



Air Construction Permit Application

AIR CONSTRUCTION PERMIT APPLICATION FOR MCINTOSH UNIT 3 RELATED TO MATS COMPLIANCE

Submitted By: Golder Associates Inc.
6026 NW 1st Place
Gainesville, FL 32607 USA

Distribution: 4 copies – FDEP
1 copy – Lakeland Electric
1 copy – Golder Associates Inc.

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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: Lakeland Electric	
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, Associate 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	
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:	3. PSD Number (if applicable):
2. Project Number(s):	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

Minor-source air construction permit application to request authorization for modifying the existing wet FGD system of McIntosh Unit 3 (EU 006) to increase SO₂ reduction efficiency as required for MATS compliance.

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name : Ronald Kremann, Plant Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Lakeland Electric - McIntosh Power Plant Street Address: 3030 East Lake Parker Drive City: Lakeland State: FL Zip Code: 33805
3. Owner/Authorized Representative Telephone Numbers... Telephone: (863)834-6684 ext. Fax:(863) 834-5670
4. Owner/Authorized Representative E-mail Address: ron.kremann@lakelandelectric.com
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

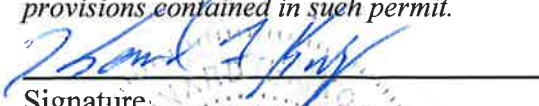
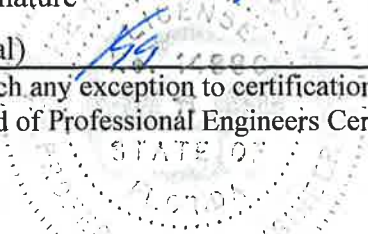
Application Responsible Official Certification

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:			
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):			
<input 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 or CAIR source.			
3. Application Responsible Official Mailing Address...			
Organization/Firm:			
Street Address:			
City:	State:	Zip Code:	
4. Application Responsible Official Telephone Numbers...			
Telephone: ()	ext.	Fax: ()	
5. Application Responsible Official E-mail Address:			
6. Application Responsible Official Certification:			
<p>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.</p>			
_____ 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: 6026 NW 1st Place City: Gainesville State: FL Zip Code: 32607
3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. 21156 Fax: (352) 336-6603
4. Professional Engineer E-mail Address: kkosky@golder.com
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 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 checked="" 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 checked="" 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 _____ Date <u>10/21/14</u> (seal) 

* Attach any exception to certification statement.

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

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 (EU 001), Unit 2 (EU 005), Unit 3 (EU 006), and Unit 5 (EU 028) are regulated under Acid Rain Phase II. Unit 2 and Unit 3 are subject to NSPS Subpart D, Standards of Performance for Fossil Fuel-Fired Steam Generators (Construction after August 17, 1971). Unit 5 is subject to Subpart GG, Standards of Performance for New Stationary Gas Turbines. The facility has several Reciprocating Internal Combustion Engines (RICE) subject to 40 CFR 63 Subpart ZZZZ. Unit 3 is subject to 40 CFR 63 Subpart UUUUU, National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (Compliance date April 16, 2015).	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM10	A	N
VOC	A	N
SO2	A	N
NOx	A	N
CO	A	N
HAPs	A	N
HCl	A	N
SAM	A	N

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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>May 2013</u>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>May 2013</u>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>May 20013</u>

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: <u>See Part II</u>
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: <u>See Part II</u>
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

- | |
|---|
| 1. List of Exempt Emissions Units:
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> 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)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> 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)
<input type="checkbox"/> Attached, Document ID: _____
<input type="checkbox"/> Not Applicable (revision application with no change in applicable requirements) |
| 3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
<input type="checkbox"/> Attached, Document ID: _____
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)
<input type="checkbox"/> Attached, Document ID: _____
<input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed
<input type="checkbox"/> Not Applicable |
| 5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable |
| 6. Requested Changes to Current Title V Air Operation Permit:
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> 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: _____ Previously Submitted, Date: **May, 2013**

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: _____ 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: _____ Previously Submitted, Date: **May, 2013**

Not Applicable (not a CAIR source)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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 – Fossil Fuel Fired Steam Generator

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)			
<input checked="" type="checkbox"/> 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).			
<input type="checkbox"/> 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.			
<input type="checkbox"/> 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			
3. Emissions Unit Identification Number: 006			
4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: Sept, 1982	7. Emissions Unit Major Group SIC Code: 49
8. Federal Program Applicability: (Check all that apply)			
<input checked="" type="checkbox"/> Acid Rain Unit			
<input checked="" type="checkbox"/> CAIR Unit			
<input type="checkbox"/> 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, natural gas, or petroleum coke-fired steam-generating unit. Permit No. 1050004-032-AC curtails petroleum coke firing effective from the date of EPA's approval of Specific Condition No. B.1 in the Florida Regional Haze State Implementation Plan.			

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

Emissions Unit Control Equipment/Method: Control 1 of 4

1. Control Equipment/Method Description:
PM – Electrostatic Precipitator (ESP)

2. Control Device or Method Code: **010**

Emissions Unit Control Equipment/Method: Control 2 of 4

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 4

1. Control Equipment/Method Description:
NOx – Low NOx burners (LNB), Overfire air (OFA) system

2. Control Device or Method Code: **205, 204**

Emissions Unit Control Equipment/Method: Control 4 of 4

1. Control Equipment/Method Description:
**Selective Catalytic Reduction
(installed voluntarily for CAIR purposes)**

2. Control Device or Method Code: **139**

Emissions Unit Control Equipment/Method: Control of

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Stack parameters based on Title V permit No. 1050004-036-AV.			

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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: 165.5	5. Maximum Annual Rate: 1,449,780	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 22
10. Segment Comment: Up to 20 percent petroleum coke is authorized to be co-fired with coal. Maximum hourly rate = 3,640 MMBtu/hr / 22 MMBtu/ton (HHV) = 165.5 tons/hr. Maximum annual rate = 165.5 ton/hr x 8,760 hr/yr = 1,449,780 tons/year		

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:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
Maximum hourly rate = 3,640 MMBtu/hr / (150 MMBtu/1000 gallons) = 24,267 gallons/hr Maximum annual rate = 24,267 gal/hr x 8,760 hr/yr = 212,578.9x10³ gallons/year		

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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: 33.1	5. Maximum Annual Rate: 289,956	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Up to 20 percent petroleum coke is authorized to be co-fired with coal. Maximum hourly rate = 165.5 tons/hr (coal) x 0.2 = 33.1 ton/hr Maximum annual rate = 33.1 ton/hr x 8,760 hr/yr = 289,956 tons/year Please note that Petroleum coke firing would be curtailed effective from the date of EPA's approval of Specific Condition No. B.1 in the Florida Regional Haze State Implementation Plan per Permit No. 1050004-032-AC.		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type): External combustion Boilers; Electric Generation, 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 – Fossil Fuel Fired Steam Generator

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
NH3	139		EL*
SAM			WP

*** Not Federally Enforceable**

**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: 109.2 lb/hour 478.3 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: 0.03 lb/MMBtu Reference: 40 CFR 60 Subpart UUUUU (effective April 16, 2015)		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 rate = 0.03 lb/MMBtu x 3,640 MMBtu/hr = 109.2 lb/hr Annual rate = 0.03 lb/MMBtu x 3,640 MMBtu/hr x 8,760 hr/yr x ton/2,000 lb = 478.3 ton/yr			
11. Potential, Fugitive, and Actual Emissions Comment: Emissions calculation presented are for coal firing only.			

**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: 0.03 lb/MMBtu	4. Equivalent Allowable Emissions: 109.2 lb/hour 478.3 tons/year
5. Method of Compliance: CEMS, or CPMS, or Quarterly Stack Test	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions per 40 CFR 60 Subpart UUUU (effective April 16, 2015).	

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):	

**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: 728.0 lb/hour 3,188.6 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: 0.2 lb/MMBtu Reference: 40 CFR 60 Subpart UUUUU (effective April 16, 2015)		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 rate = 0.2 lb/MMBtu x 3,640 MMBtu/hr = 728 lb/hr Annual rate = 0.2 lb/MMBtu x 3,640 MMBtu/hr x 8,760 hr/yr x ton/2,000 lb = 3,188.6 ton/yr			
11. Potential, Fugitive, and Actual Emissions Comment: Emissions calculation presented are for coal firing only.			

**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: 0.2 lb/MMBtu	4. Equivalent Allowable Emissions: 728 lb/hour 3,188.6 tons/year
5. Method of Compliance: CEMS	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions per 40 CFR 60 Subpart UUUU (effective April 16, 2015).	

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):	

**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: lb/hour 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:		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:			
11. Potential, Fugitive, and Actual Emissions Comment: No change in potential emissions as a result of the project.			

**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:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance: No change in allowable emissions as a result of the project.	
6. Allowable Emissions Comment (Description of Operating Method): From Permit:	

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):	

**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: lb/hour 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:	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:		
11. Potential, Fugitive, and Actual Emissions Comment: No change in potential emissions as a result of the project.		

**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:	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): No change in allowable emissions as a result of the project.	

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):	

**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: NH3		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour 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:		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:			
11. Potential, Fugitive, and Actual Emissions Comment: No change in potential emissions as a result of the project.			

**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:	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): No change in allowable emissions as a result of the project.	

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 – Fossil Fuel Fired Steam Generator

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: 40 CFR 60.42(a)(2) and Permit No. 1050004-033-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 per 24-hour period for startup, shutdown, and malfunction.	

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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 6

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Thermo Electron Corp. Model Number: 43I-ANSAB Serial Number: 0608716018	
5. Installation Date: 23 May 2008	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR 75, PSD-FL-008(B), and Title V Permit No. 1050004-036-AV.	

Continuous Monitoring System: Continuous Monitor 2 of 6

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: Thermo Electron Corp. Model Number: 42I-ANMSDAB Serial Number: 0608716016	
5. Installation Date: 23 May 2008	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR 75, PSD-FL-008(B), and Title V Permit No. 1050004-036-AV.	

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **3** of **6**

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Teledyne Model Number: Lighthawk #560 Serial Number: 5602407	
5. Installation Date: 27 May 2013	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR 75, PSD-FL-008(B), and Title V Permit No. 1050004-036-AV.	

Continuous Monitoring System: Continuous Monitor **4** of **6**

1. Parameter Code: CO2	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Thermo Electron Corp. Model Number: 410I-ANPDAB Serial Number: 0608716015	
5. Installation Date: 23 May 2008	6. Performance Specification Test Date:
7. Continuous Monitor Comment: CEM required pursuant to 40 CFR 75.	

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)**Continuous Monitoring System:** Continuous Monitor **5** of **6**

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, Inc. Model Number: ULTRAFLOW 100 Serial Number: 1001060	
5. Installation Date: 19 Mar 2000	6. Performance Specification Test Date:
7. Continuous Monitor Comment: FLOW monitor required pursuant to 40 CFR 75.	

Continuous Monitoring System: Continuous Monitor **6** of **6**

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Thermo Electron Corp. Model Number: 48I-TLE Serial Number: 0712221616	
5. Installation Date: 6 Oct 2007	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Rule 62-4.070(3) and 62-210.200(BACT), F.A.C.; and PSD-FL-387.	

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

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>LE-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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>May, 2013</u>
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 checked="" type="checkbox"/> Previously Submitted, Date <u>May, 2013</u>
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 type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" 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 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

EMISSIONS UNIT INFORMATION

Section [3]

McIntosh Unit 3 – Fossil Fuel Fired Steam Generator

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

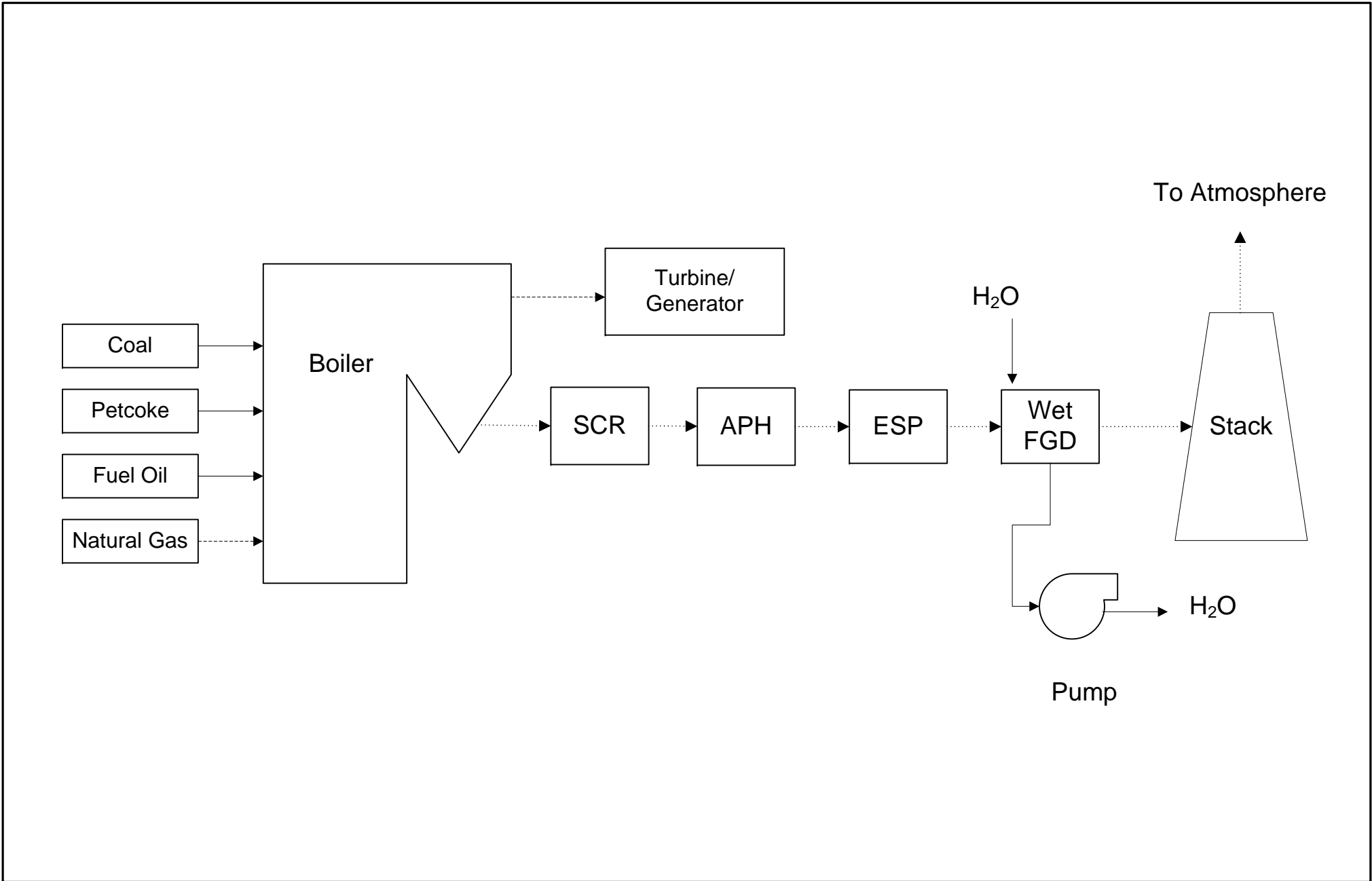
Additional Requirements for Air Construction Permit Applications

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 type="checkbox"/> Attached, Document ID: _____
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Requirements Comment

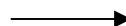




Attachment LE-EU1-I1

Process Flow Diagram

Lakeland Electric

Process Flow Legend

- Solid/Liquid 
- Gas 
- Steam 



PART II

PART II

APPLICATION FOR MINOR SOURCE AIR CONSTRUCTION PERMIT TO IMPROVE EFFICIENCY OF FLUE GAS DESULFURIZATION SYSTEM FOR MCINTOSH UNIT 3 (EU006)

EXECUTIVE SUMMARY

In this air construction (AC) permit application Lakeland Electric (LE) is requesting the Florida Department of Environmental Protection (FDEP) to authorize the project to improve sulfur dioxide (SO₂) emissions reduction efficiency of the flue gas desulfurization (FGD) system installed on the fossil-fuel steam generator Unit 3 (EU ID 006) at the McIntosh Jr. Power Plant.

McIntosh Unit 3 is subject to the Mercury and Air Toxics Standard (MATS) beginning April 16, 2015 and LE is proposing this project in order to comply with the MATS regulations. The FGD upgrade will increase the SO₂ removal efficiency to more than 95 percent in order to achieve a SO₂ emission rate below 0.20 lb/MMBtu on a 30-day rolling average basis as required by MATS. At present SO₂ emissions from Unit 3 are maintained below 0.75 lb/MMBtu on a 30-day rolling average basis. The FGD upgrade will also guarantee the filterable PM emissions to 0.03 lb/MMBtu or less.

Since the proposed upgrade project involves physical change of the pollution control device and change in the method of operation of the Unit, an AC permit is required from FDEP.

PROPOSED PROJECT

McIntosh Unit 3 is a nominal 364 megawatt (MW) dry-bottom, wall-fired fossil fuel-fired steam generator and is permitted to fire coal, residual oil, natural gas and petroleum coke with a maximum heat input rate of 3,640 MMBtu/hr. Unit 3 is equipped with an electrostatic precipitator (ESP), a wet FGD system, and low NO_x burners (LNB) and an overfire air (OFA) system to control various air emissions. Unit 3 is also equipped with a continuous SO₂ emissions monitoring system for compliance with Acid Rain requirements and as a result, the wet FGD system is exempt from Compliance Assurance Monitoring (CAM) requirements.

McIntosh Unit 3 is subject to the MATS beginning April 16, 2015, which has the following applicable emissions standards:

- Filterable PM – 0.03 lb/MMBtu
- Hydrogen chloride (HCl) – 0.002 lb/MMBtu
- Hg – 1.2 lb/10¹² Btu
- SO₂ (as an alternative to HCl) – 0.2 lb/MMBtu
- Individual HAP metals as an alternative to PM



LE is proposing this project of modifying the FGD system in order to comply with the PM, and SO₂ emissions standards. Complying with the SO₂ standard is an alternative to comply with the HCl standard. Performance guarantees from the FGD vendor is presented in Attachment A. Once the modification is complete, LE will be able to operate the scrubber at zero percent bypass, which will increase the overall SO₂ control efficiency.

The existing wet FGD with forced oxidation system has two B&W absorber tower modules that can each process 50 percent of the flue gas flow or can bypass the flue gas flow. It also has a flue gas reheat system that will reheat the processed flue gas to a certain temperature in order to keep the stack liner dry. Each tower has:

- a. An absorption tray
- b. Three levels of slurry spray nozzles
- c. Primary and secondary moisture separators with spray headers for cleaning the moisture separators
- d. Forced oxidation system with blowers, lances and agitators
- e. Three absorber recirculation pumps each with a dedicated spray header. Two pumps in service and one spare pump.

With the equipment modifications, two absorber recirculation pumps would normally be in service and the third pump will be in service while burning higher sulfur coals. The following modification will be made:

- i. Modify tray bottoms in the existing absorber tray
- ii. New second level absorber tray
- iii. Replacement of Mist Eliminator Trays
- iv. Possibly adding nozzles per layer
- v. Possibly changing nozzle design
- vi. Possibly increasing absorber pump speed

RULE APPLICABILITY

Under federal and state of Florida Prevention of Significant Deterioration (PSD) review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) must be reviewed and a pre-construction permit issued. The U.S. Environmental Protection Agency (EPA) has approved Florida's State Implementation Plan (SIP), which contains PSD regulations. The applicable PSD rules in Florida are found in Rule 62-212.400, Florida Administrative Code (F.A.C.).

A “major facility” is defined as any of 28 named-source categories that have the potential to emit 100 tons per year (TPY) or more, or any other stationary facility that has the potential to emit 250 TPY or more, of any pollutant regulated under the CAA. “Potential to emit” means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment. Once a new source is determined to be a “major facility” for a particular pollutant, any pollutant emitted in amounts greater than the PSD significant emission rates is subject to PSD review. For an existing source for which a modification is proposed, the modification is subject to PSD review if the net increase in emissions due to the modification is greater than the PSD significant emission rates.

PSD review is used to determine whether significant air quality deterioration will result from the new or modified facility. Federal PSD requirements are contained in Title 40, Part 52.21 of the Code of Federal Regulations (40 CFR 52.21), Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted the federal PSD regulations by reference (Rule 62-212.400, F.A.C.). Major facilities and major modifications are required to undergo the following analyses related to PSD for each pollutant emitted in significant amounts:

- Control technology review
- Source impact analysis
- Air quality analysis (monitoring)
- Source information
- Additional impact analyses

The McIntosh Power Plant is a major facility under FDEP rules. Based on Rule 62-210.200(205), F.A.C., modification is defined as any physical change in, change in the method of operation of, or addition to a facility which would result in an increase in the actual emissions of any pollutant subject to new source review regulation under the CAA. Scrubber modification is a physical change; however, the proposed Project will decrease actual emissions of SO₂ and PM. Therefore, the proposed Project is not a “modification” as defined in Rule 62-210.200(185), F.A.C., and will require only a “minor-source” AC permit application.

PROPOSED CHANGES

As required by the MATS emissions requirements contained in Table 1 of 40 CFR 63.9991, LE is proposing the following emissions rates to be effective April 16, 2015:

- Filterable PM – 0.03 lb/MMBtu
- SO₂ (as an alternative to HCl) – 0.2 lb/MMBtu

40 CFR 63.10000(c)(1) requires that initial performance test is performed to demonstrate compliance with the above emissions limits. As required by 40 CFR 63.10000(c)(1)(iv), LE will demonstrate compliance with the PM emissions limit through an initial performance test and either monitor continuous performance



through a PM Continuous Emissions Monitoring System (CEMS), a Continuous Parametric Monitoring System (CPMS), or compliance performance testing repeated quarterly. LE already operates a SO₂ CEMS, which will be used to demonstrate compliance with the SO₂ emissions limit.

ATTACHMENT A

PERFORMANCE GUARANTEES FROM THE FGD VENDOR

A. PERFORMANCE GUARANTEES

The following attachment includes a summary of performance guarantees that the Vendor is providing for the City of Lakeland McIntosh Unit 3 Wet Flue Gas Desulfurization (WFGD) Upgrade project.

Table 1 – Performance Guarantees

Par. No.	Parameter	Applicable Performance Conditions (Note 1)	Applicable Test Codes and Comments	Guarantee Value
1.	SO ₂ Removal Efficiency	Specified range of coals up to 3.4% S as defined in Attachment G-1 at any steady load operation from 36% to 100% MCR design flow condition as defined in Table 2	EPA Method 6C or Certified CEMS – properly calibrated See Note A	≥ 96.6% removal
2.	Filterable Particulate Matter Emissions	Specified range of coals as defined in Attachment G-1 at any steady load operation from 36% to 100% MCR design flow condition as defined in Table 2	EPA Method 5B See Note B	≤ 0.03 lb per million BTU heat input
3.	Mist Eliminator Carryover	Specified range of coals as defined in Attachment G-1 at any steady load operation from 36% to 100% MCR design flow condition as defined in Table 2	Fulfillment of this guarantee shall be demonstrated by meeting the Filterable Particulate Matter Emissions guarantee See Note C	≤ 0.00019 gpm/sq. ft.
4.	Absorber Pressure Drop Increase	Design Coal up to 3.4% S at steady load 100% MCR design flow as defined in Table 2	Properly calibrated instrumentation See Note D	≤ 5.6 in.w.c.
5.	WFGD Electrical Load Increase	Design Coal up to 3.4% S at steady load 100% MCR design flow as defined in Table 2	Properly calibrated instrumentation See Note E	0 kW
6.	Gypsum Quality	Specified range of coals up to 3.4% S as defined in Attachment G-1 at any steady load operation from 36% to 100% MCR design flow condition as defined in Table 2	See Note F	No adverse effect on gypsum quality See Note F

Note 1: MCR is defined as maximum continuous rating

The performance guarantees contained in this Performance Guarantee section are based on steady load operating conditions as defined in this Section as well as in Section B – Design Basis of the Contract.