050004-016-AV. Gas firing - 30°F, 100% load; annual based on 59°F; 100% load, 8,760 hr/yr.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [6]
McIntosh Unit 5

Page [2] of [5]
Nitrogen Oxides

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 148 lb/hour 321 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 148 lb/hr		7. Emissions Method Code: 0	
Reference: Permit No. 1050004-016-AV, and PSD-FL-245.			
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Annual Emissions = [(71.1 lb/hr x 8,510 hr/yr) + (148 lb/hr x 250 hr/yr)] / 200 lb/ton = 321 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly based on oil firing baseload; Annual based on 8,510 hr/yr gas firing and 250 hr/yr oil firing = 321 tons/yr, PSD-FL-245.			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 15 ppmvd@15% O₂	4. Equivalent Allowable Emissions: 148 lb/hour 18.5 tons/year
5. Method of Compliance: EPA Methods 20. Stack tests and CEMS. 3-Hr Average (corrected to 15% Oxygen)	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on oil firing during normal operations. PSD-FL-245 and Permit No. 1050004-016-AV. Oil firing baseload; annual based on 250 hr/yr. (18.5 tons/year). 200 lb/hr 24-hr Block Average, authorized for startup, shutdown or fuel change if fuel oil is fired.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 7.5 ppmvd@15% O₂	4. Equivalent Allowable Emissions: 71.1 lb/hour 311.4 tons/year
5. Method of Compliance: CEM 3-hr average and annual RATA EPA Methods 7E.	
6. Allowable Emissions Comment (Description of Operating Method): Equivalent allowable emissions based on natural gas firing during normal operations. Annual based on 8,760 hr/yr. 100 lb/hr, 24-hr block average, authorized for startup, Shutdown when firing natural gas. PSD-FL-245 and Permit No. 1050004-016-AV.	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [3] of [5]
Carbon Monoxide

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 38.6 lb/hour 41 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: Reference: PSD-FL-245		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions:			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly based on oil firing; Annual based on 8,510 hr/yr gas firing and 250 hr/yr oil firing.			

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [3] of [5]
Carbon Monoxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Oxidation Catalyst (8/1/03)	4. Equivalent Allowable Emissions: 38.6 lb/hour 4.8 tons/year
5. Method of Compliance: None	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-245, oil firing, annual based on 250 hr/yr. 90% reduction @ baseload, oxidation catalyst.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Oxidation Catalyst (8/1/03)	4. Equivalent Allowable Emissions: 8.5 lb/hour 37.2 tons/year
5. Method of Compliance: Annual test for 2 ppmvd criteria at full loading.	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-245, gas firing; annual based on 8,760 hr/yr. 90% reduction @ baseload, oxidation catalyst.	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 127 lb/hour 38.4 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 127 lb/hr		7. Emissions Method Code: 2	
Reference: Permit No. 1050004-016-AV and PSD-FL-245.			
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions:			
11. Potential, Fugitive, and Actual Emissions Comment: Hourly emissions based on fuel oil firing, at a maximum of 0.05 percent sulfur.			

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [4] of [5]
Sulfur Dioxide

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 127 lb/hr	4. Equivalent Allowable Emissions: 127 lb/hour 15.9 tons/year
5. Method of Compliance: Fuel Sampling	
6. Allowable Emissions Comment (Description of Operating Method): Allowable Emissions based on firing maximum 0.05 percent S No. 2 fuel oil only. PSD-FL-245.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 8 lb/hr	4. Equivalent Allowable Emissions: 8 lb/hour 35.0 tons/year
5. Method of Compliance: Fuel Sampling	
6. Allowable Emissions Comment (Description of Operating Method): Allowable Emissions based on natural gas firing only. PSD-FL-245	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 38.4 TPY	4. Equivalent Allowable Emissions: lb/hour 38.4 tons/year
5. Method of Compliance: Fuel Sampling	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 1050004-016-AV.	

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [5] of [5]
Volatile Organic Compounds

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control:	
3. Potential Emissions: NA lb/hour NA tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: Reference: Permit No. 1050004-016-AV and PSD-FL-245.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions:			
11. Potential, Fugitive, and Actual Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

POLLUTANT DETAIL INFORMATION

Page [5] of [5]
Volatile Organic Compounds

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Oxidation Catalyst (8/1/03)	4. Equivalent Allowable Emissions: NA lb/hour NA tons/year
5. Method of Compliance: Meeting CO emission limit.	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-245. Gas and oil firing. Oxidation Catalyst, CO emissions shall be employed as a surrogate for VOC emissions and no further annual testing will be required.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: Annual VE Test EPA Method 9	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE99	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: None	
5. Visible Emissions Comment: FDEP Rule 62-210.700(1), which allows 2 hr (120 minutes) per 24 hr for startup, shutdown and malfunction.	

EMISSIONS UNIT INFORMATIONSection [6]
McIntosh Unit 5**H. CONTINUOUS MONITOR INFORMATION**

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Siemens Model Number: 300-CLD Serial Number: 28J04015	
5. Installation Date: Relocation to new stack December 2001	6. Performance Specification Test Date: February 27, 2002
7. Continuous Monitor Comment: NO_x CEM proposed to meet requirements of 40 CFR Part 75.	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Siemens Model Number: Oxymat 6E Serial Number: N1K80365	
5. Installation Date: December 2001	6. Performance Specification Test Date: February 27, 2002
7. Continuous Monitor Comment: Monitor is an O₂ analyzer for NO_x emissions determination.	

EMISSIONS UNIT INFORMATION

Section [6]
McIntosh Unit 5

I. EMISSIONS UNIT ADDITIONAL INFORMATION

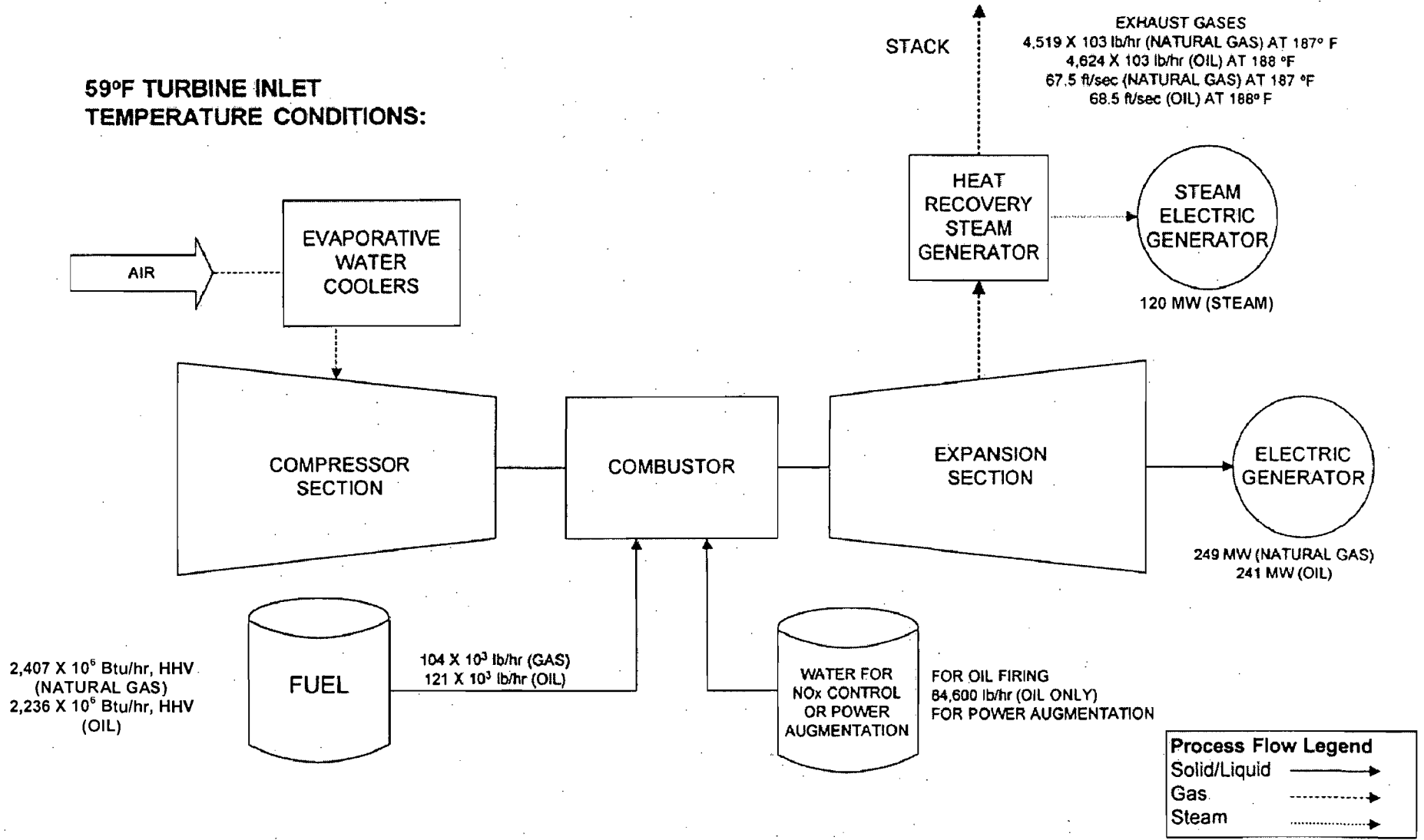
Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU6-11</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU6-12</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU6-13</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>MC-EU6-14</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: <u>1/10/2008, VE, NO_x, CO</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable <p>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.</p>
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT MC-EU6-I1

PROCESS FLOW DIAGRAM

**59°F TURBINE INLET
TEMPERATURE CONDITIONS:**



Attachment MC-EU6-I1
 Simplified Process Flow Diagram of McIntosh Unit 5
 City of Lakeland
 MC-EU6-I1.docx
 Source: Golder, 2008.

REV.	SCALE:	
DESIGN	SL	SL
CADD		
CHECK		
REVIEW	KK	KK



ATTACHMENT MC-EU6-I2

FUEL ANALYSES OR SPECIFICATIONS

For fuel oil analyses refer to McIntosh columns:

- T114 Heavy Oil Tank with High Sulfur (H/S) oil**
- T115 Heavy Oil Tank with Low Sulfur (L/S) oil**
- T116 On-Specification Used Oil**
- T021 Diesel Storage Tank**
- T023 Low Sulfur (L/S) Diesel Tank**

Monthly Natural Gas Report

Day	FGT BTU	GS	50% avg btu	50% wkly avg	FGT Avg Grains/hcf	GS	50% avg	50% wkly avg
5/1/2008	1030	1017	1023.5	1023.929	0.04	0.16	0.16	0.117143
5/2/2008	1031	1017	1024		0.042	0.166	0.104	
5/3/2008	1030	1019	1024.5		0.04	0.175	0.1075	
5/4/2008	1030	1019	1024.5		0.046	0.182	0.114	
5/5/2008	1030	1018	1024		0.045	0.182	0.1135	
5/6/2008	1029	1018	1023.5		0.041	0.175	0.108	
5/7/2008	1028	1019	1023.5		0.046	0.18	0.113	
5/8/2008	1029	1017	1023	1024.357	0.046	0.151	0.0985	0.085071
5/9/2008	1030	1016	1023		0.042	0.131	0.0865	
5/10/2008	1030	1018	1024		0.043	0.114	0.0785	
5/11/2008	1030	1018	1024		0.042	0.134	0.088	
5/12/2008	1031	1021	1026		0.042	0.104	0.073	
5/13/2008	1031	1022	1026.5		0.038	0.14	0.089	
5/14/2008	1029	1019	1024		0.036	0.128	0.082	
5/15/2008	1032	1020	1026	1025.214	0.042	0.149	0.0955	0.1025
5/16/2008	1031	1019	1025		0.042	0.19	0.116	
5/17/2008	1032	1021	1026.5		0.034	0.195	0.1145	
5/18/2008	1030	1022	1026		0.041	0.167	0.104	
5/19/2008	1029	1019	1024		0.04	0.16	0.1	
5/20/2008	1029	1019	1024		0.023	0.159	0.091	
5/21/2008	1030	1020	1025		0.017	0.176	0.0965	
5/22/2008	1029	1020	1024.5	1023.643	0.022	0.152	0.087	0.093714
5/23/2008	1035	1021	1028		0.033	0.174	0.1035	
5/24/2008	1029	1018	1023.5		0.031	0.136	0.0835	
5/25/2008	1027	1018	1022.5		0.041	0.151	0.096	
5/26/2008	1027	1017	1022		0.04	0.147	0.0935	
5/27/2008	1028	1017	1022.5		0.031	0.026	0.0285	
5/28/2008	1028	1017	1022.5		0.033	0.295	0.164	
5/29/2008	1028	1018	1023	1022.875	0.048	0.258	0.153	0.145625
5/30/2008	1028	1015	1021.5		0.032	0.273	0.1525	
5/31/2008	1029	1018	1023.5		0.03	0.226	0.128	

FGT - Florida Gas Transmission
 GS - Gulfstream Gas Transmission

**FUEL OIL INVENTORY
STRAP READING**

ENDING MONTH: Apr-08

PLANT	LARSEN			McINTOSH					WINSTON
PARAMETERS	T02	T03	T01	T114	T115	T116	T021	T023	WD1
	L/S DIESEL	H/S	L/S DIESEL	H/S	L/S	ON SPEC	DIESEL	L/S DIESEL	L/S DIESEL
SAMPLE ID NUMBER	7092805-07	7073105-07	8013105-02	7092805-01	8013105-03	8013105-04	8013105-05	7121803-01	8013105-01
STRAP MEASUREMENT INCHES	237.81	12.44	239.13	333.63	526.81	68.50	191.63	76.88	300.94
% OF 95% CAPACITY	90.35%	2.71%	52.91%	60.96%	96.31%	40.10%	72.99%	17.72%	82.00%
LPP F 3' from BOTTOM		MPP F @ 5'							
LPP F @ CENTER		MPP F @ 15'							
LPP F 3' from TOP		MPP F @ 25'							
		MPP F @ 35'							
AVERAGE TEMPERATURE	70.0	78.5	62.0	65.0	63.3	77.0	75.0	67.0	74.0
API GRAVITY	34.1	11.7	35.0	11.7	18.1	17.3	34.4	33.4	35.1
POUNDS/GALLON	7.115	8.229	7.076	8.229	7.877	7.919	7.102	7.145	7.072
TEMP. CORRECTION FACTOR	0.9954	0.9922	0.9991	0.9981	0.9986	0.9932	0.9931	0.9968	0.9935
GROSS - BARRELS	7,493.47	391.906	5,031.19	56,049.000	88,504.500	205.50	1,657.56	4,450.33	5,768.27
NET - BARRELS	7,459.00	388.849	5,026.66	55,942.507	88,380.594	204.10	1,646.12	4,436.08	5,730.78
NET-GALLONS	313,278.08	16,331.65	211,119.80	2,349,585.29	3,711,984.94	8,572.31	69,137.00	186,315.53	240,692.65
NET-POUNDS	2,228,974	134,393	1,493,884	19,334,737	29,239,305	67,884	491,011	1,331,224	1,702,178
GAUGE READING	19' 6"	N/A	19' 6"	27.56	43.94	5' 8"	15' 10"	71.60	25.04
MAX TANK CAPACITY(95%) INCHES	262.00	455.00	452.00	546.00	546.00	170.00	274.00	437.00	364.00
MAX (95%) TANK CAP (GALLONS)	346,736	602,490	399,000	3,854,340	3,854,340	21,375	94,723	1,051,183	293,523
CONTROL ROOM READING									
BTU/GALLON	138,956	151,047	138,307	150,245	147,182	129,967	138,624	139,499	137,770
MMBTU / BBL	5.836	6.344	5.809	6.310	6.182	5.459	5.822	5.859	5.786
% ASH		0.034		0.023	0.036				
% SULFUR	0.07	2.31	0.06	2.12	0.66	0.93	0.07	0.04	0.05
MEASURE @ LIP ON PORT	40' 4 3/8"	40' 4 3/4"	41' 5"	48' 7 3/4"	48' 7 1/4"	16' 10.5"	23' 2"	41' 4 1/8"	33' 2"

COMMENTS:

VALUES CARRIED OVER FROM LAST MONTH

Samples turned in to MPP lab: T021, T116, Winston

Tanks strapped: T021, T116, Winston

TECHNICIANS: Ken Lindsey / Wendi Wilcox
Don Biggs

Legend: H/S - High sulfur No. 6 oil
L/S - Low sulfur No. 6 oil
ON SPEC - On-specification oil
DIESEL - No. 2 fuel oil
L/S DIESEL - Low sulfur No. 2 oil

ATTACHMENT MC-EU6-I3

DESCRIPTION OF CONTROL EQUIPMENT

CO SYSTEM DESIGN BASIS:

Gas Flow from:	Combustion Turbine – Combined Cycle
Gas Flow:	Horizontal
Fuel:	Natural Gas and Oil
Gas Flow Rate (At catalyst face):	Designed for gas velocities within $\pm 15\%$ of the mean velocity at the catalyst face
Temperature (At catalyst face):	Designed for gas temperatures within range $\pm 25^{\circ}\text{F}$ of given average temperatures at all points at the catalyst face
CO Concentration (At catalyst face):	226 lb/hr (NG) // 320 lb/hr (Oil)
CO Reduction:	Design 1 - 90% CO Reduction-Full Load Design 2 – 95% CO Reduction-Full Load Design 3 – 98% CO Reduction-Full Load
VOC Concentration (At catalyst face):	Not Given
VOC Reduction:	Advise – all designs
VOC Composition:	Non-Methane / Non-Ethane – 50% Saturated
HRSG Dimensions:	62.5 ft H x 37 ft W (Gas Path – 58.5 H)

CATALYST MODULES

The CO Catalyst is manufactured with a special stainless steel foil substrate which is corrugated and coated with an alumina washcoat. The washcoat is impregnated with platinum group metals. The catalyzed foil is folded and encased in welded steel frames, approximately 2 ft. square, to form individual modules. Nine (9) of the modules are provided with four removable and replaceable test buttons which provide ability to monitor catalyst life – 36 total test buttons provided.

INTERNAL SUPPORT FRAME & SEALS

The internal support frame and internal gas seals are fabricated from standard structural Carbon Steel members and shapes. Mechanical gas and groove expansion seals around the perimeter of the frame and inside the liner sheet prevent bypass around the catalyst. Design accommodates movement of the frame due to thermal expansion while maintaining a continuous seal. The internal frame system interfaces with two types of customer provided connections; ductplate mounted slide plates and liner sheet grooves, both designed by Engelhard.

Dimensions:

Inside Liner Width	(A) 37 ft
Inside Liner Height	(B) 62.5 ft
Gas Path Height	58.5 ft
Catalyst + frame depth	(C) 18" Max.

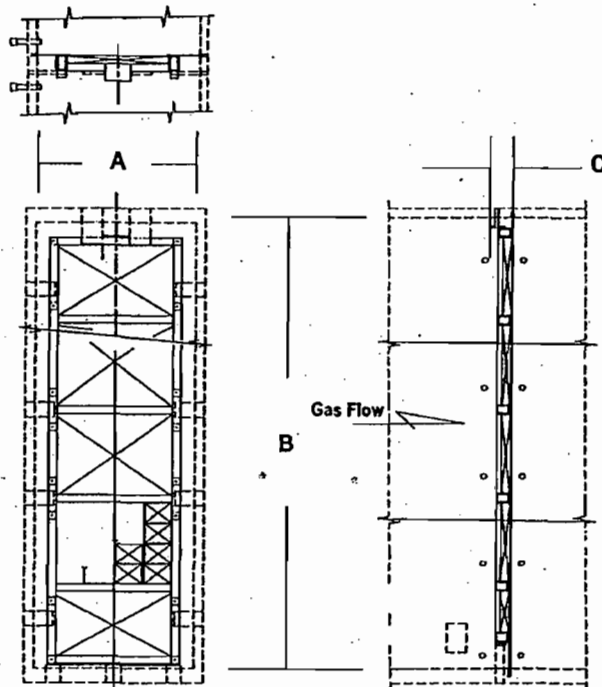
Estimated Weights:

Frame and Seals + Catalyst Modules –		
Design 1	Design 2	Design 3
57,000 lb	62,000 lb	70,000 lb

The materials are supplied by Engelhard and installed by others in accordance with the Engelhard design and installation instructions. The frame and seal installation must be inspected by Engelhard prior to initial turbine firing. The CO Catalyst modules should be installed after initial turbine firing.

QUALITY ASSURANCE and SAFETY

Engelhard's manufacturing is carried out under strict adherence to published quality control and statistical process control programs, and strict adherence to Corporate safety practices and procedures.



ATTACHMENT MC-EU6-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT MC-EU6-I4
PROCEDURES FOR STARTUP/SHUTDOWN

Startup for the gas turbine begins with an electric control system using a switch to initiate the unit startup cycle. The unit generator is synchronized with the grid and can be "on line" (electrical power production) within 5 minutes from startup.

The gas turbine utilizes water injection for controlling NO_x emissions. Initiation of water injection occurs when the turbine reaches stabilized load. The amount of water is a function of load based on preset algorithms in the CT digital control system. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective action taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best operating practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit generator from the system electrical grid), shutting off the fuel, and, coasting to a stop.

ATTACHMENT MC-EU6-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT MC-EU6-IV3
ALTERNATIVE METHODS OF OPERATION
COMBINED CYCLE UNIT

The gas turbine (Unit 5) can operate on both natural gas and No. 2 fuel oil. The maximum sulfur content in the fuel oil shall not exceed 0.05 percent. This unit can operate for the entire year (i.e., 8,760 hours) with natural gas or using up to 599×10^9 Btu (LHV) of heat input per year of for oil firing. The unit may operate at various loads.

During base load operation and at an inlet temperature of 59°F, maximum heat input is limited to 2,407 MMBtu/hr (LHV) and 2,236 MMBtu/hr (LHV) for natural gas and No. 2 fuel oil, respectively.