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DIVISION OF AIR
RESOURCE MANAGEMENT

April 25, 2005

Florida Department of Environmental Protection
Division of Air Resource Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Attention: Mr. Michael G. Cooke, Director

RE: FPL Manatee Plant
Facility I.D. No. 0810010
Air Construction Permit Application for Reburn Technology

Dear Mr. Cooke:

Florida Power & Light Company (FPL) is submitting this application to Florida Department of Environmental Protection (FDEP) to obtain an air construction permit for the installation of reburn technology on Manatee Plant Units 1 and 2. This project is a result of a September 2002 agreement between FPL and FDEP for the purpose of ensuring compliance with ambient air quality standards for ozone in the Tampa Bay region. The vendors for this project have been identified and we are ready to begin installation on the first unit in the fall of this year. The installation on both units will be complete in 2006 with optimization on the second unit completed in the summer of 2007.

FPL looks forward to working with the Department on this important air pollution prevention project. Please contact Kevin Washington of our Environmental Services Department at (561) 691-2877 or Ken Kosky of Golder Associates at (352) 336-5600 if there are any technical questions or additional information related to this application.

Sincerely,

A handwritten signature in cursive script that reads 'Paul Plotkin'.

Paul Plotkin
Manatee Plant General Manager

Enclosures

cc: Joel Smolen, P.E., FDEP Southwest District
Karen Collins-Fleming, Manatee County Environmental Management Department
Kevin Washington, FPL Environmental Services
Ken Kosky, Golder Associates
M. Kalpin
K. Warkley, EPA
G. Bonyak, NPS

**APPLICATION FOR AIR CONSTRUCTION PERMIT
FOR INSTALLATION OF REBURN TECHNOLOGY**

**MANATEE POWER PLANT
*PARRISH, FLORIDA***

**Prepared For:
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408**

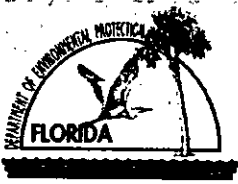
**Prepared By:
Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500**

April 2005

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**DISTRIBUTION:
10 Copies – FPL
2 Copies – Golder Associates Inc.**

PART I



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 a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

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

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

– Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Florida Power & Light Company	
2. Site Name: Manatee Plant	
3. Facility Identification Number: 0810010	
4. Facility Location...: Street Address or Other Locator: 109050 State Road 62 City: Parrish County: Manatee Zip Code: 34219-9220	
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: Kevin Washington, Senior Environmental Engineer	
2. Application Contact Mailing Address... Organization/Firm: FPL - Environmental Services Street Address: 700 Universe Blvd.; P.O. Box 14000 City: Juno Beach State: FL Zip Code: 33408	
3. Application Contact Telephone Numbers... Telephone: (561) 691-2877 ext. Fax: (561) 691-7049	
4. Application Contact Email Address: kevin_washington@fpl.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	5-9-05
2. Project Number(s):	0810010-010-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

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 installation of reburn system to minimize the formation of NO_x emissions from Manatee Units 1 and 2 in accordance with the September 2002 agreement with FDEP.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	Fossil Fuel Steam Generator, Unit 1	AC1F	NA
002	Fossil Fuel Steam Generator, Unit 2	AC1F	NA

Application Processing Fee

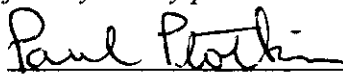
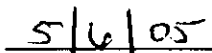
Check one: ☐ Attached - Amount: \$ _____

☒ 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 : Paul Plotkin, Manatee Plant, General Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: FPL - Manatee Plant Street Address: 19050 State Road 62 City: Parrish State: FL Zip Code: 34219-9220
3. Owner/Authorized Representative Telephone Numbers... Telephone: (941) 776-5211 ext. Fax: (941) 776-5219
4. Owner/Authorized Representative Email Address: paul_plotkin@fpl.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility 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 requirements identified in this application to which the facility 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.</i>  Signature  Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V 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.			
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 Email Address:			
6. Application Responsible Official Certification: 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. 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. **516**

Fax: **(352) 336-6603**

4. Professional Engineer Email Address: **kkosky@golder.com**

5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(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

(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.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, 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.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, 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 ☐, 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.

(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 ☐, 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.

Signature

Date

(seal)

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

FACILITY INFORMATION

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 367.250 North (km) 3054.150		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 27/36/21 Longitude (DD/MM/SS) 82/20/44	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
7. Facility Comment : The facility consists of two fossil fuel-fired steam generators and, unregulated and exempt emission units.			

Facility Contact

1. Facility Contact Name: Mary Maxwell			
2. Facility Contact Mailing Address... Organization/Firm: FPL - Manatee Plant Street Address: 19050 State Road 62 City: Parrish State: FL Zip Code: 34219-9220			
3. Facility Contact Telephone Numbers: Telephone: (941) 776-5278 ext. Fax: (941) 776-5219			
4. Facility Contact Email Address:			

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: City: State: Zip Code:			
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -			
4. Facility Primary Responsible Official Email Address:			

FACILITY INFORMATION

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 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 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: Manatee Unit 3 is under construction. When complete, this unit will be subject to NSPS (Subpart GG and Da; Subpart KKKK will replace these NSPS when finalized).	

List of Pollutants Emitted by Facility

DEP Form No. 62-210.900(1) – Form
Effective: 06/16/03

FACILITY INFORMATION

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

[illegible]

FACILITY INFORMATION

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>2003</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>2003</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>2003</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 or Modification: <input checked="" type="checkbox"/> Attached, Document ID: <u>Part II</u>
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: <u>Part II</u>
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), 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(5)(h)5., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. 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

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
☐ 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: _____ ☒ 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: _____
☒ 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: _____
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 On site 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: _____ ☒ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements Comment

See Part II.

EMISSIONS UNIT INFORMATION

Section [1] of [2]
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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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] of [2]
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:

Fossil Fuel-Fired Steam Generator Unit 1

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

4. Emissions
Unit Status
Code:
A

5. Commence
Construction
Date:

6. Initial
Startup
Date:
10/13/76

7. Emissions Unit
Major Group
SIC Code:
49

8. Acid Rain Unit?
☒ Yes
☐ No

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **863.3 MW**

11. Emissions Unit Comment:

Generator name plate rating from the Ten-Year Power Plant Site Plan submitted to the Florida Public Service Commission. Actual generator output varies.

EMISSIONS UNIT INFORMATION

Section [1] of [2]
Unit 1

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Staged combustion using reburn, overfire air, and low-NO_x burners.

2. Control Device or Method Code(s): 025, 204, and 205

EMISSIONS UNIT INFORMATION

Section [1] of [2]
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: 8,650/5,670 million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: The heat input of 8,760 MMBtu/hr is for residual oil firing. The heat input of 5,670 MMBtu/hr is for natural gas firing.

EMISSIONS UNIT INFORMATION

Section [1] of [2]
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: NA		2. Emission Point Type Code:	
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:	6. Stack Height: 499 feet	7. Exit Diameter: 26.2 feet	
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: 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: The installation of a reburn system is not expected to change stack gas parameters.			

EMISSIONS UNIT INFORMATION

Section [1] of [2]
Unit 1

D. SEGMENT (PROCESS/FUEL) INFORMATION**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type): Residual Oil Firing		
2. Source Classification Code (SCC): 1-01-004-01		3. SCC Units: 1,000 gallons
4. Maximum Hourly Rate: 56.9	5. Maximum Annual Rate: 498,513	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 1	8. Maximum % Ash:	9. Million Btu per SCC Unit: 152
10. Segment Comment: Segment shown for residual oil firing. Unit authorized to also utilize distillate oil and on-specification used oil.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Natural Gas Firing		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: MMcf
4. Maximum Hourly Rate: 5.45	5. Maximum Annual Rate: 47,759	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,026
10. Segment Comment: Segment shown for natural gas firing. Unit authorized to fire propane.		

Section [1] of [2]
Unit 1

List of Pollutants Emitted by Emissions Unit

[illegible]

EMISSIONS UNIT INFORMATION

Section [1] of [2]
Unit 1

POLLUTANT DETAIL INFORMATION

Page [1] of [1]
Nitrogen Oxides - NO_x

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2,162.5 lb/hour 9,471.75 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: 0.25 lb/MMBtu Reference: See Part II.		7. Emissions Method Code: 0	
8. Calculation of Emissions: 0.25 lb/MMBtu x 8,650 MMBtu/hr = 2,162.5 lb/hr; 2,162.5 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 9,471.75 tons/yr			
9. Pollutant Potential/Estimated Fugitive Emissions Comment: See Part II.			

EMISSIONS UNIT INFORMATIONSection [1] of [2]
Unit 1**POLLUTANT DETAIL INFORMATION**Page [1] of [1]
Nitrogen Oxides - NO_x**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete 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: 0.25 lb/MMBtu, 30-day rolling average	4. Equivalent Allowable Emissions: 2,162.5 lb/hour 9,472 tons/year
5. Method of Compliance: CEM	
6. Allowable Emissions Comment (Description of Operating Method): See Part II.	

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] of [2]

Unit 1

G. VISIBLE EMISSIONS INFORMATION

Complete 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: VE40	2. Basis for Allowable Opacity: <input checked="" 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: EPA Method 9	
5. Visible Emissions Comment: Rules 62-296.405(1)(a) and (1)(e)1., F.A.C.	

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: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: Rule 62-210.700(3), F.A.C.	

EMISSIONS UNIT INFORMATION

Section [1] of [2]

Unit 1

G. VISIBLE EMISSIONS INFORMATION

Complete 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: VE100	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 100 % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: Rules 62-210.700(1) and (2), F.A.C., for two hours in 24 hours.	

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] of [2]
Unit 1

H. CONTINUOUS MONITOR INFORMATION

Complete 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: TECO Model Number: 42C Serial Number: 42C-77266-385	
5. Installation Date: 5/29/03	6. Performance Specification Test Date: 7/2/03
7. Continuous Monitor Comment: Required by 40 CFR Part 75, Section 75.10(a)(2). This monitor will be used for determining compliance with the 30-day rolling average.	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: EM	2. Pollutant(s): CO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Milton Roy Model Number: 3300 Serial Number: N3k4370T	
5. Installation Date: 2/7/94	6. Performance Specification Test Date: 12/19/94
7. Continuous Monitor Comment: Required by 40 CFR Part 75, Section 75.10(a)(4). This is also a diluent monitor for measuring NO_x emissions, and will be used for determining compliance with the 30-day rolling average.	

EMISSIONS UNIT INFORMATION

Section [1] of [2]
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date 2003
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 2003
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: See Part II <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 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 checked="" 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 checked="" type="checkbox"/> Attached, Document ID: See Part II. <input type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATIONSection [1] of [2]
Unit 1**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(6) 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 (Rule 62-212.400(5)(h)6., F.A.C., and Rule 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: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [1] of [2]

Unit 1

Additional Requirements Comment

See Part II.

EMISSIONS UNIT INFORMATION

Section [2] of [2]
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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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] of [2]
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:
Fossil Fuel-Fired Steam Generator Unit 2

3. Emissions Unit Identification Number: **002**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: 11/19/77	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--------------------------------	---	--	--

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **863.3 MW**

11. Emissions Unit Comment:

Generator name plant rating from the Ten-Year Power Plant Site Plan submitted to the Florida Public Service Commission. Actual generator output varies.

EMISSIONS UNIT INFORMATION

Section [2] of [2]
Unit 2

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Staged combustion using reburn, overfire air, and low-NO_x burners.

2. Control Device or Method Code(s): 025, 204, and 205

EMISSIONS UNIT INFORMATION

Section [2] of [2]
Unit 2

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: 8,650/5,670 million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: The heat input of 8,760 MMBtu/hr is for residual oil firing. The heat input of 5,670 MMBtu/hr is for natural gas firing.

EMISSIONS UNIT INFORMATION

Section [2] of [2]

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: NA		2. Emission Point Type Code:	
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:	6. Stack Height: 499 feet	7. Exit Diameter: 26.2 feet	
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: 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: The installation of a reburn system is not expected to change stack gas parameters.			

EMISSIONS UNIT INFORMATION

Section [2] of [2]
Unit 2

D. SEGMENT (PROCESS/FUEL) INFORMATION**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type): Residual Oil Firing		
2. Source Classification Code (SCC): 1-01-004-01		3. SCC Units: 1,000 gallons
4. Maximum Hourly Rate: 56.9	5. Maximum Annual Rate: 498,513	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 1	8. Maximum % Ash:	9. Million Btu per SCC Unit: 152
10. Segment Comment: Segment shown for residual oil firing. Unit authorized to also utilize distillate oil and on-specification used oil.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Natural Gas Firing		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: MMcf
4. Maximum Hourly Rate: 5.45	5. Maximum Annual Rate: 47,759	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,026
10. Segment Comment: Segment shown for natural gas firing. Unit authorized to fire propane.		

Section [2] of [2]
Unit 2

List of Pollutants Emitted by Emissions Unit

[illegible]

EMISSIONS UNIT INFORMATIONSection [2] of [2]
Unit 2**POLLUTANT DETAIL INFORMATION**Page [1] of [1]
Nitrogen Oxides - NO_x**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2,162.5 lb/hour 9,471.75 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: 0.25 lb/MMBtu Reference: See Part II.		7. Emissions Method Code: 0	
8. Calculation of Emissions: $0.25 \text{ lb/MMBtu} \times 8,650 \text{ MMBtu/hr} = 2,162.5 \text{ lb/hr};$ $2,162.5 \text{ lb/hr} \times 8,760 \text{ hr/yr} \times 1 \text{ ton}/2,000 \text{ lb} = 9,471.75 \text{ tons/yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment: See Part II.			

EMISSIONS UNIT INFORMATIONSection [2] of [2]
Unit 2**POLLUTANT DETAIL INFORMATION**Page [1] of [1]
Nitrogen Oxides - NO_x**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete 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: 0.25 lb/MMBtu, 30-day rolling average	4. Equivalent Allowable Emissions: 2,162.5 lb/hour 9,472 tons/year
5. Method of Compliance: CEM	
6. Allowable Emissions Comment (Description of Operating Method): See Part II.	

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 [2] of [2]
Unit 2

G. VISIBLE EMISSIONS INFORMATION

Complete 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: VE40	2. Basis for Allowable Opacity: <input checked="" 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: EPA Method 9	
5. Visible Emissions Comment: Rules 62-296.405(1)(a) and (1)(e)1., F.A.C.	

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: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: Rule 62-210.700(3), F.A.C.	

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unit 2

G. VISIBLE EMISSIONS INFORMATION

Complete 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: VE100	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 100 % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: Rules 62-210.700(1) and (2), F.A.C., for two hours in 24 hours.	

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 [2] of [2]
Unit 2

H. CONTINUOUS MONITOR INFORMATION

Complete 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: TECO Model Number: 42C Serial Number: 42C-77265-385	
5. Installation Date: 5/12/03	6. Performance Specification Test Date: 5/21/03
7. Continuous Monitor Comment: Required by 40 CFR Part 75, Section 75.10(a)(2). This monitor will be used for determining compliance with the 30-day rolling average.	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: EM	2. Pollutant(s): CO₂
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Milton Roy Model Number: 3300 Serial Number: N3k4365T	
5. Installation Date: 2/7/94	6. Performance Specification Test Date: 12/19/94
7. Continuous Monitor Comment: Required by 40 CFR Part 75, Section 75.10(a)(4). This is also a diluent monitor for measuring NO_x emissions, and will be used for determining compliance with the 30-day rolling average.	

EMISSIONS UNIT INFORMATION

Section [2] of [2]
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date 2003
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 2003
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: See Part II <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 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 checked="" 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 checked="" type="checkbox"/> Attached, Document ID: See Part II. <input type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Unit 2

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) 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 (Rule 62-212.400(5)(h)6., F.A.C., and Rule 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: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [2] of [2]
Unit 2

Additional Requirements Comment

See Part II.

PART II

1.0 INTRODUCTION

Florida Power & Light Company (FPL) is submitting this application to Florida Department of Environmental Protection (FDEP) to obtain an air construction permit for the installation of reburn technology at the Manatee Plant, Units 1 and 2, located in Parrish, Manatee County, Florida. Manatee Plant, Units 1 and 2 are existing fossil fuel fired units firing residual oil and natural gas. These units are located on a 9,300 acre site that includes a 4,000-acre cooling pond. Units 1 and 2 are authorized to operate under Final Title V Permit No. 0810010-009-AV.

In September 2002, FPL and FDEP entered into an agreement ("Agreement") for the purpose of ensuring compliance with ambient air quality standards for ozone in the Tampa Bay region (see Attachment A). This agreement, among other things, calls for the installation of reburn technology to achieve a nitrogen oxides (NO_x) emissions rate of 0.25 lb/MMBtu on a 30-day rolling average basis. In addition, the reburn technology shall be designed to achieve a NO_x emissions goal of 0.20 lb/MMBtu on a 30-day rolling average. After installation of the reburn technology, and optimization for an 18-month period, FPL shall submit a report summarizing the results of the program and addressing whether any further changes in the applicable NO_x emission limit is possible.

This application is being submitted to obtain authorization from FDEP for the installation of the reburn technology identified in the Agreement. The air permit application consists of the appropriate applications form [Part I; DEP Form 62-210.900(1)], a technical description of the project (Part II, Section 2.0), and rule applicability for the project (Part II, Section 3.0).

2.0 PROJECT DESCRIPTION

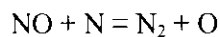
2.1 EXISTING MANATEE UNITS

The existing Manatee Units are fossil fuel fired steam electric generators with a nominal capacity of 863 MW. Each unit has a heat input of 8,650 MMBtu/hr when firing No. 6 fuel oil (i.e., residual oil) and 5,670 MMBtu/hr when firing natural gas. The units are front-fired using four rows of eight burners. The units are equipped with flue gas recirculation for control of NO when firing fuel oil. The current NO_x emission limit is 0.3 lb/MMBtu on a 30-day rolling average.

2.2 DESCRIPTION OF REBURN TECHNOLOGY

Reburn technology is a pollution prevention technology using the combustion process to remove NO_x by using fuel as a reducing agent. This is achieved by injecting fuel above the main combustion zone to form a slightly fuel-rich zone, also referred to as "reburning zone" where the fuel fragments react with NO formed in the primary combustion zone to form molecular nitrogen. Air to complete combustion is introduced beyond the "reburn zone" to complete combustion. These basic concepts are shown in Figure 2-1.

As shown in Figure 2-1, the main burners supply fuel and air as the primary combustion zone where about 80 to 85 percent of the total heat input occurs. The fuel in this zone is burned in fuel-lean conditions resulting in relatively high levels of NO_x emissions. Low-NO_x burners can be installed to provide initial NO_x control resulting in lower amount of NO that ultimately is required to be "reduced" in the reburn zone. In the reburn zone, fuel is injected typically on both sides of the boiler to obtain penetration of the combustion gas stream. About 10 to 15 percent of the total heat input is supplied in the reburn zone. This zone is slightly fuel rich resulting in the breakdown of the fuel into hydrocarbon radicals such as CH that react with NO molecules in the combustion gas stream from the primary combustion zone. These reaction form intermediates that decay reaching molecular nitrogen through the reverse of the Zeldovich reaction:



The remaining fuel fragments and partial products of combustion such as carbon monoxide are oxidized by introducing air above the reburn zone in the form of overfire air. This zone, referred to as

the burnout zone, results in an overall fuel-lean combustion gases where the remaining nitrogen species are oxidized to NO or reduced to N₂.

The most critical parameters in minimizing NO emission through reburn technology are NO_x formed from the main burners, reburning stoichiometry, reburning zone temperature and residence time, mixing of the reburn fuel with the primary combustion zone gases, and amount and mixing of overfire air. Together, the effective placement of these parameters will result in substantial NO_x reduction.

2.3 REBURN TECHNOLOGY TO BE INSTALLED ON MANATEE UNITS 1 AND 2

The reburn technology installed on Manatee Units 1 and 2 will be under a contract to General Electric's Energy and Environmental Research Corporation (GE EER). The reburn system will involve the following:

- **Demolition**
 - Top Row of (8) Burners, Existing Overfire Air (16) Ports
- **Improve Baseline Combustion**
 - Three Burner Rows, Total (24) John Zink Dynaswirl Burners
 - CFD Modeling, Secondary Air and Gas Injection, Turning Vanes, Baffles
- **Reburn System**
 - Utilities - Instrument Air, Purge Steam, Reactivate Existing Atomizing Steam Supply System
 - Controls - Full System Control Implemented via Westinghouse Ovation DCS, Fully Integrated with BMS per NFPA Code
 - Reburn Fuel - RFO and Natural Gas, 25 percent Heat Input Capacity (240 GPM, 34,000 SCFM), Standard Fuel Metering and Control Components
 - Injection Boost - Utilize 5 percent FGR Capacity (325,000 lbs/hr), Existing GI Fan Discharge Supply Source
- **Overfire Air System**
 - 30 percent of Total Combustion Air Capacity (400,000 SCFM), No increase in total air flow
 - Standard Combustion Air Flow Metering and Control Components
 - Front Wall Injection between (7) Division Walls and Side-wall Ports

Initially the top row of burners will be demolished along with the existing overfire air system. Three rows of 8 burners will be replaced with John Zink Company, TODD Combustion Group, Dynaswirl Burners (Attachment B). These burners are the state-of-the-art successors of burners installed as Reasonably Available Control Technology (RACT) on the FPL Riviera, Port Everglades and Turkey Point Plant in the mid-1990s. The burner performance will be optimized using computational fluid dynamic (CFD) modeling. The reburn system will consist of eight front-wall and 9 rear-wall fuel injectors. Fuel injection, utilities and controls will be installed. The overfire system will consist of 8 front-wall overfire air ports and two side-wall overfire air ports. Figures 2-2 and 2-3 show a profile and three-dimensional views of the reburn and overfire air systems.

The reburn system will be installed in the first unit beginning in the fall of 2005 with completion by the end of the year. Performance optimization for the first unit is expected by the spring of 2006. For the second unit, construction of the reburn system is expected by the fall of 2006 with completion by the end of 2006. Performance optimization for the second unit is expected by the spring of 2007. Evaluations required under the Agreement and a revision of the Title V Permit is expected by the end of 2007.

The reburn technology installed on Manatee Units 1 and 2 is designed to achieve a NO_x emission rate equal to or less than 0.20 lb/MMBtu on a 30-day rolling average and will achieve after optimization a NO_x emission rate of 0.25 lb/MMBtu on a 30-day rolling average. Emissions of other pollutants related to the combustion process, such as CO and particulate matter (including opacity), are not expected to be, after optimization, different than the current emissions of these pollutants. Therefore no increases in emissions of combustion related pollutants are anticipated.

3.0 RULE APPLICABILITY

Under Federal and State of Florida 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. EPA has approved Florida's State Implementation Plan (SIP), which contains PSD regulations, therefore, PSD approval authority has been granted to the FDEP.

The Manatee Plant is "major facility" since it is 1 of 28 named source categories that have the potential to emit 100 TPY or more. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment. Once a source is determined to be a "major facility" for a particular pollutant, any project that emits pollutants in amounts greater than the PSD significant emission rates is potentially subject to PSD review.

Due to the reduction in NO_x emissions, the installation of reburn technology on Manatee Units 1 and 2 is a "pollution control project" as defined in 40 CFR Part 52.21(b)(32) and meets the requirements cited in FDEP Rule 62-212.400(2)(a)2., F.A.C. The latter states: "A pollution control project that is being added, replaced, or used at an existing electric utility steam generating unit and that meets the requirements of 40 CFR 52.21(b)(2)(iii)(h), adopted and incorporated by reference at Rule 62-204.800, F.A.C., shall not be subject to the preconstruction review requirements of this rule." The installation of reburn technology being installed in Manatee Unit 1 and 2 meets these requirements and is exempt from PSD review. The applicable requirement for the installation of reburn technology is the issuance of a minor source air construction permit that incorporates the conditions of the Agreement between FPL and FDEP.

Figure 2-1. Concepts of Reburn Technology

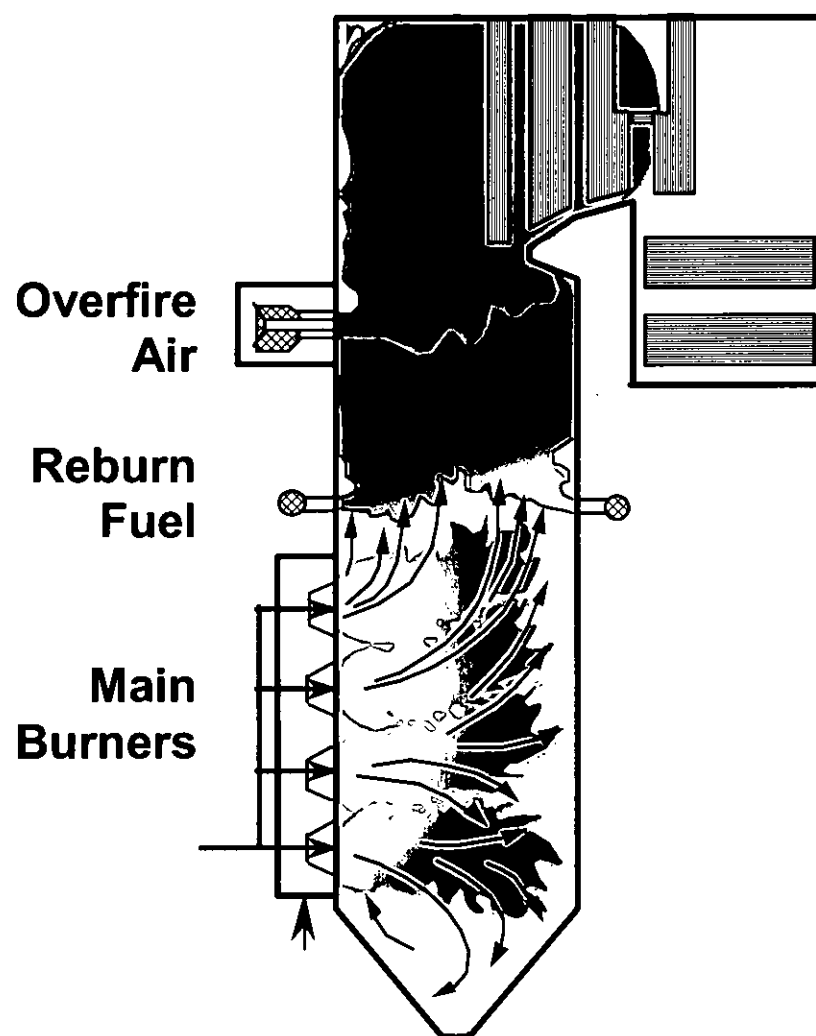


Figure 2-2. Profile of Reburn Installation for FPL Manatee Plant

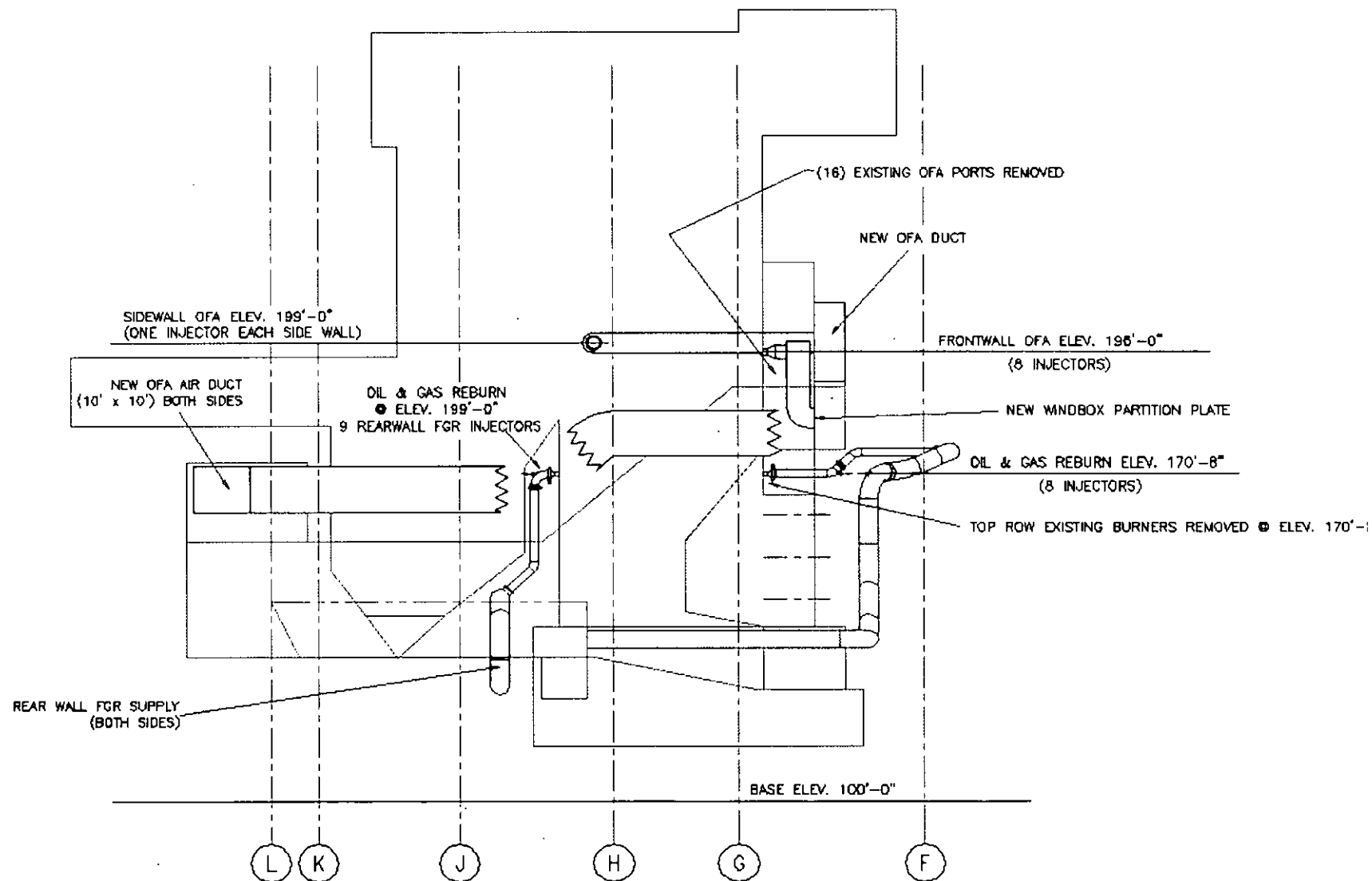


Figure 2-3. Three Dimensional View of Reburn Installation for FPL Manatee Plant

