



Letter of  
Transmittal

Date: 06/14/96

Project No.: 14262-0900

To: Florida Dept. of Environmental Prot.  
2600 Blair Stone Road  
Tallahassee, Florida 32399

Re: City of Lakeland  
Larsen Facility

ID# 10S0003

**RECEIVED**

**JUN 14 1996**

**BUREAU OF  
AIR REGULATION**

The following items are being sent to you: ☒ with this letter ☐ under separate cover

Copies

Description

<u>4</u>	<u>Title V Air Operating Permit Application (Hard Copy)</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

These are transmitted:

☐ As requested

☐ For approval

☐ For review

☐ For your information

☐ For review and comment

☒ See Below

Remarks: As indicated on the enclosed bulletin, we will be submitting the above  
referenced application electronically after June 15, 1996

RECEIVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

14422Y/F1/WP/ALL-LOT 17 (06/14/96)

6241 Northwest 23rd Street  
Suite 500  
Gainesville, Florida 32653-1500  
352-336-5600 FAX 352-336-6603

5405 West Cypress Street  
Suite 215  
Tampa, Florida 33607  
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road  
Suite 105  
Boca Raton, Florida 33487  
407-994-9910 FAX 407-994-9393

7785 Baymeadows Way  
Suite 105  
Jacksonville, Florida 32256  
904-739-5600 FAX 904-739-7777

1616 'P' Street NW  
Suite 350  
Washington, DC 20036  
202-462-1100 FAX 202-462-2270



June 13, 1996

**HAND DELIVERED**

**RECEIVED**

**JUN 17 1996**

**BUREAU OF  
AIR REGULATION**

Clair Fancy, Chief  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399

**RE: Title V Permit Application for Lakeland Electric & Water Utilities -  
C. D. McIntosh and Larsen Power Plants.**

Dear Clair:

Pursuant to Rule 62-4.050 and 62-213.100 Florida Administrative Code, the Lakeland Electric and Water Utilities hereby submits to the Florida Department of Environmental Protection's Bureau of Air Regulation (Department) a Title V Permit Application, in quadruplicate, for its above referenced facilities. These applications are submitted timely and complete in accordance with the Rule 62-213.420(1) Florida Administrative Code.

Please note that we are not submitting an electronic formatted version of this application, as we are under impression that the Department has recalled the latest version of ELSA due to some software problems. However, if required, at a later date we would endeavor to submit an electronic version of this application when a workable version of ELSA is issued by the Department.

Thank you for your cooperation and assistance in this matter. If you have any questions, please feel free to call me at 941-499-6603.

Sincerely,

Farzie Shelton  
Environmental Coordinator

Enclosures



Letter of  
Transmittal

RECEIVED

JUN 17 1996

BUREAU OF  
AIR REGULATION

Date: 06/14/96

Project No.: 14262-0900

To: Mr. Clair Fancy  
Florida Department of Environmental  
Protection

RECEIVED

JUN 17 1996

BUREAU OF  
AIR REGULATION

Re: Title V Permit Applications: Lakeland  
Larsen and McIntosh Plants

The following items are being sent to you: ☒ with this letter ☐ under separate cover

<u>Copies</u>	<u>Description</u>
<u>1</u>	<u>Cover letter for Title V Permit Applications for City of Lakeland</u> <u>C.D. McIntosh and Larsen Power Plants</u>
<u>4</u>	<u>Title V Permit Applications for C.D. McIntosh and Larsen Plants</u> <u>hand delivered Friday, June 14, 1996</u>

These are transmitted:

- |   |   |
|---|---|
| <input type="checkbox"/> As requested           | <input type="checkbox"/> For approval             |
| <input type="checkbox"/> For review             | <input type="checkbox"/> For your information     |
| <input type="checkbox"/> For review and comment | <input checked="" type="checkbox"/> For Submittal |

Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Sender: Ken Kosky/LCB

Copy to: \_\_\_\_\_  
\_\_\_\_\_

FORMS/WP61/LOT (06/14/96)

6241 Northwest 23rd Street  
Suite 500  
Gainesville, Florida 32653-1500  
352-336-5600 FAX 352-336-6603

5405 West Cypress Street  
Suite 215  
Tampa, Florida 33607  
813-287-1717 FAX 813-287-1716

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Boca Raton, Florida 33487  
407-994-9910 FAX 407-994-9393

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904-739-5600 FAX 904-739-7777

1616 'P' Street NW  
Suite 350  
Washington, DC 20036  
202-462-1100 FAX 202-462-2270

Facility: Lakeland Elec. & Water Utils.  
ID: 1050003

DISK 1 of 1  
Date: 06/25/96



Engineering and Applied  
Sciences, Inc.

U.S.  
ykrz

Facility: Lakeland Elec. & Water Utils.  
ID: 1050003

DISK 1 of 1  
Date: 06/25/96



Engineering and Applied  
Sciences, Inc.

U.S.  
ykrz

Facility: Lakeland Elec. & Water Utils.  
ID: 1050003

DISK 1 of 1  
Date: 06/25/96



Engineering and Applied  
Sciences, Inc.

U.S.  
ykrz

# Department of Environmental Protection

## DIVISION OF AIR RESOURCES MANAGEMENT

### APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

##### Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: <b>Lakeland Electric &amp; Water Utilities</b>	
2. Site Name: <b>Charles Larsen Memorial Power Plant</b>	
3. Facility Identification Number: <b>1050003</b> [ ] Unknown	
4. Facility Location Information: Street Address or Other Locator: <b>2002 East U.S. Highway 92</b> City: <b>Lakeland</b> County: <b>Polk</b> Zip Code: <b>33802</b>	
5. Relocatable Facility? [ ] Yes [x] No	6. Existing Permitted Facility? [x] Yes [ ] No

##### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: <b>Ronald W. Tomlin, Assistant Managing Director</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>Lakeland Electric &amp; Water Utilities</b> Street Address: <b>501 East Lemon Street</b> City: <b>Lakeland</b> State: <b>FL</b> Zip Code: <b>33801-5079</b>
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:  Telephone: <b>(941) 499-6300</b> Fax: <b>(941) 499-6344</b>
4. Owner/Authorized Representative or Responsible Official Statement:  <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit.</i>  <div style="display: flex; justify-content: space-between;"><div>Signature <u>Ronald W. Tomlin</u></div><div>Date <u>June 13, 1996</u></div></div>

\* Attach letter of authorization if not currently on file.

### Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

<b>Emissions Unit ID</b>	<b>Description of Emissions Unit</b>	<b>Permit Type</b>
--------------------------	--------------------------------------	--------------------

Unit #	Unit ID	
--------	---------	--

1R	003	Fossil Fuel Fired Steam Generator Unit 6
2R	004	Fossil Fuel Fired Steam Generator Unit 7
3R	008	Combined Cycle Unit 8
4R	*	Gas Turbine Peaking Units 1, 2 and 3
5		Facility-wide Unregulated Units

See individual Emissions Unit (EU) sections for more detailed descriptions.  
Multiple EU IDs indicated with an asterisk (\*). Regulated EU indicated with an "R".

**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

- ☒ Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
- ☐ Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

- ☐ Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

- ☐ Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be renewed: \_\_\_\_\_

- ☐ Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

\_\_\_\_\_

- ☐ Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_



**Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- ☐ Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_

- ☐ Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- ☐ Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g.; to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.**

This Application for Air Permit is submitted to obtain:

- ☐ Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: \_\_\_\_\_

- ☐ Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_

- ☐ Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

☐ Attached - Amount: \$ \_\_\_\_\_

☒ Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:

2. Projected or Actual Date of Commencement of Construction :

3. Projected Date of Completion of Construction :

**Professional Engineer Certification**

1. Professional Engineer Name: **Kennard F. Kosky**

Registration Number: **14996**

2. Professional Engineer Mailing Address:

Organization/Firm: **KBN Eng. and Applied Sciences, Inc.**

Street Address: **6241 NW 23rd Street, Suite 500**

City: **Gainesville**

State: **FL**

Zip Code: **32653-1500**

3. Professional Engineer Telephone Numbers:

Telephone: **(352) 336-5600**

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

4. Professional Engineer's 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*

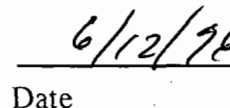
*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

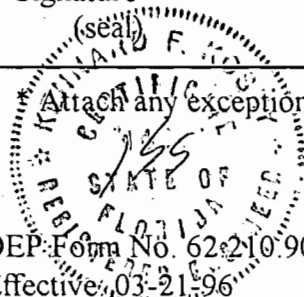
*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ☒ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit 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.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision 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

  
Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact: <b>Ms. Farzie Shelton, Environmental Coordinator</b>
2. Application Contact Mailing Address:  Organization/Firm: <b>Lakeland Electric &amp; Water Utilities</b> Street Address: <b>501 East Lemon Street</b> City: <b>Lakeland</b> State: <b>FL</b> Zip Code: <b>33801-5079</b>
3. Application Contact Telephone Numbers:  Telephone: <b>(941) 499-6603</b> Fax: <b>(941) 499-6688</b>

**Application Comment**

<b>See Attachment LR-AI-1</b>
-------------------------------

**ATTACHMENT LR-AI-1**  
**APPLICATION INFORMATION**

INFORMATION SUPPLIED	EMISSION UNITS				
	EU1 (1 of 5)	EU2 (2 of 5)	EU3 (3 of 5)	EU4 (4 of 5)	EU5 (5 of 5)
FDEP UNIT ID	003	004	008	007, 006, 005	---
GENERAL	FFFSG Unit 6 Existing AO Permit	FFFSG Unit 7 Existing AO Permit	Combined Cycle Unit 8 Existing AO Permit Previous Construction /PSD Permit	Gas Turbine Peaking Units 1 to 3 Existing AO Permit	Facility-Wide Unregulated Sources
EMISSION POINTS	1 Stack for EU	1 Stack for EU	1 Stack for EU	1 Stack for each gas turbine	Various Vents
SEGMENTS	1. No. 6 Oil 2. Natural Gas Diesel/Propane used for ignition only.	1. No. 6 Oil 2. Natural Gas Diesel/Propane used for ignition only.	1. No. 2 Distillate Oil 2. Natural Gas	1. No. 2 Distillate Oil 2. Natural Gas	1. Residual oil 2. No. 2 Distillate Oil
POLLUTANTS	1. Particulate Matter 2. Sulfur Dioxide	1. Particulate Matter 2. Sulfur Dioxide	1. Particulate Matter 2. Sulfur Dioxide 3. Nitrogen Oxides 4. Carbon Monoxide 5. Volatile Organic Compounds 6. Mercury 7. Lead 8. Beryllium 9. Sulfuric Acid Mist 10. PM10	1. Sulfur Dioxide	Not Regulated
VISIBLE EMISSIONS	1. VE20 2. VE60 3. VE99	1. VE20 2. VE60 3. VE99	1. VE20 2. VE99	1. VE20 2. VE99	Not Regulated
CONTINUOUS MONITORING	Not Required	1. Sulfur Dioxide 2. Nitrogen Oxides 3. Opacity (VE) 4. Carbon Dioxide 5. Flow	1. Nitrogen Oxides 2. Nitrogen Oxides (RB) 3. Oxygen	Not Required	Not Required
PREVENTION OF SIGNIFICANT DETERIORATION	EU in Baseline	EU in Baseline	EU Increment Consuming	EU in Baseline	Not Applicable

Legend: EU = Emission Unit; FFFSG = Fossil fuel-fired steam generator; AO = Air Operating; RB = Redundant Backup

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates: Zone: <b>17</b> East (km): <b>408.9</b> North (km): <b>3102.5</b>			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): <b>28 / 2 / 56</b> Longitude: (DD/MM/SS): <b>81 / 55 / 25</b>			
3. Governmental Facility Code: <b>4</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>49</b>	6. Facility SIC(s): <b>4911</b>
7. Facility Comment (limit to 500 characters):  <b>The Larsen Power Plant consists of two fossil fuel-fired steam generators, one combined cycle unit, and three simple cycle gas turbine peaking units. Natural gas and oil are the primary fuels.</b>			

#### Facility Contact

1. Name and Title of Facility Contact: <b>Ms. Farzie Shelton, Environmental Coordinator</b>			
2. Facility Contact Mailing Address: Organization/Firm: <b>Lakeland Electric &amp; Water Utilities</b> Street Address: <b>501 East Lemon Street</b> City: <b>Lakeland</b> State: <b>FL</b> Zip Code: <b>33801-5079</b>			
3. Facility Contact Telephone Numbers: Telephone: <b>(941) 499-6303</b> Fax: <b>(941) 499-6688</b>			

### Facility Regulatory Classifications

1. Small Business Stationary Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
2. Title V Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Synthetic Non-Title V Source? <input type="checkbox"/> Yes, <input checked="" type="checkbox"/> No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Synthetic Minor Source of Pollutants Other than HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. Major Source of Hazardous Air Pollutants (HAPs)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7. Synthetic Minor Source of HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. One or More Emissions Units Subject to NSPS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9. One or More Emissions Units Subject to NESHAP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Title V Source by EPA Designation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11. Facility Regulatory Classifications Comment (limit to 200 characters): <b>Unit 8 is subject to NSPS Part 60 Subpart GG for stationary gas turbines</b>



## B. FACILITY REGULATIONS

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

**See Attachment LR-FE-B**

## C. FACILITY POLLUTANTS

### Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
PM     Particulate Matter - Total	A
SO2    Sulfur Dioxide	A
NOX    Nitrogen Oxides	A
CO     Carbon Monoxide	A
PM10   Particulate Matter - PM10	A

## D. FACILITY POLLUTANT DETAIL INFORMATION

### Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

### Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

## E. FACILITY SUPPLEMENTAL INFORMATION

### Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID(s): <u>LR-FE-3</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-4</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-5</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

### Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-7</u> <input type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-8</u> <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

11. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Compliance Assurance Monitoring Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification:  <input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached Document ID: _____  <input checked="" type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date  <input type="checkbox"/> Not Applicable
14. Compliance Report and Plan <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-14</u> <input type="checkbox"/> Not Applicable
15. Compliance Statement (Hard-copy Required) <input checked="" type="checkbox"/> Attached, Document ID: <u>LR-FE-15</u> <input type="checkbox"/> Not Applicable

**ATTACHMENT LR-FE-B**

## ATTACHMENT LR-FE-B

### Applicable Requirements Listing - Power Plant Facility

FACILITY ID: Lakeland Electric & Water Utilities - Larsen Plant

#### FDEP Rules:

##### General Permits:

- |                |  |
|----------------|--|
| 62-4.030       | - All Permits                              |
| 62-4.040(1)(a) | - All Permits (Exemptions from permitting) |
| 62-4.040(1)(b) | - All Permits (Exemptions from permitting) |
| 62-4.100       | - All Permits                              |
| 62-4.130       | - All Permits                              |

##### Asbestos NESHA:

- |                                |                                 |
|--------------------------------|---------------------------------|
| 62-204.800(8)(b)8.(State Only) | - Asbestos Removal              |
| 62-204.800(8)(d) (State Only)  | - General Provisions (Asbestos) |
| 62-204.800(19) (State Only)    | - Part 82 (CFCs)                |

##### Stationary Sources-General:

- |                              |   |
|------------------------------|---|
| 62-210.300(2)[except (b)]    | - All Permits   |
| Exemptions - Plant Specific: |   |
| 62-210.300(3)(a)4.           | - comfort heating < 1 mmBtu/hr                          |
| 62-210.300(3)(a)5.           | - mobile sources  |
| 62-210.300(3)(a)7.           | - non-industrial vacuum cleaning                        |
| 62-210.300(3)(a)8.           | - refrigeration units                                   |
| 62-210.300(3)(a)9.           | - vacuum pumps for labs                                 |
| 62-210.300(3)(a)10.          | - steam cleaning equipment                              |
| 62-210.300(3)(a)11.          | - sanders < 5 ft <sup>2</sup>                           |
| 62-210.300(3)(a)12.          | - space heating equip.; (non-boilers)                   |
| 62-210.300(3)(a)14.          | - bakery ovens  |
| 62-210.300(3)(a)15.          | - lab equipment   |
| 62-210.300(3)(a)16.          | - brazing, soldering or welding                         |
| 62-210.300(3)(a)17.          | - laundry dryers  |
| 62-210.300(3)(a)20.          | - emergency generators < 32,000 gal/yr                  |
| 62-210.300(3)(a)21.          | - general purpose engines < 32,000 gal.yr               |
| 62-210.300(3)(a)22.          | - fire and safety equipment                             |
| 62-210.300(3)(a)23.          | - surface coating > 5% VOC; 6 gal. or less/month (avg.) |
| 62-210.300(3)(a)24.          | - surface coating < 5% VOC                              |
| 62-210.300(3)(b)             | - Tempory Exemptions                                    |
| 62-210.370(3)                | - All Permits (AOR's)                                   |
| 62-210.900(5)                | - All Permits (AOR Form)                                |

##### Title V Permits:

- |                  |                      |
|------------------|----------------------|
| 62-213.205(1)(a) | - All Permits (Fees) |
|------------------|----------------------|



62-213.205(1)(b)	- All Permits
62-213.205(1)(c)	- All Permits
Page 2 - Facility Applicable Requirements	
62-213.205(1)(e)	- All Permits
62-213.205(1)(f)	- All Permits
62-213.205(1)(g)	- All Permits
62-213.205(1)(j)	- All Permits
62-213.400	- All Permits (Permits/Revisions)
62-213.410	- All permits (Changes without permit revisions)
62-213.420.(1)(b)2.	- All Permits (Permits-allows continued operation)
62-213.420.(1)(b)3.	- All Permits (Permits-additional information)
62-213.460	- All Permits (Permit Shield)
62-213.900(1)	- All Permits (Fee Form)

Open Burning:

62-256.300 (State Only)	- Prohibitions
62-256.500 (State Only)	- Land Clearing
62-256.700 (State Only)	- Open burning Allowed

Asbestos Removal:

62-257.301	- Notification and Fee
62-257.400	- Fee Schedule
62-257.900	- Form

Stationary Sources-Emission Standards:

62-296.320(2) (State Only)	- All Permits (Odor)
62-296.320(3)(b)(State Only)	- Emergency Open Burning
62-296.320(4)(b)	- General VE
62-296.320(4)(c)	- Unconfined PM

Stationary Sources-Emission Monitoring

62-297.310(7)(a)10.	- Exemption of annual VE for 210.300(3)(a) sources/Gen. Per.
---------------------	--

Federal Regulations:

Asbestos Removal:

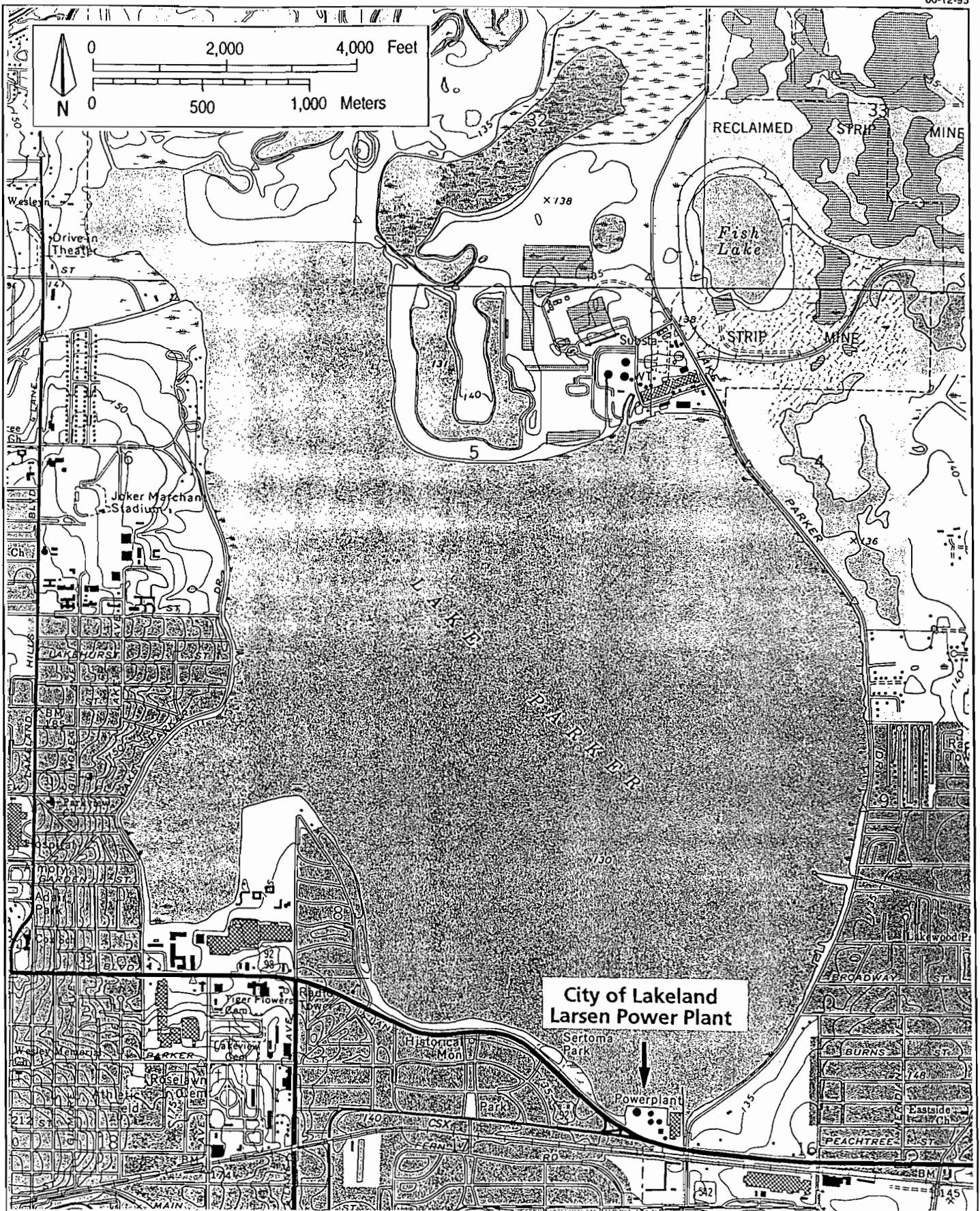
40 CFR 61.05(b)	- Prohibited Activities
40 CFR 61.05(c)	- Prohibited Activities
40 CFR 61.05(d)	- Prohibited Activities
40 CFR 61.12(b)	- Compliance with work practice standard
40 CFR 61.12(c)	- Compliance with work practice standard
40 CFR 61.19	- Circumvention
40 CFR 61.145	- Demolition and Renovation
40 CFR 61.148	- Standard for Insulating Material

CFCs > 50lb:

40 CFR 82.166(k)	- Service Documentation/Certification
40 CFR 82.166(m)	- Recordkeeping

**ATTACHMENT LR-FE-1**

**AREA MAP**



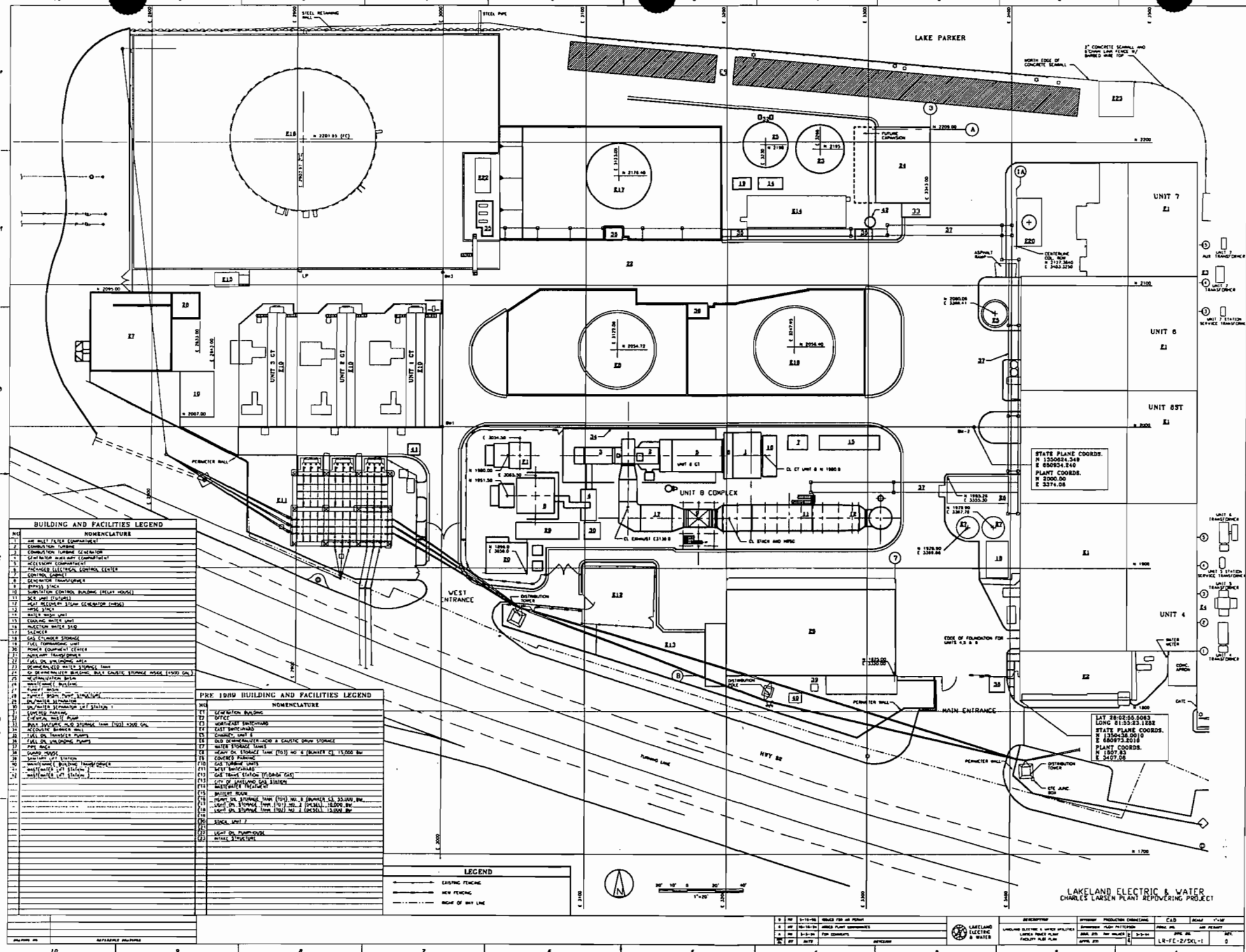
Attachment LR-FE-1  
Area Map

Source: USGS, 1987.

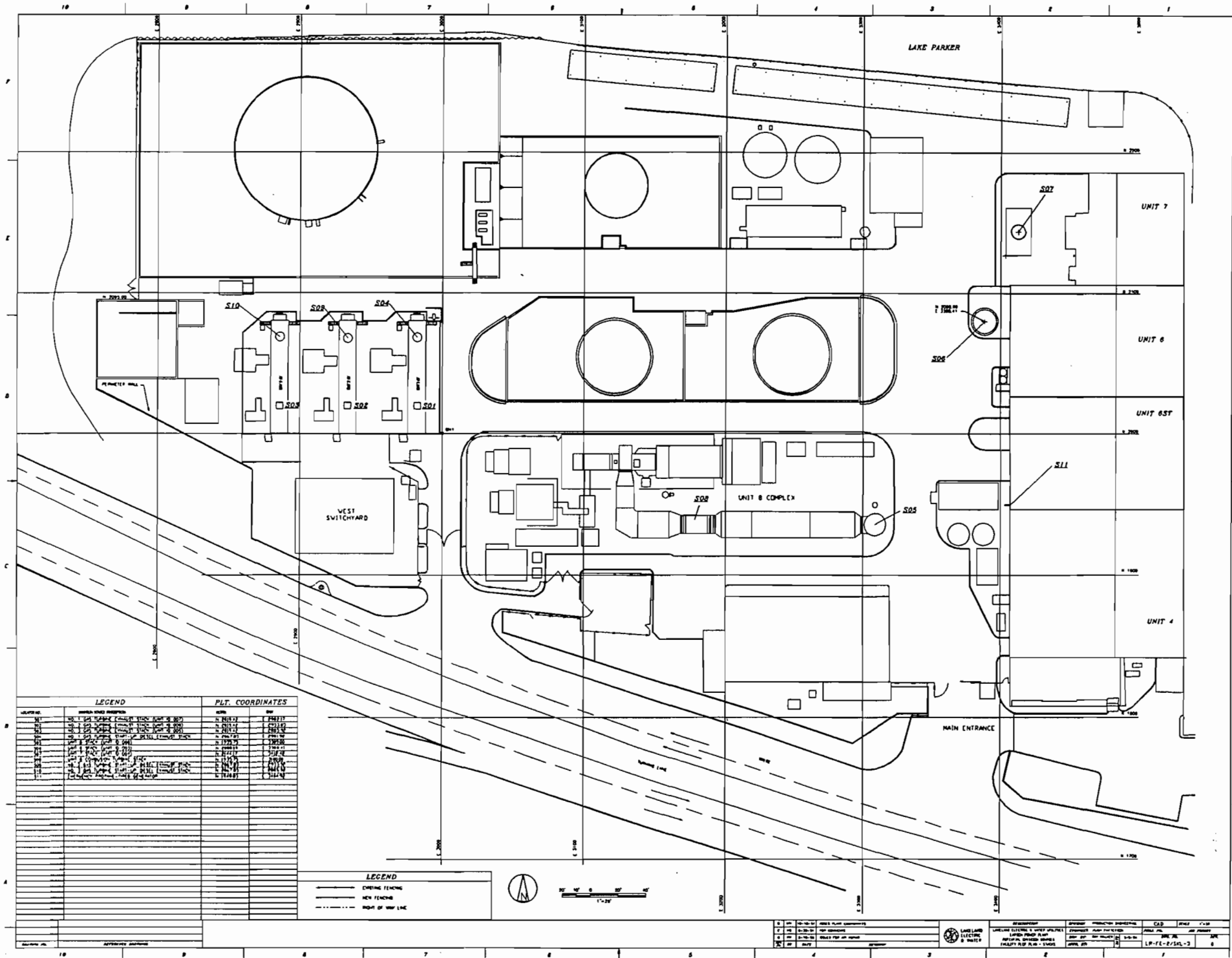


**ATTACHMENT LR-FE-2**

**FACILITY PLOT PLAN**

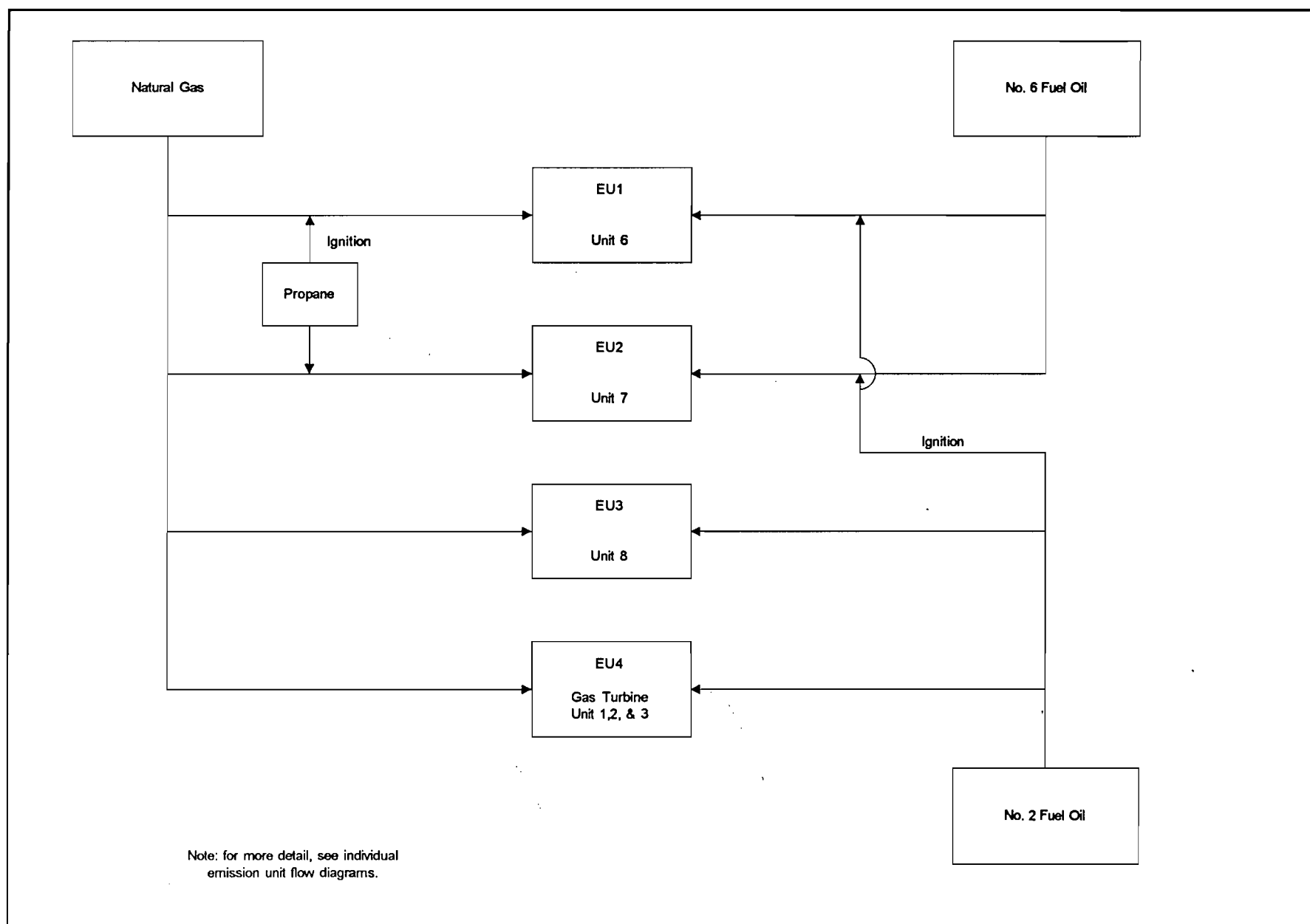



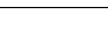




**ATTACHMENT LR-FE-3**  
**PROCESS FLOW DIAGRAM**





Process Flow Legend	Larsen Facility Process Flow Diagram Lakeland, FL.	Emission Unit: Facility Process Flow Diagram	 <b>KBN</b> Engineering and Applied Sciences, Inc.
 Solid / Liquid Flow		Process Area: Facility	
		Filename: larsen.vsd	
		Latest Revision Date: 6/12/96 03:04 PM	

**ATTACHMENT LR-FE-4**

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

**ATTACHMENT LR-FE-4**  
**PRECAUTIONS TO PREVENT EMISSIONS**  
**OF UNCONFINED PARTICULATE MATTER**

The facility has negligible amounts of unconfined particulate matter as a result of the operation of the facility. Sources of particulate matter include:

- Fugitive dust from paved and unpaved roads, and
- Fugitive particulates from the use of bagged chemical products.

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

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

**ATTACHMENT LR-FE-5**  
**FUGITIVE EMISSIONS IDENTIFICATION**

## ATTACHMENT LR-FE-5

### FUGITIVE EMISSIONS IDENTIFICATION

Many fugitive emissions at the plant site have been classified as either "trivial activities," or are requested to be exempted under Rule 62-213.430(b). The types of fugitive emissions that are included as trivial or exempt are discussed below.

#### Criteria and Precursor Air Pollutants

Fugitive particulate emissions are addressed in Attachment LR-FE-4. COL is not aware of fugitive emission of sulfur dioxide, nitrogen oxides, carbon monoxide, or lead compounds which would exceed the thresholds defined in the permit application instructions.

#### Volatile Organic Compounds (VOCs)

Fugitive emissions of VOCs include those resulting from the use of cleaners and solvents for maintenance and operation. VOCs are also emitted by the various fuel oil storage tanks on the plant property, and by the combustion turbines and the fossil-fuel steam generators. VOC emissions for storage tanks are covered in the facility-wide fugitive *Emission Unit* section of this permit application.

#### Fugitive HAPs Emissions

The following hazardous air pollutants are or may be present on the facility property and are potential sources of fugitive HAPs emissions:

- |                     |                       |
|---------------------|-----------------------|
| • asbestos          | • mercury compounds   |
| • benzene           | • methyl ethyl ketone |
| • hydrazine         | • toluene             |
| • hydrochloric acid | • xylene              |

**Asbestos** - Present in gasket material, pipe insulation, and various other locations. The facility complies with the federal NESHAPS (40 CFR 61 Subpart M) and state rules (62-257, F.A.C.) governing the abatement of asbestos-containing materials. No releases of asbestos are expected for the facility.

**Benzene** - Present in unleaded gasoline. The facility maintains a storage tank for unleaded gasoline. These emissions have been calculated to be significantly less than 1 TPY.

**Chlorine** - Used for water treatment at the facility.

**Hydrazine** - Hydrazine solution may be used for the treatment of boiler water.

**Hydrochloric Acid** - The facility may utilize hydrochloric acid in cleaning filter beds in the water treatment facility at the chemistry laboratory for use in analytical procedures.

**Mercury Compounds** - The facility uses mercury-containing compounds in the chemistry laboratory for use in analytical procedures and flow-measuring equipment.

**Methyl Ethyl Ketone, Toluene, Xylene** - The facility uses paint thinners and solvents (which may contain MEK, toluene, or xylene) for use in plant maintenance activities. These containers are kept closed and are stored in weather-tight buildings.

**Regulated Toxic or Flammable Substances**

The following regulated toxic or flammable substances are or may be present at the facility:

- |  |                         |
|--|-------------------------|
| • ammonia (aqueous, concentration<br>20% or greater) | • hydrochloric acid     |
| • chlorine   | • nitric acid           |
| • hydrazine  | • acetylene             |
|  | • methane (natural gas) |

**Chlorine, Hydrazine, Hydrochloric Acid** - Considered on the preceding page.

**Nitric Acid** - Nitric acid may be used in the chemistry laboratory for use in analytical procedures.

**Acetylene** - Present on the facility property in 250-lb cylinders which are used for plant maintenance (welding and cutting).

**Methane** - Is a primary component of natural gas. The facility has a natural gas pipeline which delivers fuel to the generating units. This fuel delivery system is normally airtight, but does have safety valves which occasionally relieve (open) when an overpressure condition develops in the gas line.

**ATTACHMENT LR-FE-7**

**LIST OF PROPOSED EXEMPT ACTIVITIES**



**ATTACHMENT LR-FE-7**  
**LIST OF PROPOSED EXEMPT ACTIVITIES**

Presented in Table LR-FE-7A is a list of activities that are proposed to be exempted from Title V permitting under Rule 62-213.430(6). The exempt activities listed are also those activities that are included in Rule 62-210.300(3)(a) which would not exceed the thresholds in Rule 62-213.430(6)(b)3. Other units that are also on the exempt list, but together may exceed the thresholds in Rule 62-213.430(6)(b)3. are listed in Emission Unit (EU) Section 5.

A comprehensive emission inventory was prepared and the cumulative estimated emissions from those activities for which an exemption is sought. The total emissions are: VOCs: < 3 tons/year; total HAPs: < 100 lb/year; single HAP: < 50 lb/year. The VOCs estimates for the largest sources of VOCs, i.e., storage tanks, are included in this attachment. These estimates were performed using the EPA Tanks 2.0 program. The list does not include any fugitive VOCs from painting/solvent use or combustion sources. These are presented as a separate emission unit section, i.e., EU5.

The trivial activities as identified in Attachment A of the May 15, 1996 letter from the Florida Electric Power Coordinating Group (FCG) and those trivial activities identified by the Division of Air Resources Management (DARM) guidance have not been included or identified in this application. It is understood that such activities do not have to be included in with the Title V Application. The trivial activities identified in the FGC list are consistent, in terms of amounts of emissions and types, with those activities listed in DARM's guidance.

Table LR-FE-7A. City of Lakeland Electric and Water Utilities - Larsen Power Plant: List of Exempt Sources

---

Emission Point Description
-------------------------------

---

- |  |
|--|
| 1. Tank T-01 Distillate Fuel Oil No. 2                   |
| 2. Tank T-02 Distillate Fuel Oil No. 2                   |
| 3. Tank T-03 Residual Oil No.6                           |
| 4. Tank T-04 Residual Oil No.6                           |
| 5. Sources Exempt by Rule 62-210.300(3)(a)               |
| 62-210.300(3)(a)4.- comfort heating < 1 mmBtu/hr         |
| 62-210.300(3)(a)5.- mobile sources                       |
| 62-210.300(3)(a)7.- non-industrial vacuum cleaning       |
| 62-210.300(3)(a)8.- refrigeration units                  |
| 62-210.300(3)(a)9.- vacuum pumps for labs                |
| 62-210.300(3)(a)10.- steam cleaning equipment            |
| 62-210.300(3)(a)11.- sanders < 5 ft2                     |
| 62-210.300(3)(a)12.- space heating equip.; (non-boilers) |
| 62-210.300(3)(a)14.- bakery ovens                        |
| 62-210.300(3)(a)15.- lab equipment                       |
| 62-210.300(3)(a)16.- brazing, soldering or welding       |
| 62-210.300(3)(a)17.- laundry dryers                      |
| 62-210.300(3)(a)22.- fire and safety equipment           |
| 62-210.300(3)(a)24.- surface coating <5% VOC             |

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

12/12/94  
PAGE 1

Identification

Identification No.: T-01 Larsn  
City: Lakeland  
State: FL  
Company: City of Lakeland (COL)  
Type of Tank: Vertical Fixed Roof

Tank Dimensions

Shell Height (ft): 28  
Diameter (ft): 45  
Liquid Height (ft): 28  
Avg. Liquid Height (ft): 14  
Volume (gallons): 297060  
Turnovers: 131  
Net Throughput (gal/yr): 39000000

Paint Characteristics

Shell Color/Shade: Gray/Light  
Shell Condition: Good  
Roof Color/Shade: Gray/Light  
Roof Condition: Good

Roof Characteristics

Type: Cone  
Height (ft): 0.25  
Radius (ft) (Dome Roof): 0.00  
Slope (ft/ft) (Cone Roof): 0.0111

Breather Vent Settings

Vacuum Setting (psig): -0.03  
Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Tampa, Florida

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
LIQUID CONTENTS OF STORAGE TANK

12/12/94  
PAGE 2

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)			Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Distillate fuel oil no. 2	All	79.62	70.58	88.66	74.24	0.0121	0.0091	0.0159	130.000			130.00	Option 4: A=12.1010, B=8907.0

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 3

Annual Emission Calculations

Standing Losses (lb):	139.6384
Vapor Space Volume (cu ft):	22398.56
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.063444
Vented Vapor Saturation Factor:	0.991055

Tank Vapor Space Volume	
Vapor Space Volume (cu ft):	22398.56
Tank Diameter (ft):	45
Vapor Space Outage (ft):	14.08
Tank Shell Height (ft):	28
Average Liquid Height (ft):	14
Roof Outage (ft):	0.08

Roof Outage (Cone Roof)	
Roof Outage (ft):	0.08
Roof Height (ft):	0.250
Roof Slope (ft/ft):	0.01111
Shell Radius (ft):	23

Vapor Density	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb/lb-mole):	130.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.012093
Daily Avg. Liquid Surface Temp.(deg. R):	539.29
Daily Average Ambient Temp. (deg. R):	531.67
Ideal Gas Constant R (psia cuft /(lb-mole-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	533.91
Tank Paint Solar Absorptance (Shell):	0.54
Tank Paint Solar Absorptance (Roof):	0.54
Daily Total Solar Insolation Factor (Btu/sqftday):	1492.00

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.063444
Daily Vapor Temperature Range (deg.R):	36.17
Daily Vapor Pressure Range (psia):	0.006752
Breather Vent Press. Setting Range(psia):	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.012093
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.009125
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.015877
Daily Avg. Liquid Surface Temp. (deg R):	539.29
Daily Min. Liquid Surface Temp. (deg R):	530.25
Daily Max. Liquid Surface Temp. (deg R):	548.33
Daily Ambient Temp. Range (deg.R):	18.90

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 4

Annual Emission Calculations

Vented Vapor Saturation Factor

Vented Vapor Saturation Factor: 0.991055

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.012093

Vapor Space Outage (ft): 14.08

Withdrawal Losses (lb):

617.3900

Vapor Molecular Weight (lb/lb-mole): 130.000000

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.012093

Annual Net Throughput (gal/yr): 39000000

Turnover Factor: 0.4229

Maximum Liquid Volume (cuft): 44532

Maximum Liquid Height (ft): 28

Tank Diameter (ft): 45

Working Loss Product Factor: 1.00

Total Losses (lb):

757.03

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
INDIVIDUAL TANK EMISSION TOTALS

12/12/94  
PAGE 5

Annual Emissions Report

Liquid Contents	Losses (lbs.):		Total
	Standing	Withdrawal	
Distillate fuel oil no. 2	139.64	617.39	757.03
Total:	139.64	617.39	757.03

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

12/12/94  
PAGE 1

Identification

Identification No.: T-02 Larsn  
City: Lakeland  
State: FL  
Company: City of Lakeland (COL)  
Type of Tank: Vertical Fixed Roof

Tank Dimensions

Shell Height (ft): 23  
Diameter (ft): 55  
Liquid Height (ft): 23  
Avg. Liquid Height (ft): 12  
Volume (gallons): 364700  
Turnovers: 66  
Net Throughput (gal/yr): 23914800

Paint Characteristics

Shell Color/Shade: Gray/Light  
Shell Condition: Good  
Roof Color/Shade: Gray/Light  
Roof Condition: Good

Roof Characteristics

Type: Cone  
Height (ft): 0.25  
Radius (ft) (Dome Roof): 0.00  
Slope (ft/ft) (Cone Roof): 0.0091

Breather Vent Settings

Vacuum Setting (psig): -0.03  
Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Tampa, Florida



TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
LIQUID CONTENTS OF STORAGE TANK

12/12/94  
PAGE 2

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)			Liquid Bulk	Vapor Pressures (psia)			Vapor	Liquid	Vapor	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.	Temp. (deg F)	Avg.	Min.	Max.	Mol. Weight	Mass Fract.	Mass Fract.		
Distillate fuel oil no. 2	All	79.62	70.58	88.66	74.24	0.0121	0.0091	0.0159	130.000			130.00	Option 4: A=12.1010, B=8907.0

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 3

Annual Emission Calculations

Standing Losses (lb):	164.4744
Vapor Space Volume (cu ft):	26332.09
Vapor Density (lb/cu ft):	0.0003
Vapor Space Expansion Factor:	0.063444
Vented Vapor Saturation Factor:	0.992947

Tank Vapor Space Volume	
Vapor Space Volume (cu ft):	26332.09
Tank Diameter (ft):	55
Vapor Space Outage (ft):	11.08
Tank Shell Height (ft):	23
Average Liquid Height (ft):	12
Roof Outage (ft):	0.08

Roof Outage (Cone Roof)	
Roof Outage (ft):	0.08
Roof Height (ft):	0.250
Roof Slope (ft/ft):	0.00909
Shell Radius (ft):	28

Vapor Density	
Vapor Density (lb/cu ft):	0.0003
Vapor Molecular Weight (lb/lb-mole):	130.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.012093
Daily Avg. Liquid Surface Temp. (deg. R):	539.29
Daily Average Ambient Temp. (deg. R):	531.67
Ideal Gas Constant R (psia cuft / (lb-mole-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	533.91
Tank Paint Solar Absorptance (Shell):	0.54
Tank Paint Solar Absorptance (Roof):	0.54
Daily Total Solar Insolation Factor (Btu/sqftday):	1492.00

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.063444
Daily Vapor Temperature Range (deg.R):	36.17
Daily Vapor Pressure Range (psia):	0.006752
Breather Vent Press. Setting Range (psia):	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.012093
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.009125
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.015877
Daily Avg. Liquid Surface Temp. (deg R):	539.29
Daily Min. Liquid Surface Temp. (deg R):	530.25
Daily Max. Liquid Surface Temp. (deg R):	548.33
Daily Ambient Temp. Range (deg.R):	18.90

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 4

Annual Emission Calculations

Vented Vapor Saturation Factor

Vented Vapor Saturation Factor: 0.992947

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.012093

Vapor Space Outage (ft): 11.08

Withdrawal Losses (lb):

608.2320

Vapor Molecular Weight (lb/lb-mole):

130.000000

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.012093

Annual Net Throughput (gal/yr): 23914800

Turnover Factor: 0.6795

Maximum Liquid Volume (cuft): 54644

Maximum Liquid Height (ft): 23

Tank Diameter (ft): 55

Working Loss Product Factor: 1.00

Total Losses (lb):

772.71

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
INDIVIDUAL TANK EMISSION TOTALS

12/12/94  
PAGE 5

Annual Emissions Report

Liquid Contents	Losses (lbs.):		Total
	Standing	Withdrawal	
Distillate fuel oil no. 2	164.47	608.23	772.71
Total:	164.47	608.23	772.71

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

12/12/94  
PAGE 1

Identification

Identification No.: T-03 Larsn  
City: Lakeland  
State: FL  
Company: City of Lakeland  
Type of Tank: Vertical Fixed Roof

Tank Dimensions

Shell Height (ft): 27  
Diameter (ft): 38  
Liquid Height (ft): 27  
Avg. Liquid Height (ft): 13  
Volume (gallons): 240000  
Turnovers: 22  
Net Throughput (gal/yr): 5280000

Paint Characteristics

Shell Color/Shade: Gray/Light  
Shell Condition: Good  
Roof Color/Shade: Gray/Light  
Roof Condition: Good

Roof Characteristics

Type: Cone  
Height (ft): 0.50  
Radius (ft) (Dome Roof): 0.00  
Slope (ft/ft) (Cone Roof): 0.0263

Breather Vent Settings

Vacuum Setting (psig): -0.03  
Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Tampa, Florida

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
LIQUID CONTENTS OF STORAGE TANK

12/12/94  
PAGE 2

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)			Liquid Bulk	Vapor Pressures (psia)			Vapor	Liquid	Vapor	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.	Temp. (deg F)	Avg.	Min.	Max.	Weight	Mass Fract.	Mass Fract.		
Residual oil no. 6	All	79.62	70.58	88.66	74.24	0.0001	0.0001	0.0001	190.000				190.00 Option 4: A=10.1040, B=10475.0

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 3

Annual Emission Calculations

Standing Losses (lb):	1.0871
Vapor Space Volume (cu ft):	16066.66
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.062992
Vented Vapor Saturation Factor:	0.999933

Tank Vapor Space Volume	
Vapor Space Volume (cu ft):	16066.66
Tank Diameter (ft):	38
Vapor Space Outage (ft):	14.17
Tank Shell Height (ft):	27
Average Liquid Height (ft):	13
Roof Outage (ft):	0.17

Roof Outage (Cone Roof)	
Roof Outage (ft):	0.17
Roof Height (ft):	0.500
Roof Slope (ft/ft):	0.02632
Shell Radius (ft):	19

Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	190.000000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.000090
Daily Avg. Liquid Surface Temp. (deg. R):	539.29
Daily Average Ambient Temp. (deg. R):	531.67
Ideal Gas Constant R	
(psia cuft / (lb-mole-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	533.91
Tank Paint Solar Absorptance (Shell):	0.54
Tank Paint Solar Absorptance (Roof):	0.54
Daily Total Solar Insolation	
Factor (Btu/sqftday):	1492.00

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.062992
Daily Vapor Temperature Range (deg.R):	36.17
Daily Vapor Pressure Range (psia):	0.000059
Breather Vent Press. Setting Range(psia):	0.06
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.000090
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	0.000064
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	0.000123
Daily Avg. Liquid Surface Temp. (deg R):	539.29
Daily Min. Liquid Surface Temp. (deg R):	530.25
Daily Max. Liquid Surface Temp. (deg R):	548.33
Daily Ambient Temp. Range (deg.R):	18.90

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 4

Annual Emission Calculations

Vented Vapor Saturation Factor

Vented Vapor Saturation Factor: 0.999933

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.000090

Vapor Space Outage (ft): 14.17

Withdrawal Losses (lb): 2.1412

Vapor Molecular Weight (lb/lb-mole): 190.000000

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.000090

Annual Net Throughput (gal/yr): 5280000

Turnover Factor: 1.0000

Maximum Liquid Volume (cuft): 30621

Maximum Liquid Height (ft): 27

Tank Diameter (ft): 38

Working Loss Product Factor: 1.00

Total Losses (lb): 3.23



TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
INDIVIDUAL TANK EMISSION TOTALS

12/12/94  
PAGE 5

Annual Emissions Report

Liquid Contents	Losses (lbs.):		Total
	Standing	Withdrawal	
-----	-----	-----	-----
Residual oil no. 6	1.09	2.14	3.23
Total:	1.09	2.14	3.23

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

12/12/94  
PAGE 1

Identification

Identification No.: T-04 Larsn  
City: Lakeland  
State: FL  
Company: City of Lakeland (COL)  
Type of Tank: Vertical Fixed Roof

Tank Dimensions

Shell Height (ft): 55  
Diameter (ft): 100  
Liquid Height (ft): 55  
Avg. Liquid Height (ft): 27  
Volume (gallons): 2380000  
Turnovers: 20  
Net Throughput (gal/yr): 47520000

Paint Characteristics

Shell Color/Shade: Gray/Light  
Shell Condition: Good  
Roof Color/Shade: Gray/Light  
Roof Condition: Good

Roof Characteristics

Type: Cone  
Height (ft): 1.00  
Radius (ft) (Dome Roof): 0.00  
Slope (ft/ft) (Cone Roof): 0.0200

Breather Vent Settings

Vacuum Setting (psig): -0.03  
Pressure Setting (psig): 0.03

Meteorological Data Used in Emission Calculations: Tampa, Florida

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
LIQUID CONTENTS OF STORAGE TANK

12/12/94  
PAGE 2

Mixture/Component	Month	Daily Liquid Surf.			Liquid	Vapor Pressures (psia)			Vapor	Liquid	Vapor	Mol. Weight	Basis for Vapor Pressure Calculations
		Temperatures (deg F)			Temp.				Mol.	Mass	Mass		
		Avg.	Min.	Max.	(deg F)	Avg.	Min.	Max.	Weight	Fract.	Fract.		
Residual oil no. 6	All	79.62	70.58	88.66	74.24	0.0001	0.0001	0.0001	190.000				190.00 Option 4: A=10.1040, B=10475.0

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 3

Annual Emission Calculations

Standing Losses (lb):	15.0560
Vapor Space Volume (cu ft):	222529.5
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.062992
Vented Vapor Saturation Factor:	0.999865

Tank Vapor Space Volume	
Vapor Space Volume (cu ft):	222529.5
Tank Diameter (ft):	100
Vapor Space Outage (ft):	28.33
Tank Shell Height (ft):	55
Average Liquid Height (ft):	27
Roof Outage (ft):	0.33

Roof Outage (Cone Roof)	
Roof Outage (ft):	0.33
Roof Height (ft):	1.000
Roof Slope (ft/ft):	0.02000
Shell Radius (ft):	50

Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	190.000000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.000090
Daily Avg. Liquid Surface Temp. (deg. R):	539.29
Daily Average Ambient Temp. (deg. R):	531.67
Ideal Gas Constant R (psia cuft / (lb-mole-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	533.91
Tank Paint Solar Absorptance (Shell):	0.54
Tank Paint Solar Absorptance (Roof):	0.54
Daily Total Solar Insolation Factor (Btu/sqftday):	1492.00

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.062992
Daily Vapor Temperature Range (deg.R):	36.17
Daily Vapor Pressure Range (psia):	0.000059
Breather Vent Press. Setting Range (psia):	0.06
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.000090
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.000064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.000123
Daily Avg. Liquid Surface Temp. (deg R):	539.29
Daily Min. Liquid Surface Temp. (deg R):	530.25
Daily Max. Liquid Surface Temp. (deg R):	548.33
Daily Ambient Temp. Range (deg.R):	18.90

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
DETAIL CALCULATIONS (AP-42)

12/12/94  
PAGE 4

Annual Emission Calculations

Vented Vapor Saturation Factor

Vented Vapor Saturation Factor: 0.999865

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.000090

Vapor Space Outage (ft): 28.33

Withdrawal Losses (lb): 19.2705

Vapor Molecular Weight (lb/lb-mole): 190.000000

Vapor Pressure at Daily Average Liquid

Surface Temperature (psia): 0.000090

Annual Net Throughput (gal/yr): 47520000

Turnover Factor: 1.0000

Maximum Liquid Volume (cuft): 431969

Maximum Liquid Height (ft): 55

Tank Diameter (ft): 100

Working Loss Product Factor: 1.00

Total Losses (lb): 34.33

TANKS PROGRAM 2.0  
EMISSIONS REPORT - DETAIL FORMAT  
INDIVIDUAL TANK EMISSION TOTALS

12/12/94  
PAGE 5

Annual Emissions Report

Liquid Contents	Losses (lbs.):		Total
	Standing	Withdrawal	
Residual oil no. 6	15.06	19.27	34.33
Total:	15.06	19.27	34.33

FLORIDA ELECTRIC POWER COORDINATING GROUP, INC. (FCG)  
 405 RED STREET, SUITE 100 • (813) 289-5644 • FAX (813) 289-5646  
 TAMPA, FLORIDA 33609-1004

MAY 16 1996



TITLE V

May 15, 1996

## VIA HAND DELIVERY

Howard Rhodes, Director  
 Division of Air Resources Management  
 Florida Department of Environmental Protection  
 Magnolia Park Courtyard  
 Tallahassee, FL 32301

RECEIVED

MAY 15 1996

BUREAU OF  
AIR REGULATION

RE: Categorizing Trivial Activities

Dear Howard:

The Florida Electric Power Coordinating Group, Inc. (FCG) is submitting this letter to convey its understanding and intent regarding the categorizing of "trivial activities" at air emission facilities. As you know, the FCG is a nonprofit association of 36 investor-owned, municipally-owned, and cooperatively-owned electric utilities engaged in the business of providing a great majority of electric power to the public in the state of Florida. The FCG appreciates the Department of Environmental Protection's (DEP) issuance of guidance on this topic - DARM-PER/V-15 - which adopted EPA's July 10 "White Paper" list of trivial activities and stated that "these activities are [to be] treated as if they emit no air pollutants." Because EPA specifically described its White Paper list as a "starter list," the FCG understands that there are other activities that are appropriate for categorization as trivial and intends to not include such activities in Title V applications based on this categorization.

In previous comment letters, the FCG requested that the concept of trivial activities (as well as a specific list of such activities) be incorporated into Florida's regulations. Because DEP had reservations about this approach, however, the FCG agreed that guidance could be issued to accomplish basically the same goal, as long as either a comprehensive list of trivial activities was included in the guidance, or common sense could be used to exclude similar activities. DEP included only the limited EPA "starter list" in DARM-PER/V-15. Rather than specifically request the addition of numerous other activities to DEP's list, and burden DEP and industry with continually updating it, the FCG is simply conveying its intention to exclude additional trivial activities from the Title V process, [based on a reasonable interpretation of what constitutes a trivial activity - e.g., activities with no unit-specific applicable requirements and very minimal, if any, regulated air pollutant emissions.] DEP representatives specifically affirmed this understanding and approach at the "Phase V" Permit Simplification workshop on March 26, 1996. For purposes of illustration, the FCG is including a non-exclusive list of activities it considers to be "trivial" and thus excludable from Title V applications, that are not included in DEP's list. (Attachment A). As you can see from the attached list, while it is

Howard Rhodes, Director  
Division of Air Resources Management, DEP  
May 15, 1996  
Page 2

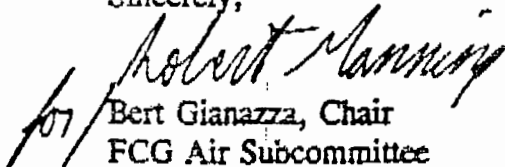
possible that minute quantities of regulated air pollutants, such as PM or VOCs, could be emitted from such activities, the quantities would be extremely small, and likely unquantifiable.

Because the FCG understands that this is a reasonable and previously agreed upon approach regarding a common sense issue, specific rule amendments should not be necessary, although clarification of DARM-PER/V-15 would certainly be acceptable to the FCG. To the extent an emissions unit or activity cannot be categorized as trivial, either because it is not included in DEP's guidance or has potential emissions exceeding a reasonable understanding of trivial, such units and activities will be included in the Title V process as exempt, unregulated, or regulated.

Similarly, because trivial activities are treated as if they have no air emissions, such activities should be excluded from all state air permitting requirements, not just Title V. DARM-PER/V-15 is currently limited to Title V permitting, although when DEP establishes a *de minimis* emission threshold for emissions units and activities below which state permitting would not be required, in accordance with its expressed intention, this issue should be moot. Therefore, as long as DEP incorporates an appropriate *de minimis* exemption into Florida's rules during "Phase V" of the Permit Simplification rulemaking proceeding, the FCG does not feel compelled to pursue this issue in the context of DARM-PER/V-15.

Thank you for your attention to this matter. As always, the FCG appreciates DEP's cooperation regarding the implementation of Florida's air rules. If you have any questions or wish to discuss this letter further, please contact me at (904) 632-6247.

Sincerely,

  
for Bert Gianazza, Chair  
FCG Air Subcommittee

cc: Clair Fancy, DEP  
Pat Comer, Esq., DEP  
John Brown, DEP  
Larry George, DEP  
FCG Air Subcommittee  
Robert Manning, HGSS



## ATTACHMENT A

### EXAMPLES OF TRIVIAL ACTIVITIES THAT ARE NOT INCLUDED IN DARM- PER/V-15 INCLUDE:

- (a) Freshwater/reuse water cooling towers.
- (b) Cooling ponds.
- (c) Coal pile runoff ponds.
- (d) Venting for storage rooms, transformer vaults and buildings, maintenance and welding buildings, operating equipment, degasifiers, dearators, decarbonators, air blowers, evacuators, air locks, feedwater heaters, generators and turbine cooling.
- (f) Maintenance of transformers, switches, switchgear processing, and venting (including cleaning and changing).
- (g) Nitrogen caps used during steam generator boiler shutdown.
- (h) Transfer sumps.
- (i) Firefighting training facilities.
- (j) Waste accumulation and consolidation in 55-gallon drums (or smaller) that are closed when not in use.
- (k) Nuclear gauges used for the purpose of process monitoring.
- (l) Oil/water separators.
- (m) Storage and use of chemicals solely for water/wastewater treatment.
- (n) Neutralization basins/ponds, ash pits/ponds, totally enclosed treatment facilities, ENU, percolation ponds.
- (o) Storage of materials in sealed containers.
- (p) Residual oil tanks and piping system vents and relief valves.
- (q) Lube oil tanks and piping system vents and relief valves.
- (r) Steam system vents.
- (s) Boiler water treatment chemical systems.
- (t) Water treatment equipment and chemicals.
- (u) Wastewater treatment equipment and basins.
- (v) Instrument air system vents and relief valves.
- (w) Service water system vents and relief valves.

**ATTACHMENT LR-FE-8**

**LIST OF EQUIPMENT/ACTIVITIES REGULATED UNDER TITLE VI**

ATTACHMENT LR-FE-8

LIST OF EQUIPMENT / ACTIVITIES REGULATED — TITLE VI

The City of Lakeland Larsen Plant currently has 1 air-conditioning unit that currently meets the 50-pound threshold established by the Department.

<u>Model Name, Number</u>	<u>General Area</u>	<u>Amount</u>
Dunham Bush Model #AD30A	Main Office West Wall	55 lb

**ATTACHMENT LR-FE-14**  
**COMPLIANCE REPORT AND PLAN**

**ATTACHMENT LR-FE-14**

**COMPLIANCE REPORT AND PLAN**

The facility and emissions units identified in this application are in compliance with the Applicable Requirements identified in Sections B and D of the application form and attachments referenced in Section E. 11. and L. 12. (if included). Compliance is certified as of the date this application and is submitted to the Florida Department of Environmental Regulation as required in Rule 62-213.420(1)(a) F.A.C. Compliance will be certified annually as required.

**ATTACHMENT LR-FE-15**  
**COMPLIANCE STATEMENT**

ATTACHMENT LR-FE-15

COMPLIANCE CERTIFICATION STATEMENT

I, the undersigned, am the responsible official as defined in Chapter 62-213, F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.

The City of Lakeland proposes that an annual statement of compliance shall be submitted with the annual operating report by March 1 of each year.

Ronald W. Tomlin  
Signature, Responsible Official

6/13/96  
Date

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

- ☒ 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.

2. Single Process, Group of Processes, or Fugitive Only? 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.



**B. GENERAL EMISSIONS UNIT INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Fossil Fuel Fired Steam Generator Unit 6</b>		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown <b>003</b>		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? [ ] Yes [ <b>x</b> ] No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>Initial startup date is Emission Unit's commercial in-service date. Emission Unit is below criteria to trigger acid rain applicability as provided in 40CFR72.6.</b>		

**Emissions Unit Control Equipment Information**

**A.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

### C. EMISSIONS UNIT DETAIL INFORMATION (Regulated Emissions Units Only)

#### Emissions Unit Details

1. Initial Startup Date: <b>1 Jan 1959</b>		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	<b>25 MW</b>	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

#### Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	<b>306</b>	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<p><b>Maximum heat input for residual oil firing based on high heating value (HHV).</b>  <b>Maximum heat input for natural gas is 286.5 MMBtu/hr.</b></p>		

#### Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
hours/day	days/week	
weeks/yr	<b>8,760</b>	hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment LR-EU1-D

**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>See Att. LR-EU1-L1</b>	
2. Emission Point Type Code:  <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  <b>Exhausts through single stack</b>	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code:  <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	<b>165</b> feet
7. Exit Diameter:	<b>10</b> feet
8. Exit Temperature:	<b>340</b> °F

9. Actual Volumetric Flow Rate:	98,960 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: 17	East (km): 408.9 North (km): 3102.9
14. Emission Point Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Residual Oil</b>	
2. Source Classification Code (SCC):  <b>1-01-004-01</b>	
3. SCC Units:  <b>1000 gallons</b>	
4. Maximum Hourly Rate:  <b>2.04</b>	5. Maximum Annual Rate:  <b>17,866</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>2.5</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:  <b>150</b>	
10. Segment Comment (limit to 200 characters):  <b>Based on maximum heat input for residual oil firing. Distillate oil used for ignition (SCC 1-01-005-01).</b>	



**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural gas</b>	
2. Source Classification Code (SCC): <b>1-01-006-01</b>	
3. SCC Units: <b>Million Cubic Feet</b>	
4. Maximum Hourly Rate: <b>0.279</b>	5. Maximum Annual Rate: <b>2,451</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>1,024</b>	
10. Segment Comment (limit to 200 characters): <b>Maximum hourly rate based on maximum heat input for natural gas firing. Propane used for ignition (SCC 1-01-010-02)</b>	

**G. EMISSIONS UNIT POLLUTANTS**  
**(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO2			EL
NOX			NS
CO			NS
VOC			NS
PM10			NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM</b>
2. Total Percent Efficiency of Control: %
3. Potential Emissions: <b>38.3 lb/hour</b> <b>168 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr
6. Emission Factor: <b>0.125 lb/MMBtu</b> Reference: <b>See Comment</b>
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): <b>0.125 lb/MMBtu x 305.9 MMBtu/hr = 38.3 lbs/hr; 38.3 lbs/hr x 8,760 hrs/yr x ton/2000 lb = 168 TPY</b>
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): <b>Emission Factor Ref: 62-296.405(1)(b); 62-210.700(3). Emissions based on oil firing. Includes allowance (0.3 lb/MMBtu) for soot blowing &amp; load changing for 3 hr/24 hr and 0.1 lb/MMBtu for 21 hr/24 hr.</b>

Emissions Unit Information Section 1 of 5  
Allowable Emissions (Pollutant identified on front page)

FFFSG Unit 6  
 Particulate Matter - Total

A.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>31 lb/hour</b>	<b>134 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test; EPA Method 5,5B,5F or 17</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Oil firing does not include allowance for excess emissions. Test required if oil firing &gt; 400 hrs/yr.</b>		

B.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.3 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>lb/hour</b>	<b>tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test; EPA Method 5,5B,5F or 17</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Allowed for 3 hours per 24 hours [FDEP Rule 62-210.700(3)] if oil firing &gt; 400 hr/yr.</b>		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO<sub>2</sub></b>	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	<b>841 lb/hour</b> <b>3,685 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3       _____ to _____ tons/yr	
6. Emission Factor: <b>2.75 lb/MMBtu</b>  Reference: 62-296.405(1)(c)1.	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>2.75 lb/MMBtu x 305.9 MMBtu/hr = 841 lbs/hr; 841 lbs/hr x 8,760 hrs/yr x ton/2,000 lb = 3,685 TPY</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emissions based on maximum heat input and oil firing.</b>	

Emissions Unit Information Section 1 of 5  
**Allowable Emissions (Pollutant identified on front page)**

FFFSG Unit 6  
Sulfur Dioxide

A.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>2.75 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>841 lb/hour</b>	<b>3,685 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Fuel analysis Methods PARR 1760; D-240</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Based on FDEP Rule 62-296.405(1)(c)1 oil firing.</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION**  
(Regulated Emissions Units Only)**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 3

1.	Visible Emissions Subtype: <b>VE20</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>20. %</b> Exceptional Conditions: <b>40. %</b> Maximum Period of Excess Opacity Allowed: <b>2 min/hour</b>
4.	Method of Compliance: <b>Annual compliance test; DEP Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-296.405(1)(a)</b>

**Visible Emissions Limitations:** Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: <b>VE60</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>60. %</b> Exceptional Conditions: <b>100 %</b> Maximum Period of Excess Opacity Allowed: <b>min/hour</b>
4.	Method of Compliance: <b>Annual compliance test; DEP Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(3): Soot Blowing/Load Changing. 60% is allowed for 3 hr/24 hr; 100% is allowed for four 6-minute periods in 3 hours.</b>

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)****Visible Emissions Limitations:** Visible Emissions Limitation 3 of 3

1.	Visible Emissions Subtype: <b>VE99</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:           %           Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>None</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24-hour period for malfunction. Rule 62-210.700(2) allows 100% for start-up and shut down with good operating practices.</b>

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:           %           Exceptional Conditions:           % Maximum Period of Excess Opacity Allowed:           min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):



**J. CONTINUOUS MONITOR INFORMATION**  
(Regulated Emissions Units Only)**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ☒ None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☒ None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO <sub>2</sub>	lb/hour	tons/year	
NO <sub>2</sub>		tons/year	
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)****Supplemental Requirements for All Applications**

1. Process Flow Diagram
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L1</u>
<input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L2</u>
<input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment
<input type="checkbox"/> Attached, Document ID: _____
<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L4</u>
<input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
<input checked="" type="checkbox"/> Previously Submitted, Date: <u>1 Jan 1996</u>
6. Procedures for Startup and Shutdown
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L6</u> <input type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L10</u> <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU1-L12</u> <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required)
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input checked="" type="checkbox"/> Not Applicable

**ATTACHMENT LR-EU1-D**  
**EMISSIONS UNIT REGULATIONS**

**ATTACHMENT LR-EU1-D**  
**Applicable Requirements Listing - Power Plant Acid Rain Units**

EMISSION UNIT ID: EU1 - Larsen Plant - FFFSG Unit 6

**FDEP Rules:**

**Stationary Sources-General:**

- 62-210.700(1) - Excess Emissions (startup/shutdown/malfunction)
- 62-210.700(2) - Existing FFFSG (startup/shutdown)
- 62-210.700(3) - Existing FFFSG (sootblowing/load change)
- 62-210.700(4) - Poor Maintenance
- 62-210.700(6) - Notification

**Stationary Sources-Emission Standards:**

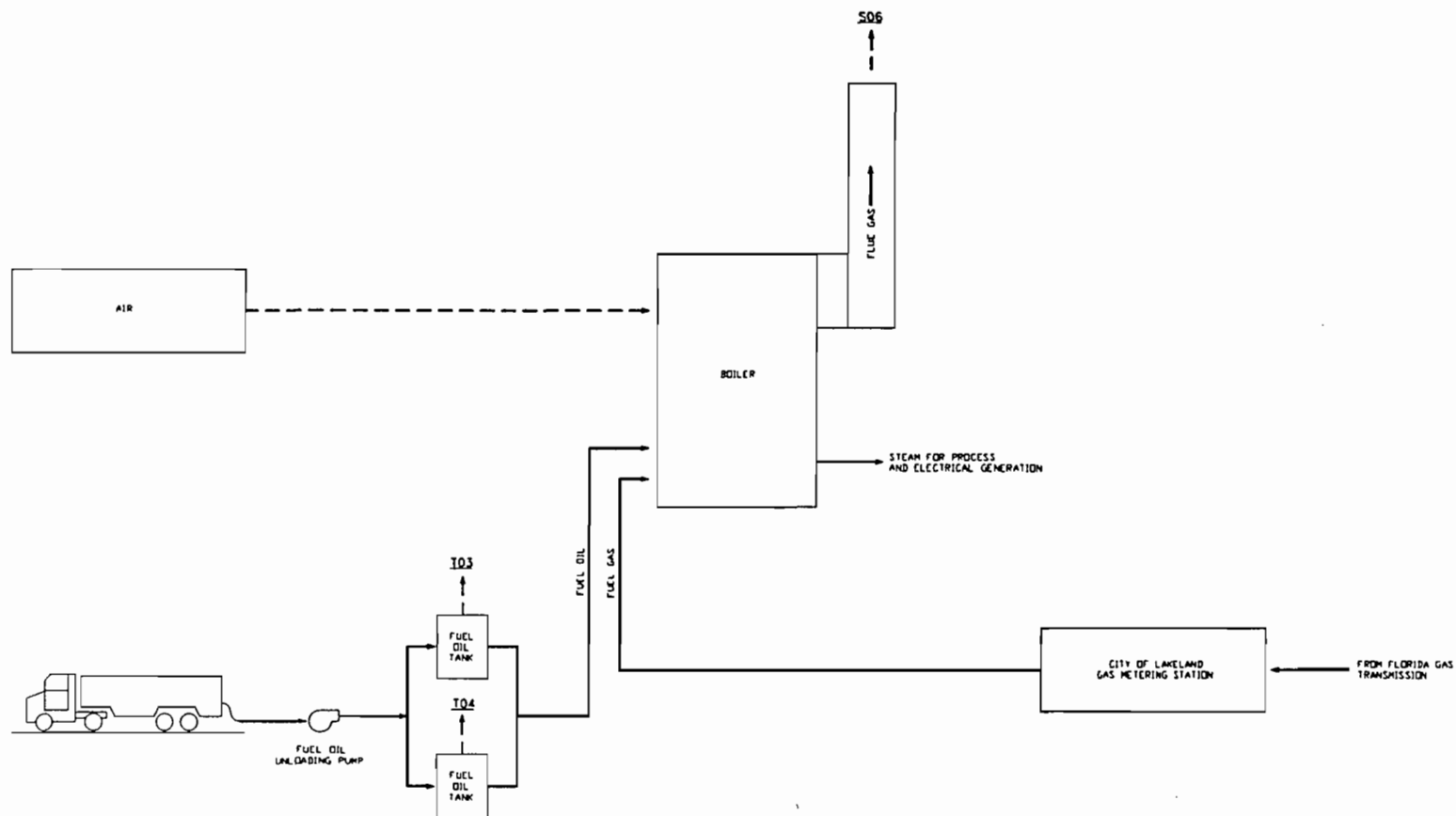
- 62-296.405(1)(a) - FFSG; VE
- 62-296.405(1)(b) - FFSG; PM
- 62-296.405(1)(c)1.j. - FFSG; Oil-SO<sub>2</sub> (general limit; see rule for others)
- 62-296.405(1)(e) - FFSG; Test Methods
- 62-296.405(1)(f)1.a.(i) - FFSG; Opacity CEMs exempted for oil/gas units
- 62-296.405(1)(f)1.b. - FFSG; SO<sub>2</sub> CEMS exempted for non-controlled units (oil/gas)

**Stationary Sources-Emission Monitoring:**

- 62-297.310(1) - All Units (Test Runs-Mass Emission)
- 62-297.310(2)(b) - All Units (Operating Rate; other than CTs;no CT)
- 62-297.310(3) - All Units (Calculation of Emission)
- 62-297.310(4)(a)1. - All Units (Applicable Test Procedures;Sampling time)
- 62-297.310(4)(b) - All Units (Sample Volume)
- 62-297.310(4)(c) - All Units (Required Flow Rate Range-PM/H2SO4/F)
- 62-297.310(4)(d) - All Units (Calibration)
- 62-297.310(4)(e) - All Units (EPA Mehtod 5-only)
- 62-297.310(5) - All Units (Determination of Process Variables)
- 62-297.310(6)(a) - All Units (Permanent Test Facilities-general)
- 62-297.310(6)(c) - All Units (Sampling Ports)
- 62-297.310(6)(d) - All Units (Work Platforms)
- 62-297.310(6)(e) - All Units (Access)
- 62-297.310(6)(f) - All Units (Electrical Power)
- 62-297.310(6)(g) - All Units (Equipment Support)
- 62-297.310(7)(a)2. - FFSG excess emissions
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.a. - Annual Test
- 62-297.310(7)(a)5. - PM exemption if < 400 hrs/yr
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(7)(c) - Waiver of Compliance Tests (Fuel Sampling)
- 62-297.310(8) - Test Reports

**ATTACHMENT LR-EU1-L1**  
**PROCESS FLOW DIAGRAM**





0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION
1	MG	5-16-96	HP	CHANGE TITLE
2	MG	5-29-96	HP	ISSUED FOR TITLE V
REV. NO.	BY	DATE	APPR.	REVISION



LAKELAND  
ELECTRIC  
& WATER

DESCRIPTION		DIVISION		CAD		SCALE	
LAKELAND ELECTRIC & WATER UTILITIES LARSEN POWER PLANT UNIT NO. 6 TITLE V PROCESS FLOW DIAGRAM		PRODUCTION ENGINEERING		NONE		NONE	
ENGINEER		PATTERSON		PRD. NO.		AIR PERMIT	
DRN. BY:	MGIEGER	DATE	9-19-94	DWG. NO.		REV.	
APPR. BY:		DATE		LR-EU1-L1/SKL-9		2	

SIZE B

**ATTACHMENT LR-EU1-L2**  
**FUEL ANALYSIS OR SPECIFICATION**

## Attachment LR-EU1-L2

## Fuel Analysis

## Natural Gas Analysis

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
Relative density	0.58 (compared to air)	
heat content	950 - 1124 Btu/cu ft. (HHV)	
% sulfur	0.43 grains/CCF <sup>1</sup>	1 grain/100 CF
% nitrogen	0.8% by volume	
% ash	negligible	

Note: The values listed are "typical" values based upon information supplied by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

Attachment LR-EU1-L2

Fuel Analysis

No. 6 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	8 <sup>1</sup>	-
Relative density	8.2 lb/gal <sup>2</sup>	
Heat content	18,300 Btu / lb (HHV)	
% sulfur	2.5 <sup>2</sup>	2.5 <sup>3</sup>
% nitrogen	0.25 - 0.50	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

Attachment LR-EU1-L2

Fuel Analysis

No. 2 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	6.92 lb/gal <sup>2</sup>	
Heat content	18,400 Btu / lb (LHV)	
% sulfur	<0.5 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.030	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air operating permit.

Attachment LR-EU1-L2

Fuel Analysis

Propane Analysis

<u>Parameter</u>	<u>Typical Value</u>
heat content	81 Btu/gal
% sulfur	negligible
% nitrogen	0.8% by volume
% ash	negligible

**ATTACHMENT LR-EU1-L4**

**DESCRIPTION OF STACK SAMPLING FACILITIES**

## ATTACHMENT LR-EU1-L4

### DESCRIPTION OF STACK SAMPLING FACILITIES

FFFSG Unit 6 (EU1) is required to perform annual stack testing in accordance with standard EPA reference methods if oil is fired  $> 400$  hr/yr. Pursuant to Rule 62-297.310, F.A.C., the annual stack test required is performed with the required stack sampling facilities. As specified by Rule 62-297.310(6), the temporary test facilities are used since the unit was not designed or capable of supporting permanent facilities. The unit does have:

- The sampling ports have a minimum effective diameter of 3 inches.
- At least two sampling ports, 90 degrees apart have been installed on the circular stack.
- The sampling access is equipped with safety equipment.



**ATTACHMENT LR-EU1-L6**  
**STARTUP AND SHUTDOWN PROCEDURES**

**ATTACHMENT LR-EU1-L6**  
**PROCEDURES FOR STARTUP AND SHUTDOWN**  
**MINIMIZING EXCESS EMISSIONS**

Startup of the fossil-fuel boilers begins when fuel (No. 2 or No. 6 fuel oil or natural gas) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10 percent load.

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

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors.

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

- burner elevation loading
- proper excess air adjustments
- recognizing and removal of faulty burners
- fuel oil temperature adjustments
- proper and timely operation of boiler cleaning devices
- removal of the unit from system-dispatch mode (load control)
- reduction of unit megawatt load
- stopping and restarting of boiler cleaning devices
- lowering load ramp rate
- pressure rate changes
- placing boiler controls on manual
- adjusting burner dampers to increase windbox/furnace air pressure

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

**ATTACHMENT LR-EU1-L10**  
**ALTERNATIVE METHODS OF OPERATION**

**ATTACHMENT LR-EU1-L10**

**ALTERNATIVE METHODS OF OPERATION  
FOSSIL FUEL STEAM GENERATOR**

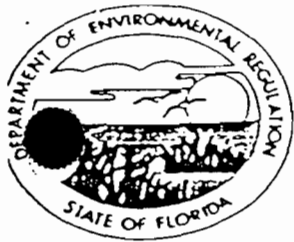
The fossil fuel steam generator can operate on both natural gas and fuel oil (No. 6 through No. 2 fuel oil). The maximum sulfur content in the fuel oil shall not exceed 2.5 percent. The No. 2 fuel oil and propane are used as pilot fuel during startup, shutdown, and malfunctions. This unit can operate for the entire year (i.e., 8,760 hours) and can fire either fuel oil and/or natural gas with no restrictions on hours of operation or load.

**ATTACHEMENT LR-EU1-L12**  
**ADDITIONAL APPLICABLE REQUIREMENTS**

### **ADDITIONAL APPLICABLE REQUIREMENTS**

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations and consent orders).

Note: Specific Conditions 9, 10, 11, and 12 of the AO are acceptable with Lakeland Electric and Water Utilities for inclusion in the Title V permit.



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garity, Deputy Assistant Secretary

## NOTICE OF PERMIT

### STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT ISSUANCE

April 27, 1990

In the Matter of an Application  
for Permit by:

DER File No. A053-175871  
Polk County

Mr. Harlan C. Proctor, Superintendent  
City of Lakeland  
Department of Electric and Water Utilities  
Charles Larsen Power Plant - Unit No. 6  
2002 East U.S. Highway 92  
Lakeland, Florida 33801

Enclosed is Permit Number A053-175871 to Operate Unit #6  
at the Charles Larsen Power Plant located at 2002 East U.S.  
Highway 92, Lakeland, issued pursuant to Section 403, Florida  
Statutes.

A person whose substantial interests are affected by this  
permit may petition for an administrative proceeding (hearing)  
in accordance with Section 120.57, Florida Statutes. The  
petition must contain the information set forth below and must  
be filed (received) in the Office of General Counsel of the  
Department at 2600 Blair Stone Road, Tallahassee, Florida  
32399-2400, within 14 days of receipt of this permit.  
Petitioner shall mail a copy of the petition to the applicant  
at the address indicated above at the time of filing. Failure  
to file a petition within this time period shall constitute a  
waiver of any right such person may have to request an  
administrative determination (hearing) under Section 120.57,  
Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each  
petitioner, the applicant's name and address, the Department  
Permit File Number and the county in which the project is  
proposed;

(b) A statement of how and when each petitioner received  
notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial  
interests are affected by the Department's action or proposed  
action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrants reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.



Executed in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

Gary A. Maier

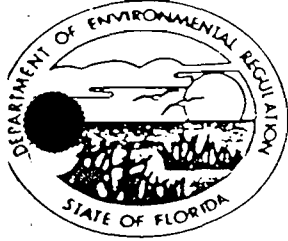
Gary A. Maier, BS ChE, JD  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347  
Phone (813) 623-5561 x360

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all  
copies were mailed before the close of business on  
APR 30 1990 to the listed persons.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant  
to Section 120.52(9), Florida  
Statutes, with the designated  
Department Clerk, receipt of  
which is hereby acknowledged.

Marilyn Quispe APR 30 1990  
Clerk Date



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garity, Deputy Assistant Secretary

## PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

## PERMIT/CERTIFICATION

Permit No: A053-175871

County: Polk

Expiration Date: 05/17/95

Project: Charles Larsen

Power Plant, Unit #6

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For Operation of the nominal 25 MW (electric) Steam Generator designated as Charles Larsen Memorial Power Plant Unit #6. This source is fired on No. 6 fuel oil with a maximum heat input of 305.9 MMBTU per hour, or natural gas with a maximum heat input of 286.5 MMBTU per hour.

Location: 2002 East U.S. Highway 92, Lakeland, Polk County

UTM: 17-409.0 E 3106.3 N NEDS NO: 0003 Point ID: 03

Replaces Permit No.: A053-102240

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: A053-175871  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #6

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.
2. Visible Emissions shall not exceed 20% opacity except for one two-minute period per hour during which opacity shall not exceed 40%. (Rule 17-2.600(5)(a)1., F.A.C.).
3. Particulate Matter Emissions shall not exceed 0.1 pound per million Btu heat input. (Rule 17-2.600(5)(a)2., F.A.C.).
4. Sulfur Dioxide Emissions shall not exceed 2.75 pounds per million Btu heat input. (Rule 17-2.600(5)(a)3.a.(xi), F.A.C.).

Excess emissions from boiler cleaning (soot blowing) or load change are permitted provided that,

- (A) the duration of such excess emissions shall not exceed 3 hours in any 24 hour period,
  - (B) the visible emissions shall not exceed 60% opacity,
  - (C) the particulate emissions shall not exceed an average of 0.3 pound per million BTU heat input during the 3 hour period,
  - (D) best operational practices to minimize emissions are adhered to, AND
  - (E) the duration of excess emissions shall be minimized. (Rule 17-2.250, F.A.C.)
6. The heat input rate shall not exceed 305.9 MM Btu per hour when burning fuel oil. The heat input rate shall not exceed 286.5 MM Btu per hour when burning natural gas. If fuel oil and natural gas are burned simultaneously in any combination, then the maximum permitted heat input rate shall be determined by proration.

7. This source is permitted to operate 24 hours/day, 7 days/week, and 52 weeks/year (8760 hours/year).

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: AO53-175871  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #6

SPECIFIC CONDITIONS:

8. Test the emissions, under both normal and soot blowing conditions, for the following pollutants at intervals of 12 months from the date November 1, 1989 and submit a copy of the test data to the Air Section of the Southwest District Office within forty-five days of such testing. Testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. The duration of each opacity test shall be 60 minutes. Opacity tests shall be conducted using DER Method 9.

- (X) Particulates \*
- (X) Sulfur Oxides \*\*
- ( ) Fluorides
- ( ) Nitrogen Oxides
- (X) Opacity
- ( ) Hydrocarbons
- ( ) Total Reduced Sulfur

\* An annual compliance test for particulate is not required for any fuel burning source that, in a federal fiscal year (October 1 - September 30), does not burn liquid or solid fuel, other than during startup, for a total of more than 400 hours.

\*\* A Fuel analysis of a representative fuel sample taken during the particulate compliance test and a calculation of the sulfur dioxide emission rate which is based upon the fuel analysis may be submitted in lieu of the required sulfur oxides emission test.

9. If the source is on cold standby when an annual compliance test is required by Specific Condition No. 8, then the compliance test may be postponed until after startup. Compliance testing shall be conducted within 30 days of startup. Testing, notification, and reporting, shall be consistent with all the requirements of Specific Conditions Nos. 8 through 15. The base date for future annual testing under Specific Condition No. 8 shall be automatically amended to the date of the compliance test conducted after startup.

10. Except as provided in Specific Conditions No. 11 or 12, compliance testing shall be conducted while burning fuel oil.

11. If the source is burning natural gas when a compliance test is required, then the compliance test may be conducted while burning natural gas.

12. If the source is burning a mixture of natural gas and fuel oil simultaneously when a compliance test is required, then the compliance test may be conducted while burning that mixture of natural gas and fuel oil simultaneously.

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: AO53-175871  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #6

SPECIFIC CONDITIONS:

13. If the most recent compliance test was conducted pursuant to Specific Condition No. 11 or 12, and the fuel input is changed for a total of more than 15 days such that the percentage of total heat input derived from fuel oil increases by 10% or more (using the most recent compliance test as a basis), then the results from new compliance tests shall be submitted to the Air Section of the Southwest District Office within 45 days of the 15th day that the source is fired with the changed fuel input. (Rule 17-4.070(3), F.A.C.)

14. Compliance testing shall be conducted while operating within  $\pm 10\%$  of the maximum permitted heat input rate. A compliance test submitted at operating levels less than 90% of the maximum permitted heat input rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance at a higher rate is submitted. The permittee shall submit a statement of the actual heat input rate as a part of each compliance test. Failure to include the actual heat input rate in the results may invalidate the tests and fail to provide reasonable assurance of compliance. (Rule 17-4.070(3), F.A.C.)

15. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. (Rule 17-2.700(2)(a)9., F.A.C.)

16. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Section 403.061(13), Florida Statutes:

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

17. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. (Rule 17-2.210, F.A.C.)

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

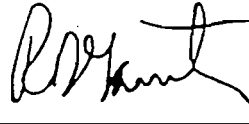
Permit No: AO53-175871  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #6

SPECIFIC CONDITIONS:

18. Four applications to renew this operating permit shall be submitted to the Southwest District Office of the Department by March 18, 1995.

Issued this 30 day of  
April, 1995.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



Dr. Richard D. Garrity  
Deputy Assistant Secretary  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347  
Phone (813) 623-5561

## GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and are binding and enforceable pursuant to the authority of Section 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.712(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal or plant life or property caused by the construction or operation of this permitted source or from penalties therefore, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credential or other documents as maybe required by law and at reasonable times, access to the premises, where the permitted activity is located or conducted:

GENERAL CONDITIONS (con't):

7. (con't):

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department (17-6.130) with the following information:

- (a) a description of and cause of noncompliance; and
- (b) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedures and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.



GENERAL CONDITIONS (con't):

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Certification of Compliance with State Water Quality Standards (Section 401. PL 92-500)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically, unless otherwise stipulated by the Department.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

☒ [ x ] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

☒ [ x ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Fossil Fuel Fired Steam Generator Unit 7</b>		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown <b>004</b>		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? [X] Yes [ ] No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>Initial startup date is Emission Unit's commercial in-service date.</b>		

**Emissions Unit Control Equipment Information**

**A.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION**  
**(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date: <b>1 Jan 1966</b>		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	<b>44 MW</b>	
5. Incinerator Information:		
Dwell Temperature:	°F	
Dwell Time:	seconds	
Incinerator Afterburner Temperature:	°F	

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	<b>616</b>	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<b>Maximum heat input for natrual gas firing based on HHV. Maximum heat input for residual oil firing is 597.6 MMBtu/hr</b>		

**Emissions Unit Operating Schedule**

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	<b>8,760</b> hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment LR-EU2-D

**E. EMISSION POINT (STACK/VENT) INFORMATION**  
**(Regulated Emissions Units Only)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>See Att. LR-EU2-L1</b>		
2. Emission Point Type Code:  <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  <b>Exhausts through single stack</b>		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W		
6. Stack Height:	165	feet
7. Exit Diameter:	10	feet
8. Exit Temperature:	340	°F



9. Actual Volumetric Flow Rate:	<b>103,673</b> acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: <b>17</b>	East (km): <b>409.0</b> North (km): <b>3102.8</b>
14. Emission Point Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
(Regulated and Unregulated Emissions Units)**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Residual oil</b>	
2. Source Classification Code (SCC):  <b>1-01-004-01</b>	
3. SCC Units:  <b>1000 gallons</b>	
4. Maximum Hourly Rate:  <b>3.98</b>	5. Maximum Annual Rate:  <b>34,901</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>2.5</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:  <b>150</b>	
10. Segment Comment (limit to 200 characters):  <b>Based on maximum heat input for residual oil firing. Distillate oil used for ignition (SCC 1-01-005-01).</b>	

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural gas</b>	
2. Source Classification Code (SCC): <b>1-01-006-01</b>	
3. SCC Units: <b>Million Cubic Feet</b>	
4. Maximum Hourly Rate: <b>0.601</b>	5. Maximum Annual Rate: <b>5,267</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: <b>0</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>1,024</b>	
10. Segment Comment (limit to 200 characters): <b>Maximum hourly rate based on maximum heat input for natural gas firing. Propane used for ignition (SCC 1-01-010-02).</b>	

**G. EMISSIONS UNIT POLLUTANTS**  
**(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO2			EL
NOX			NS
CO			NS
VOC			NS
PM10			NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM</b>	
2. Total Percent Efficiency of Control: %	
3. Potential Emissions:	<b>74.7 lb/hour                      327 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3       _____ to _____ tons/yr	
6. Emission Factor: <b>0.125 lb/MMBtu</b>  Reference: <b>See Comment</b>	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>0.125 lb/MMBtu x 597.6 MMBtu/hr = 74.7 lb/hr. 74.7 lb/hr x 8,760 hrs/yr x ton/2000 lb = 327 TPY. Emissions based on oil firing. Include allowances for soot blowing &amp; load changing of 0.3 lb/MMBtu for 3 hrs/24 hrs and 0.1 lb/MmBtu for 21 hrs/24 hrs.</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emission Factor Reference: FDEP Rule 62-296.405(1)(b); 62-210.700(3)</b>	

Emissions Unit Information Section 2 of 5  
Allowable Emissions (Pollutant identified on front page)

FFFSG Unit 7  
 Particulate Matter - Total

A.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>60 lb/hour</b>	<b>262 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test; EPA Method 5,5B,5F or 17</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Does not include allowance for excess emissions. Test required if oil firing &gt; 400hrs. Not required if unit is on cold standby; required 30 days after start-up.</b>		

B.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.3 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>lb/hour</b>	<b>tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test,; EPA Method 5,5B,5F,or 17</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Allowed for 3 hours per 24 hours [FDEP Rule 62-210.700(3)] if oil firing &gt; 400 hrs/yr.</b>		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO2</b>	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	<b>1,643 lb/hour</b> <b>7,198 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: <b>2.75 lb/MMBtu</b> Reference: 62-296.405(1)(c)1.	
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): <b>2.75 lb/MMBtu x 597.6 MMBtu/hr = 1643.4 lbs/hr; 1643.4 lbs/hr x 8760 hr/yr x ton/2000 lb = 7198 TPY</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): <b>Emissions based on maximum heat input for oil firing.</b>	

Emissions Unit Information Section 2 of 5  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>2.75 lb/MMBtu</b>		
4. Equivalent Allowable Emissions:	<b>1,643 lb/hour</b>	<b>7,198 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Fuel analysis; Methods PARR 1760; D-240</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Oil firing: Based on FDEP Rule 62-296.405(1)(c)1. One representative fuel sample during compliance test oil firing.</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		



**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)****Visible Emissions Limitations:** Visible Emissions Limitation 1 of 3

1.	Visible Emissions Subtype: <b>VE20</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>20.</b> %      Exceptional Conditions: <b>40.</b> % Maximum Period of Excess Opacity Allowed: <b>2</b> min/hour
4.	Method of Compliance: <b>Annual compliance test; DEP Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-296.405(1)(a)</b>

**Visible Emissions Limitations:** Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: <b>VE60</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>60.</b> %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: <b>Annual compliance test; DEP Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(3): Soot Blowing/Load Changing. 60% allowed for 3 hr/24 hr; 100% allowed for four 6-minute periods in 3 hours.</b>

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)****Visible Emissions Limitations:** Visible Emissions Limitation 3 of 3

1.	Visible Emissions Subtype: <b>VE99</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:           %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>None</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24-hour period for malfunction. Rule 62-210.700(2) allows 100% for start-up and shut-down.</b>

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:           %      Exceptional Conditions:           % Maximum Period of Excess Opacity Allowed:           min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)****Continuous Monitoring System** Continuous Monitor 1 of 5

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO2</b>
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Advanced Pollution Inst.</b> Model Number: <b>152</b> Serial Number: <b>174</b>	
5. Installation Date: <b>23 Nov 1994</b>	
6. Performance Specification Test Date: <b>30 Jun 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>CEM required pursuant to 40 CFR Part 75.</b>	

**Continuous Monitoring System** Continuous Monitor 2 of 5

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOX</b>
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Advanced Pollution Inst.</b> Model Number: <b>252</b> Serial Number: <b>114</b>	
5. Installation Date: <b>23 Nov 1994</b>	
6. Performance Specification Test Date: <b>30 Jun 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>CEM required pursuant to 40 CFR Part 75.</b>	

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)****Continuous Monitoring System** Continuous Monitor 3 of 5

1. Parameter Code: <b>VE</b>	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>United Sciences Inc.</b> Model Number: <b>500C</b> Serial Number: <b>0993685</b>	
5. Installation Date: <b>23 Nov 1994</b>	
6. Performance Specification Test Date: <b>30 Jun 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>CEM required pursuant to 40 CFR Part 75.</b>	

**Continuous Monitoring System** Continuous Monitor 4 of 5

1. Parameter Code: <b>CO2</b>	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Milton Roy</b> Model Number: <b>3300</b> Serial Number: <b>N3L2485T</b>	
5. Installation Date: <b>23 Nov 1994</b>	
6. Performance Specification Test Date: <b>20 Jun 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>CEM required pursuant to 40 CFR Part 75.</b>	

**J. CONTINUOUS MONITOR INFORMATION**  
(Regulated Emissions Units Only)**Continuous Monitoring System** Continuous Monitor 5 of 5

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Air Monitor</b> Model Number: <b>CEM</b> Serial Number: <b>20914</b>	
5. Installation Date: <b>23 Nov 1994</b>	
6. Performance Specification Test Date: <b>30 Jun 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>Flow monitor required pursuant to 40 CFR Part 75.</b>	

**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ☒ None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☒ None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO <sub>2</sub>	lb/hour	tons/year	
NO <sub>2</sub>		tons/year	
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)****Supplemental Requirements for All Applications**

1.	Process Flow Diagram	
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU2-L1</u>	<input type="checkbox"/> Waiver Requested
<input type="checkbox"/>	Not Applicable	
2.	Fuel Analysis or Specification	
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU2-L2</u>	<input type="checkbox"/> Waiver Requested
<input type="checkbox"/>	Not Applicable	
3.	Detailed Description of Control Equipment	
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
<input checked="" type="checkbox"/>	Not Applicable	
4.	Description of Stack Sampling Facilities	
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU2-L4</u>	<input type="checkbox"/> Waiver Requested
<input type="checkbox"/>	Not Applicable	
5.	Compliance Test Report	
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/> Not Applicable
<input checked="" type="checkbox"/>	Previously Submitted, Date: <u>1 Nov 1995</u>	
6.	Procedures for Startup and Shutdown	
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU2-L6</u>	<input type="checkbox"/> Not Applicable
<input type="checkbox"/>	Not Applicable	
7.	Operation and Maintenance Plan	
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/>	Not Applicable	
8.	Supplemental Information for Construction Permit Application	
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/>	Not Applicable	
9.	Other Information Required by Rule or Statute	
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/>	Not Applicable	



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU2-L10</u> <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU2-L12</u> <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required)
<input checked="" type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: <u>LR-EU2-L14</u>
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

**ATTACHMENT LR-EU2-D**  
**EMISSIONS UNIT REGULATIONS**

## ATTACHMENT LR-EU2-D

### Applicable Requirements Listing - Power Plants Acid Rain Units

EMISSION UNIT ID: EU2 - Larsen Plant - FFFSG Unit 7

#### FDEP Rules:

##### Air Pollution Control-General Provisions:

- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring
- 62-204.800(16) (State Only) - Excess Emissions (Potentially applicable over term of permit)

##### Stationary Sources-General:

- 62-210.700(1) - Excess Emissions; Malfunction only for FFSGS
- 62-210.700(2) - Existing FFSG; startup/shut down
- 62-210.700(3) - Existing FFSG; sootblowing/load change
- 62-210.700(4) - Excess Emissions; poor maintenance
- 62-210.700(6) - Excess Emissions; notification

##### Acid Rain:

- 62-214.300 - All Acid Rain Units (Applicability)
- 62-214.320(1)(a),(2) - All Acid Rain Units (Application Shield)
- 62-214.330(1)(a)1. - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - All Acid Rain Units (Certification)
- 62-214.370 - All Acid Rain Units  
(Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - All Acid Rain Units (Compliance Options-if required)

##### Stationary Sources-Emission Standards:

- 62-296.405(1)(a) - FFSG;VE
- 62-296.405(1)(b) - FFSG; PM
- 62-296.405(1)(c)1.j. - FFSG;Oil-SO<sub>2</sub> (general limit; see rule for others)
- 62-296.405(1)(e) - FFSG;Test Methods
- 62-296.405(1)(f) - FFSG; CEMS (if required)
- 62-296.405(1)(f)1.a.(i) - FFSG; Opacity CEMS exempted for oil/gas units
- 62-296.405(1)(f)1.b. - FFSG; SO<sub>2</sub> CEMS exempted for non-controlled units (oil/gas)

##### Stationary Sources-Emission Monitoring (where stack test is required):

- 62-297.310(1) - All Units (Test Runs-Mass Emission)
- 62-297.310(2)(b) - All Units (Operating Rate; other than CTs;no CT)
- 62-297.310(3) - All Units (Calculation of Emission)
- 62-297.310(4)(a) - All Units (Applicable Test Procedures;Sampling time)
- 62-297.310(4)(b) - All Units (Sample Volume)
- 62-297.310(4)(c) - All Units (Required Flow Rate Range-PM/H<sub>2</sub>SO<sub>4</sub>/F)

62-297.310(4)(d)  
62-297.310(4)(e)  
62-297.310(5)  
62-297.310(6)(a)  
62-297.310(6)(c)  
62-297.310(6)(d)  
62-297.310(6)(e)  
62-297.310(6)(f)  
62-297.310(6)(g)  
62-297.310(7)(a)1.  
62-297.310(7)(a)2.  
62-297.310(7)(a)3.  
62-297.310(7)(a)4.a  
62-297.310(7)(a)5.  
62-297.310(7)(a)6.  
62-297.310(7)(a)7.  
62-297.310(7)(a)9.  
62-297.310(7)(c)  
62-297.310(8)

- All Units (Calibration)
- All Units (EPA Method 5-only)
- All Units (Determination of Process Variables)
- All Units (Permanent Test Facilities-general)
- All Units (Sampling Ports)
- All Units (Work Platforms)
- All Units (Access)
- All Units (Electrical Power)
- All Units (Equipment Support)
- Applies mainly to CTs/Diesels
- FFSG excess emissions
- Permit Renewal Test Required
- Annual Test
- PM exemption if <400 hrs/yr
- PM FFSG semi annual test required if >200 hrs/yr
- PM quarterly monitoring if >100 hrs/yr
- FDEP Notification - 15 days
- Waiver of Compliance Tests (Fuel Sampling)
- Test Reports

#### **Federal Rules:**

##### **Acid Rain-Permits:**

40 CFR 72.9(a)  
40 CFR 72.9(b)  
40 CFR 72.9(c)(1)  
40 CFR 72.9(c)(2)  
40 CFR 72.9(c)(3)(iii)  
40 CFR 72.9(c)(3)(iv)  
40 CFR 72.9(c)(4)  
40 CFR 72.9(c)(5)  
40 CFR 72.9(d)  
40 CFR 72.9(e)  
40 CFR 72.9(f)  
40 CFR 72.9(g)  
40 CFR 72.20(a)  
40 CFR 72.20(b)  
40 CFR 72.20(c)  
40 CFR 72.21  
40 CFR 72.22  
40 CFR 72.23  
40 CFR 72.24  
40 CFR 72.30(a)  
40 CFR 72.30(b)(2)  
40 CFR 72.30(c)  
40 CFR 72.30(d)  
40 CFR 72.31  
40 CFR 72.32

- Permit Requirements
- Monitoring Requirements
- SO2 Allowances-hold allowances
- SO2 Allowances-violation
- SO2 Allowances-Phase II Units (listed)
- SO2 Allowances- other utility units not listed
- SO2 Allowances-allowances held in ATS
- SO2 Allowances-no deduction for 72.9(c)(1)(i)
- NOx Requirements
- Excess Emission Requirements
- Recordkeeping and Reporting
- Liability
- Designated Representative; required
- Designated Representative; legally binding
- Designated Representative; certification requirements
- Submissions
- Alternate Designated Representative
- Changing representatives; owners
- Certificate of representation
- Requirements to Apply (operate)
- Requirements to Apply (Phase II-Complete)
- Requirements to Apply (reapply before expiration)
- Requirements to Apply (submittal requirements)
- Information Requirements; Acid Rain Applications
- Permit Application Shield

- 40 CFR 72.33(b) - Dispatch System ID; unit/system ID
- 40 CFR 72.33(c) - Dispatch System ID; ID requirements
  
- 40 CFR 72.33(d) - Dispatch System ID; ID change
- 40 CFR 72.40(a) - General; compliance plan
- 40 CFR 72.40(b) - General; multi-unit compliance options
- 40 CFR 72.40(c) - General; conditional approval
- 40 CFR 72.40(d) - General; termination of compliance options
- 40 CFR 72.51 - Permit Shield
- 40 CFR 72.90 - Annual Compliance Certification
  
- Monitoring Part 75:
  - 40 CFR 75.4 - Compliance Dates;
  - 40 CFR 75.5 - Prohibitions
  - 40 CFR 75.10(a)(1) - Primary Measurement; SO<sub>2</sub>;
  - 40 CFR 75.10(a)(2) - Primary Measurement; NO<sub>x</sub>;
  - 40 CFR 75.10(a)(3)(i) - Primary Measurement; CO<sub>2</sub>; monitor
  - 40 CFR 75.10(a)(4) - Primary Measurement; Opacity;
  - 40 CFR 75.10(b) - Primary Measurement; Performance Requirements
  - 40 CFR 75.10(c) - Primary Measurement; Heat Input; Appendix F
  - 40 CFR 75.10(d) - Primary Measurement; Hourly Operating ; Opacity; SO<sub>2</sub>
  - 40 CFR 75.10(f) - Primary Measurement; Minimum Measurement
  - 40 CFR 75.10(g) - Primary Measurement; Minimum Recording
  - 40 CFR 75.11(d) - SO<sub>2</sub> Monitoring; Gas- and Oil-fired units
  - 40 CFR 75.11(e) - SO<sub>2</sub> Monitoring; Gaseous firing
  - 40 CFR 75.12(a) - NO<sub>x</sub> Monitoring; Coal; Non-peaking oil/gas units
  - 40 CFR 75.12(b) - NO<sub>x</sub> Monitoring; Determination of NO<sub>x</sub> emission rate; Appendix F
  - 40 CFR 75.13(a) - CO<sub>2</sub> Monitoring; Continuous monitor
  - 40 CFR 75.13(b) - CO<sub>2</sub> Monitoring; Appendix G
  - 40 CFR 75.14(a) - Opacity Monitoring; Coal and oil units
  - 40 CFR 75.20(a) - Initial Certification Approval Process; Loss of Certification
  - 40 CFR 75.20(b) - Recertification Procedures (if recertification necessary)
  - 40 CFR 75.20(c) - Certification Procedures (if recertification necessary)
  - 40 CFR 75.20(f) - Alternate Monitoring system
  - 40 CFR 75.20(g) - Exceptions to CEMS; oil/gas/diesel; Appendix D & E
  - 40 CFR 75.21(a) - QA/QC; CEMS; Appendix B (Suspended 7/17/95-12/31/96)
  - 40 CFR 75.21(b) - QA/QC; Opacity; Part 51 Appendix M
  - 40 CFR 75.21(c) - QA/QC; Calibration Gases
  - 40 CFR 75.21(d) - QA/QC; Notification of RATA
  - 40 CFR 75.21(e) - QA/QC; Audits
  - 40 CFR 75.21(f) - QA/QC; CEMS (Effective 7/17/96-12/31/96)
  - 40 CFR 75.22 - Reference Methods
  - 40 CFR 75.24 - Out-of-Control Periods; CEMS
  - 40 CFR 75.30(a)(1) - General Missing Data Procedures; SO<sub>2</sub>
  - 40 CFR 75.30(a)(2) - General Missing Data Procedures; flow
  - 40 CFR 75.30(a)(3) - General Missing Data Procedures; NO<sub>x</sub>
  - 40 CFR 75.30(a)(4) - General Missing Data Procedures; SO<sub>2</sub>

- 40 CFR 75.30(b)
  - 40 CFR 75.30(c)
  - 40 CFR 75.30(d)
  - 40 CFR 75.30(e)
  - 40 CFR 75.31
  - 40 CFR 75.32
  - 40 CFR 75.33
  - 40 CFR 75.35
  - 40 CFR 75.36
  - 40 CFR 75.40
  - 40 CFR 75.41
  - 40 CFR 75.42
  - 40 CFR 75.43
  - 40 CFR 75.44
  - 40 CFR 75.45
  - 40 CFR 75.46
  - 40 CFR 75.47
  - 40 CFR 75.48
  - 40 CFR 75.53
  - 40 CFR 75.54(a)
  - 40 CFR 75.54(b)
  - 40 CFR 75.54(c)
  - 40 CFR 75.54(d)
  - 40 CFR 75.54(e)
  - 40 CFR 75.54(f)
  - 40 CFR 75.55(c)
  - 40 CFR 75.55(e)
  - 40 CFR 75.56
  - 40 CFR 75.60
  - 40 CFR 75.61
  - 40 CFR 75.62
  - 40 CFR 75.63
  - 40 CFR 75.64(a)
  - 40 CFR 75.64(b)
  - 40 CFR 75.64(c)
  - 40 CFR 75.64(d)
  - 40 CFR 75.65
  - 40 CFR 75.66
  - Appendix A-1.
  - Appendix A-2.
  - Appendix A-3.
  - Appendix A-4.
  - Appendix A-5.
  - Appendix A-6.
  - Appendix A-7.
  - Appendix B
  - Appendix C-1.
  - Appendix C-2.
- General Missing Data Procedures; certified backup monitor
  - General Missing Data Procedures; certified backup monitor
  - General Missing Data Procedures; SO<sub>2</sub> (optional before 1/1/97)
  - General Missing Data Procedures; bypass/multiple stacks
  - Initial Missing Data Procedures (new/re-certified CMS)
  - Monitoring Data Availability for Missing Data
  - Standard Missing Data Procedures
  - Missing Data for CO<sub>2</sub>
  - Missing Data for Heat Input
  - Alternate Monitoring Systems-General
  - Alternate Monitoring Systems-Precision Criteria
  - Alternate Monitoring Systems-Reliability Criteria
  - Alternate Monitoring Systems-Accessability Criteria
  - Alternate Monitoring Systems-Timeliness Criteria
  - Alternate Monitoring Systems-Daily QA
  - Alternate Monitoring Systems-Missing data
  - Alternate Monitoring Systems-Criteria for Class
  - Alternate Monitoring Systems-Petition
  - Monitoring Plan ; revisions
  - Recordkeeping-general
  - Recordkeeping-operating parameter
  - Recordkeeping-SO<sub>2</sub>
  - Recordkeeping-NO<sub>x</sub>
  - Recordkeeping-CO<sub>2</sub>
  - Recordkeeping-Opacity
  - General Recordkeeping (Specific Situations)
  - General Recordkeeping (Specific Situations)
  - Certification; QA/QC Provisions
  - Reporting Requirements-General
  - Reporting Requirements-Notification cert/recertification
  - Reporting Requirements-Monitoring Plan
  - Reporting Requirements-Certification/Recertification
  - Reporting Requirements-Quarterly reports; submission
  - Reporting Requirements-Quarterly reports; DR statement
  - Rep. Req.; Quarterly reports; Compliance Certification
  - Rep. Req.; Quarterly reports; Electronic format
  - Opacity Reports
  - Petitions to the Administrator (if required)
  - Installation and Measurement Locations
  - Equipment Specifications
  - Performance Specifications
  - Data Handling and Acquisition Systems
  - Calibration Gases
  - Certification Tests and Procedures
  - Calculations
  - QA/QC Procedures
  - Missing Data; SO<sub>2</sub>/NO<sub>x</sub> for controlled sources
  - Missing Data; Load-Based Procedure; NO<sub>x</sub> & flow

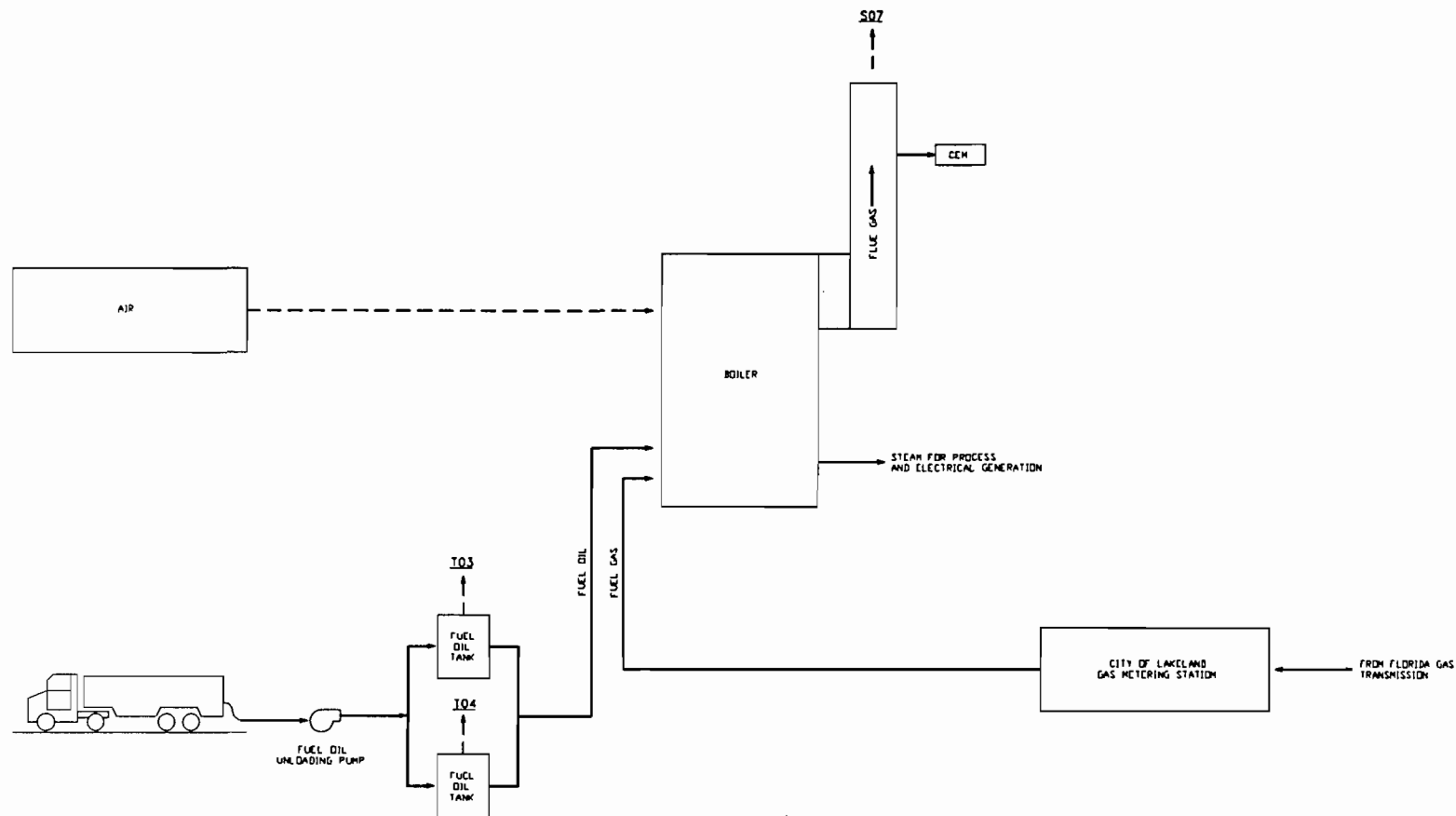
Appendix D	- Optional SO <sub>2</sub> ; Oil-/gas-fired units
Appendix F	- Conversion Procedures
Appendix H	- Traceability Protocol


Acid Rain Program-Excess Emissions (these are future requirements that may become applicable during the term of the Title V permit):

40 CFR 77.3	- Offset Plans (future)
40 CFR 77.5(b)	- Deductions of Allowances (future)
40 CFR 77.6	- Excess Emissions Penalties (SO <sub>2</sub> and NO <sub>x</sub> ;future)

**ATTACHMENT LR-EU2-L1**  
**PROCESS FLOW DIAGRAM**





0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION	 LAKELAND ELECTRIC & WATER	DESCRIPTION		DIVISION PRODUCTION ENGINEERING		CAD	SCALE NONE
1	MG	5-16-96	HP	CHANGE TITLE		LAKELAND ELECTRIC & WATER UTILITIES LARSEN POWER PLANT UNIT NO. 7 TITLE V PROCESS FLOW DIAGRAM		ENGINEER PATTERSON		PROJ. NO.	AIR PERMIT
2	MG	5-29-96	HP	ISSUED FOR TITLE V				DRN. BY: MUEGER	DATE: 9-19-94	DWG. NO.	REV.
REV NO	BY	DATE	APPR.	REVISION				APPR. BY:		LR-EU2-L1/SKL-10	2

**ATTACHMENT LR-EU2-L2**  
**FUEL ANALYSIS OR SPECIFICATION**

Attachment LR-EU2-L2

Fuel Analysis

Natural Gas Analysis

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
Relative density	0.58 (compared to air)	
heat content	950 - 1124 Btu/cu ft. (HHV)	
% sulfur	0.43 grains/CCF <sup>1</sup>	1 grain/100 CF
% nitrogen	0.8% by volume	
% ash	negligible	

Note: The values listed are "typical" values based upon information supplied by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

Attachment LR-EU2-L2

Fuel Analysis

No. 6 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	8 <sup>1</sup>	-
Relative density	8.2 lb/gal <sup>2</sup>	
Heat content	18,300 Btu / lb (HHV)	
% sulfur	2.5 <sup>2</sup>	2.5 <sup>3</sup>
% nitrogen	0.25 - 0.50	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

Attachment LR-EU2-L2

Fuel Analysis

No. 2 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	6.92 lb/gal <sup>2</sup>	
Heat content	18,400 Btu / lb (LHV)	
% sulfur	<0.5 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.030	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

Attachment LR-EU2-L2

Fuel Analysis

Propane Analysis

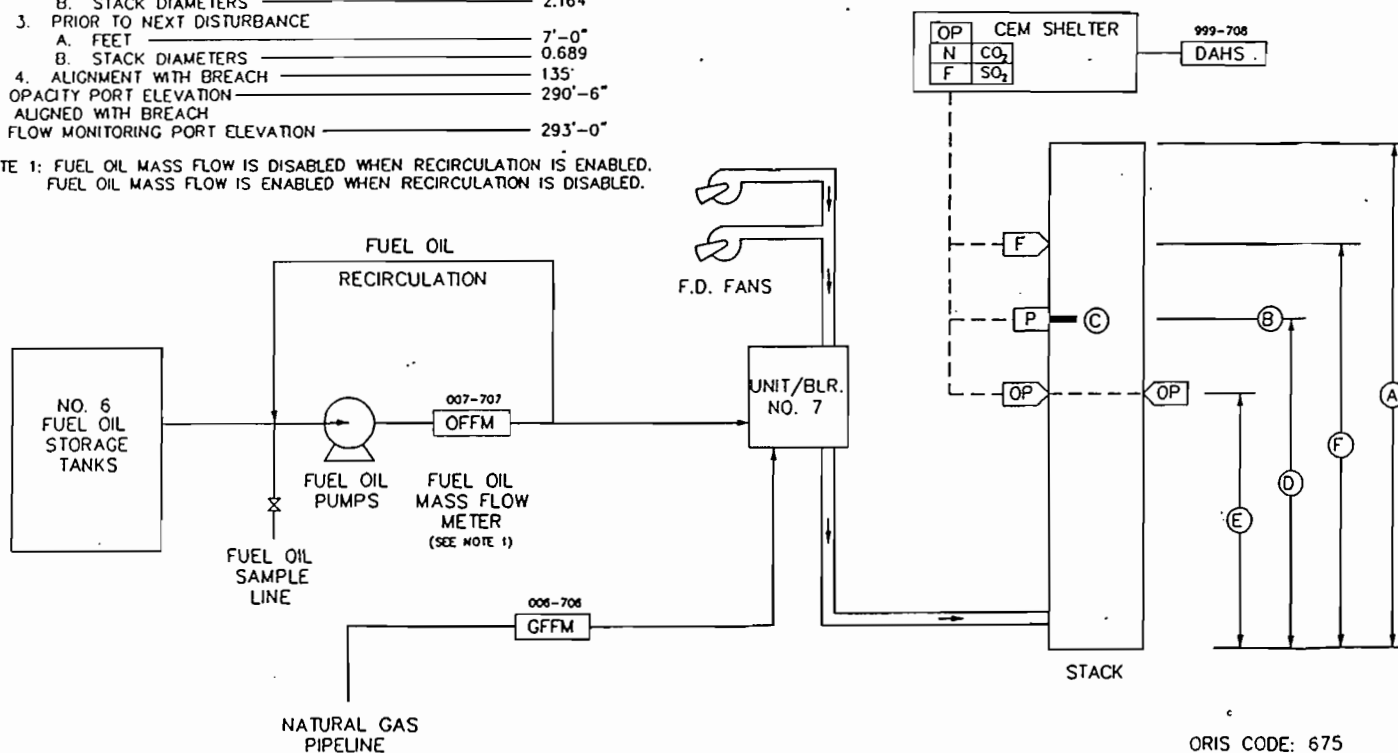
<u>Parameter</u>	<u>Typical Value</u>
heat content	81 Btu/gal
% sulfur	negligible
% nitrogen	0.8% by volume
% ash	negligible

**ATTACHMENT LR-EU2-L4**

**DESCRIPTION OF STACK SAMPLING FACILITIES**

- A. STACK HEIGHT ABOVE GRADE (FT) \_\_\_\_\_ 299'-0"
- B. STACK DIAMETER \_\_\_\_\_ 10'-2"
- C. INSIDE CROSS-SECTIONAL AREA AT TEST PORT (F<sub>I</sub>) \_\_\_\_\_ 81.2
- D. TEST PORT ELEVATION \_\_\_\_\_
1. ABOVE GRADE (FT) \_\_\_\_\_ 292'-0"
2. ABOVE LAST DISTURBANCE \_\_\_\_\_
- A. FEET \_\_\_\_\_ 22'-0"
- B. STACK DIAMETERS \_\_\_\_\_ 2.164
3. PRIOR TO NEXT DISTURBANCE \_\_\_\_\_
- A. FEET \_\_\_\_\_ 7'-0"
- B. STACK DIAMETERS \_\_\_\_\_ 0.689
4. ALIGNMENT WITH BREACH \_\_\_\_\_ 135'
- E. OPACITY PORT ELEVATION \_\_\_\_\_ 290'-6"
- ALIGNED WITH BREACH \_\_\_\_\_
- F. FLOW MONITORING PORT ELEVATION \_\_\_\_\_ 293'-0"

NOTE 1: FUEL OIL MASS FLOW IS DISABLED WHEN RECIRCULATION IS ENABLED.  
FUEL OIL MASS FLOW IS ENABLED WHEN RECIRCULATION IS DISABLED.



ORIS CODE: 675  
NADB BOILER ID: 7

				DESCRIPTION		DIVISION PRODUCTION ENGINEERING		CAD		SCALE NONE	
				LAKELAND ELECTRIC & WATER		ENGINEER LARSEN		PROJ. NO. -			
				LARSEN MEMORIAL POWER PLANT		DRN. BY: MOEGER		DATE 8-18-94		DWG. NO.	
				UNIT 7		APPR. BY:				17-0402-6015	
				CONTINUOUS EMISSION MONITORING						REV. A	
				SYSTEM SCHEMATIC							

SIZE B



## **ATTACHMENT LR-EU2-L4**

### **DESCRIPTION OF STACK SAMPLING FACILITIES**

FFFG Unit 7 (EU2) is required to perform annual stack testing in accordance with standard EPA reference methods if oil is fired >400 hr/yr. Pursuant to Rule 62-297.310, F.A.C., the annual stack test required is performed with the required stack sampling facilities.

As specified by Rule 62-297.310(6), the permanent test facilities meet the following:

- The sampling ports have a minimum effective diameter of 3 inches.
- The location of the sampling ports are 2 stack diameters downstream and 0.5 stack diameters upstream of flow disturbances.
- At least two sampling ports, 90 degrees apart have been installed on the circular stack.
- The working platform is at least 24 square feet in area, at least three feet wide, extends 180 degrees around the stack, has safety rails, toeboards, and a hinged floor opening attached to it. There are no obstructions 14 inches below the port and 6 inches on either side of the port.
- The sampling access is equipped with safety equipment.

**ATTACHMENT LR-EU2-L6**  
**STARTUP AND SHUTDOWN PROCEDURES**

**ATTACHMENT LR-EU2-L6**  
**PROCEDURES FOR STARTUP AND SHUTDOWN**  
**MINIMIZING EXCESS EMISSIONS**

Startup of the fossil-fuel boilers begins when fuel (No. 2 or No. 6 fuel oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable and above 10 percent load.

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

Emissions may be detected during all modes of boiler operation by various continuous emissions monitors. Continuous monitors are currently in place for NO<sub>x</sub>, CO<sub>2</sub>, SO<sub>2</sub>, and opacity. Audible and visual alarms are activated whenever the permitted value for opacity is approached.

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

- burner elevation loading
- proper excess air adjustments
- recognizing and removal of faulty burners
- fuel oil temperature adjustments
- proper and timely operation of boiler cleaning devices
- removal of the unit from system-dispatch mode (load control)
- reduction of unit megawatt load
- stopping and restarting of boiler cleaning devices
- lowering load ramp rate
- pressure rate changes
- placing boiler controls on manual
- adjusting burner dampers to increase windbox/furnace air pressure

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

**ATTACHMENT LR-EU2-L10**  
**ALTERNATIVE METHODS OF OPERATION**

**ATTACHMENT LR-EU2-L10**  
**ALTERNATIVE METHODS OF OPERATION**  
**FOSSIL FUEL STEAM GENERATOR**

The fossil fuel steam generator can operate on both natural gas and fuel oil (No. 6 through No. 2 fuel oil). The maximum sulfur content in the fuel oil shall not exceed 2.5 percent. The No. 2 fuel oil and propane are used as pilot fuel during startup, shutdown, and malfunctions. This unit can operate for the entire year (i.e., 8,760 hours) and can fire either fuel oil and/or natural gas with no restrictions on hours of operation or load.

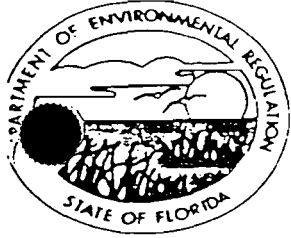
**ATTACHEMENT LR-EU2-L12**

**ADDITIONAL APPLICABLE REQUIREMENTS**

### **ADDITIONAL APPLICABLE REQUIREMENTS**

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations and consent orders).

Note: Specific Conditions 9, 10, 11, and 12 of the AO are acceptable with Lakeland Electric and Water Utilities for inclusion in the Title V permit.



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garnity, Deputy Assistant Secretary

## NOTICE OF PERMIT

### STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT ISSUANCE

April 27, 1990

In the Matter of an Application  
for Permit by:

DER File No. A053-175870  
Polk County

Mr. Harlan C. Proctor, Superintendent  
City of Lakeland  
Department of Electric and Water Utilities  
Charles Larsen Power Plant - Unit No. 7  
2002 East U.S. Highway 92  
Lakeland, Florida 33801

Enclosed is Permit Number A053-175870 to Operate Unit #7  
at the Charles Larsen Power Plant located at 2002 East U.S.  
Highway 92, Lakeland, issued pursuant to Section 403, Florida  
Statutes.

A person whose substantial interests are affected by this  
permit may petition for an administrative proceeding (hearing)  
in accordance with Section 120.57, Florida Statutes. The  
petition must contain the information set forth below and must  
be filed (received) in the Office of General Counsel of the  
Department at 2600 Blair Stone Road, Tallahassee, Florida  
32399-2400, within 14 days of receipt of this permit.  
Petitioner shall mail a copy of the petition to the applicant  
at the address indicated above at the time of filing. Failure  
to file a petition within this time period shall constitute a  
waiver of any right such person may have to request an  
administrative determination (hearing) under Section 120.57,  
Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each  
petitioner, the applicant's name and address, the Department  
Permit File Number and the county in which the project is  
proposed;

(b) A statement of how and when each petitioner received  
notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial  
interests are affected by the Department's action or proposed  
action;



(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrants reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

*Gary A. Maier*

Gary A. Maier, BS ChE, JD  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347  
Phone (813) 623-5561 x360

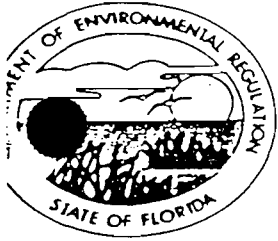
CERTIFICATE OF SERVICE  
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This is to certify that this NOTICE OF PERMIT and all  
copies were mailed before the close of business on  
APR 30 1990 to the listed persons.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant  
to Section 120.52(9), Florida  
Statutes, with the designated  
Department Clerk, receipt of  
which is hereby acknowledged.

*Marilyn Quispe*  
Clerk

APR 30 1990  
Date



# Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garnry, Deputy Assistant Secretary

## PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

## PERMIT/CERTIFICATION

Permit No: A053-175870  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #7

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For Operation of the nominal 50 MW (electric) Steam Generator designated as Charles Larsen Memorial Power Plant Unit #7. This source is fired on No. 6 fuel oil with a maximum heat input of 597.6 MMBTU per hour, or natural gas with a maximum heat input of 615.6 MMBTU per hour.

Location: 2002 East U.S. Highway 92, Lakeland, Polk County

UTM: 17-409.0 E 3106.3 N NEDS NO: 0003 Point ID: 04

Replaces Permit No.: A053-102239

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: AO53-175870  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #7

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.
2. Visible Emissions shall not exceed 20% opacity except for one two-minute period per hour during which opacity shall not exceed 40%. (Rule 17-2.600(5)(a)1., F.A.C.).
3. Particulate Matter Emissions shall not exceed 0.1 pound per million Btu heat input. (Rule 17-2.600(5)(a)2., F.A.C.).
4. Sulfur Dioxide Emissions shall not exceed 2.75 pounds per million Btu heat input. (Rule 17-2.600(5)(a)3.a.(xi), F.A.C.).

Excess emissions from boiler cleaning (soot blowing) or load change are permitted provided that,

- (A) the duration of such excess emissions shall not exceed 3 hours in any 24 hour period,
- (B) the visible emissions shall not exceed 60% opacity,
- (C) the particulate emissions shall not exceed an average of 0.3 pound per million BTU heat input during the 3 hour period,
- (D) best operational practices to minimize emissions are adhered to, AND
- (E) the duration of excess emissions shall be minimized. (Rule 17-2.250, F.A.C.)

6. The heat input rate shall not exceed 597.6 MM Btu per hour when burning fuel oil. The heat input rate shall not exceed 615.6 MM Btu per hour when burning natural gas. If fuel oil and natural gas are burned simultaneously in any combination, then the maximum permitted heat input rate shall be determined by proration.

7. This source is permitted to operate 24 hours/day, 7 days/week, and 52 weeks/year (8760 hours/year).

PERMITTEE:

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Electric and Water Utilities  
1000 East Parker St.  
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PERMIT/CERTIFICATION

Permit No: A053-175870  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #7

SPECIFIC CONDITIONS:

8. Test the emissions, under both normal and soot blowing conditions, for the following pollutants at intervals of 12 months from the date December 6, 1989 and submit a copy of the test data to the Air Section of the Southwest District Office within forty-five days of such testing. Testing procedures shall be consistent with the requirements of Rule 17-2.700, F.A.C. The duration of each opacity test shall be 60 minutes. Opacity tests shall be conducted using DER Method 9.

- (X) Particulates \*
- (X) Sulfur Oxides \*\*
- ( ) Fluorides
- ( ) Nitrogen Oxides
- (X) Opacity
- ( ) Hydrocarbons
- ( ) Total Reduced Sulfur

\* An annual compliance test for particulate is not required for any fuel burning source that, in a federal fiscal year (October 1 - September 30), does not burn liquid or solid fuel, other than during startup, for a total of more than 400 hours.

\*\* A Fuel analysis of a representative fuel sample taken during the particulate compliance test and a calculation of the sulfur dioxide emission rate which is based upon the fuel analysis may be submitted in lieu of the required sulfur oxides emission test.

9. If the source is on cold standby when an annual compliance test is required by Specific Condition No. 8, then the compliance test may be postponed until after startup. Compliance testing shall be conducted within 30 days of startup. Testing, notification, and reporting, shall be consistent with all the requirements of Specific Conditions Nos. 8 through 15. The base date for future annual testing under Specific Condition No. 8 shall be automatically amended to the date of the compliance test conducted after startup.

10. Except as provided in Specific Conditions No. 11 or 12, compliance testing shall be conducted while burning fuel oil.

11. If the source is burning natural gas when a compliance test is required, then the compliance test may be conducted while burning natural gas.

12. If the source is burning a mixture of natural gas and fuel oil simultaneously when a compliance test is required, then the compliance test may be conducted while burning that mixture of natural gas and fuel oil simultaneously.

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: AO53-175870  
County: Polk  
Expiration Date: 05/17/95  
Project: Charles Larsen  
Power Plant, Unit #7

SPECIFIC CONDITIONS:

13. If the most recent compliance test was conducted pursuant to Specific Condition No. 11 or 12, and the fuel input is changed for a total of more than 15 days such that the percentage of total heat input derived from fuel oil increases by 10% or more (using the most recent compliance test as a basis), then the results from new compliance tests shall be submitted to the Air Section of the Southwest District Office within 45 days of the 15th day that the source is fired with the changed fuel input. (Rule 17-4.070(3), F.A.C.)

14. Compliance testing shall be conducted while operating within  $\pm 10\%$  of the maximum permitted heat input rate. A compliance test submitted at operating levels less than 90% of the maximum permitted heat input rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance at a higher rate is submitted. The permittee shall submit a statement of the actual heat input rate as a part of each compliance test. Failure to include the actual heat input rate in the results may invalidate the tests and fail to provide reasonable assurance of compliance. (Rule 17-4.070(3), F.A.C.)

15. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. (Rule 17-2.700(2)(a)9., F.A.C.)

16. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Section 403.061(13), Florida Statutes:

- (A) Annual amount of materials and/or fuels utilized.
- (B) Annual emissions (note calculation basis).
- (C) Any changes in the information contained in the permit application.

17. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. (Rule 17-2.210, F.A.C.)

PERMITTEE:

City of Lakeland Department of  
Electric and Water Utilities  
1000 East Parker St.  
Lakeland, FL. 33801

PERMIT/CERTIFICATION

Permit No: AO53-175870

County: Polk

Expiration Date: 05/17/95

Project: Charles Larsen

Power Plant, Unit #7

SPECIFIC CONDITIONS:

18. Four applications to renew this operating permit shall be submitted to the Southwest District Office of the Department by March 18, 1995.

Issued this 30 day of  
April, 1995.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

*RV) Garrity*

Dr. Richard D. Garrity  
Deputy Assistant Secretary  
4520 Oak Fair Boulevard  
Tampa, Florida 33610-7347  
Phone (813) 623-5561

## Best Available Copy

### GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and are binding and enforceable pursuant to the authority of Section 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.712(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal or plant life or property caused by the construction or operation of this permitted source or from penalties therefore, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credential or other documents as maybe required by law and at reasonable times, access to the premises, where the permitted activity is located or conducted.



GENERAL CONDITIONS (con't):

7. (con't):

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department (17-6.130) with the following information:

- (a) a description of and cause of noncompliance; and
- (b) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedures and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

GENERAL CONDITIONS (con't):

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Certification of Compliance with State Water Quality Standards (Section 401. PL 92-500)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically, unless otherwise stipulated by the Department.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

**ATTACHMENT LR-EU2-L14**  
**ACID RAIN PERMIT APPLICATION**



Mr. John C Brown (MS5505)  
Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

December 20, 1995

**RE: ACID RAIN TITLE IV PHASE II APPLICATION  
FOR LAKELAND ELECTRIC & WATER UTILITIES**

Dear Mr. Brown:

In compliance with 40 CFR Part 72 and Rule 62-210 F.A.C. we are submitting a revised completed form 62-210.900(1)(a) and three copies of same for our Larsen Power Plant.

Additionally, enclosed you will find a copy of **Certificate of Representation** (OMB No. 2060-0221) for each respective facility together with **Title IV Compliance Plan**.

With this submittal we are hoping to have satisfied all the requirements of Acid Rain Phase II Permit Application.

If you should have any questions, please do not hesitate to contact me at (941) 499-6603.

Sincerely

Farzie Shelton (Ms)  
Environmental Division

Enc.



# Certificate of Representation

Page 1

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☒ New ☐ Revised

## STEP 1

Identify the source by  
plant name, State, and  
ORIS code from NADB

Plant Name	C. D. McIntosh Jr.	State	FL	676 ORIS Code
------------	--------------------	-------	----	------------------

## STEP 2

Enter requested  
information for the  
designated  
representative

Name		Ronald W. Tomlin, Assistant Managing Director	
Address		Lakeland Electric & Water Utilities 501 East Lemon Street Lakeland, Florida 33801-5050	
Phone Number	813/499-8474	Fax Number	813/499-6362

## STEP 3

Enter requested  
information for the  
alternate designated  
representative  
(optional)

Name		Timothy C. Bates, Plant Manager	
Address		C. D. McIntosh Power Plant 3030 East Lake Parker Drive Lakeland, Florida 33805-9513	
Phone Number	813/499-6601	Fax Number	813/499-6688

## STEP 4

Complete Step 5, read  
the certifications and  
sign and date

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the designated representative or alternate designated representative, as applicable for the affected source and each affected unit at the source identified in this certificate of representation, daily for a period of one week in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative.



December 14, 1995

## **Lakeland Electric & water Utilities Title IV Compliance Plan**

Lakeland Electric & Water utilities will hold sufficient SO<sub>2</sub> allowances to cover all SO<sub>2</sub> emissions for the generating units listed below. If it becomes apparent that Lakeland Electric & Water utilities will have insufficient SO<sub>2</sub> allowances, Lakeland Electric & Water Utilities will purchase additional allowances on the open market, or switch to lower sulfur content fuel in order to cover any shortfall.

PLANT NAME	BOILER ID	ORIS CODE
C.D. MCINTOSH.Jr,	1	676
	2	676
	3	676
LARSEN MEMORIAL	7	675
	8	675

# Phase II Permit Application

Page 1

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

This submission is: ☐ New ☒ Revised

## STEP 1

Identify the source by plant name, State, and ORIS code from NADB

Larsen Memorial Power Plant, FL, 675

## STEP 2

Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

### Compliance Plan

a	b	c	d	e
Boiler ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units  Commence Operation Date	New Units  Monitor Certification Deadline
7	Yes	No		
8	Yes	No	11/92	1/1/96
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

## STEP 3

Check the box if the response in column c of Step 2 is "Yes" for any unit



For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

**STEP 4**  
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Plant Name (from Step 1)  
**Larsen Memorial Power Plant**

#### Standard Requirements

##### Permit Requirements.

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

##### Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

##### Sulfur Dioxide Requirements.

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

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

##### Excess Emissions Requirements.

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

##### Recordkeeping and Reporting Requirements.

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



Plant Name (from Step 1)  
*Larsen Memorial Power Plant*

Recordkeeping and Reporting Requirements (cont.)

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

Liability.

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

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

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

Certification

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

Name <i>Charles D. Garing, Plant Manager</i>	
Signature <i>Charles D. Garing</i>	Date <i>12/20/95</i>

STEP 5 (optional)  
Enter the source AIRS  
and FINDS identification  
numbers, if known

AIRS
FINDS

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

- ☒ [ x ] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

- ☒ [ x ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
(Regulated and Unregulated Emissions Units)**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Combined Cycle Unit 8</b>		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown <b>008</b>		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? [X ] Yes [ ] No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>Initial startup date is the unit's commercial in-service date. Emission unit is a combined cycle unit. Steam cycle is rated at 30 MW.</b>		

**Emissions Unit Control Equipment Information****A.**

1. Description (limit to 200 characters):  <b>Water Injection</b>
2. Control Device or Method Code: <b>28</b>

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

### C. EMISSIONS UNIT DETAIL INFORMATION (Regulated Emissions Units Only)

#### Emissions Unit Details

1. Initial Startup Date: <b>7 Jul 1992</b>		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: <div style="display: flex; justify-content: space-between;"> <span>Manufacturer: <b>General Electric</b></span> <span>Model Number: <b>Frame 7EA</b></span> </div>		
4. Generator Nameplate Rating: <b>88 MW</b>		
5. Incinerator Information: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Dwell Temperature:</span> <span>°F</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Dwell Time:</span> <span>seconds</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Incinerator Afterburner Temperature:</span> <span>°F</span> </div>		

#### Emissions Unit Operating Capacity

1. Maximum Heat Input Rate: <b>1,055</b> mmBtu/hr		
2. Maximum Incineration Rate: lbs/hr <b>tons/day</b>		
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):  <b>Maximum heat input based on HHV for natural gas. Heat input for residual oil heat input is 1,040 MMBtu/hr (HHV).</b>		

#### Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
hours/day	days/week	
weeks/yr	<b>8,760</b>	hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment LR-EU3-D



**E. EMISSION POINT (STACK/VENT) INFORMATION**  
**(Regulated Emissions Units Only)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>See Att. LR-EU3-L1</b>	
2. Emission Point Type Code:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  <b>Emission unit can exhaust through either a by-pass stack or heat recovery steam generator stack.</b>	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	<b>155</b> feet
7. Exit Diameter:	<b>16</b> feet
8. Exit Temperature:	<b>481</b> °F

9. Actual Volumetric Flow Rate:	1,034,053 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: 17	East (km): 409.0 North (km): 3102.8
14. Emission Point Comment (limit to 200 characters):	
<b>Stack parameters shown for HRSG stack oil firing. By-pass stack parameters: Height: 100 ft; diameter: 17.6 ft(equiv diameter-stack is rectangular 18.3' x 13.3'); temp: 950°F; flow: 1,549,432 acfm.</b>	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Distillate oil</b>	
2. Source Classification Code (SCC):  <b>2-01-001-01</b>	
3. SCC Units:  <b>1000 gallons</b>	
4. Maximum Hourly Rate:  <b>7.34</b>	5. Maximum Annual Rate:  <b>23,915</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>0.2</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:  <b>150</b>	
10. Segment Comment (limit to 200 characters):  <b>Maximum hourly rate based on maximum heat input for oil firing; annual rate based on construction permit limit.</b>	

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural gas</b>	
2. Source Classification Code (SCC): <b>2-01-002-01</b>	
3. SCC Units: <b>Million Cubic Feet</b>	
4. Maximum Hourly Rate: <b>1.03</b>	5. Maximum Annual Rate: <b>9,025</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>1,024</b>	
10. Segment Comment (limit to 200 characters): <b>Maximum Percent Sulfur: 0.003. Maximum hourly rate based on maximum heat input.</b>	

**G. EMISSIONS UNIT POLLUTANTS**  
**(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO2			EL
NOX	028		EL
CO			EL
VOC			EL
H114			EL
PB			EL
H021			EL
SAM			EL
PM10			EL

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM</b>	
2. Total Percent Efficiency of Control: _____ %	
3. Potential Emissions:	<b>26 lb/hour                      37 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3        _____ to _____ tons/yr	
6. Emission Factor: <b>0.025 lb/MMBtu</b>  Reference: <b>AC53-190437/PSDFL166</b>	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>1,040 MMBtu/hr x 0.025 lb/MMBtu = 26 lb/hr. 22 TPY x 2/3 (gas) + 22 TPY (oil) = 36.7 TPY</b>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Hourly emissions based on oil firing. Annual emissions based on 2,920 hours (1/3 of year) of oil firing and 5,840 hours (2/3 of year) of natural gas firing (AC53-190437/PSD-FL-166).</b>	

Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Combined Cycle Unit 8  
 Particulate Matter - Total

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.025 lb/MMBtu;22 TPY</b>		
4. Equivalent Allowable Emissions:	<b>26 lb/hour</b>	<b>22 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test; EPA Meth 5/17 if &gt; 10% op &amp; &gt;400hr/yr oil</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for oil firing. Does not include allowance for excess emissions for startup, shutdown and malfunction [FDEP Rule 62-210.700(1)].</b>		

B.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.006 lb/MMBtu;22 TPY</b>		
4. Equivalent Allowable Emissions:	<b>6.3 lb/hour</b>	<b>22 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for natural gas firing. Does not include allowance for excess emissions for startup, shutdown and malfunction [FDEP Rule 62-210.700(1)]</b>		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO2</b>
2. Total Percent Efficiency of Control: _____ %
3. Potential Emissions: <b>211.4 lb/hour</b> <b>317.2 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: <b>0.2 % sulfur fuel</b> Reference: <b>AC53-190437/PSDFL166</b>
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): <b>52,846 lb/hr x 0.002 lb/lb fuel x 2 lb SO2/lb S = 211.4 lb/hr (oil with 19,680 Btu/lb); 307 TPY (oil) + 8.6 x 2/3 (gas) = 317.2 TPY</b>
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): <b>Hourly emissions based on oil firing. Annual emissions based on 2,920 hours of oil firing and 5,840 hours of natural gas firing by permit limit.</b>



Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Combined Cycle Unit 8  
Sulfur Dioxide

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.2 % sulfur fuel</b>		
4. Equivalent Allowable Emissions:	<b>211 lb/hour</b>	<b>307 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Fuel analysis; Method PARR 1760; D-240</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for oil firing. Requested Allowable Emissions/Units: 307 TPY.</b>		

B.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>8.6 TPY</b>		
4. Equivalent Allowable Emissions:	<b>3 lb/hour</b>	<b>8.6 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Custom fuel monitoring; Fuel supplier</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for gas firing. See LR-EU3-L12.</b>		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>NOX</b>	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	<b>176 lb/hour                      563 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3        _____ to _____ tons/yr	
6. Emission Factor:                      See Comment  Reference: AC53-190437/PSDFL166	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>FORMULA:</b> Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr ÷ [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (ppm)]. Basis, ppmvd @15% O2: 42.0; Moisture (%): 7.25; Oxygen (%): 13.44; Volume Flow (acfm): 1,549,432; Temperature (°F): 950; lb/hr: 175.9. <b>CALCULATION:</b> 425 TPY x 2/3 (gas) + 244 (oil) = 563 TPY.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emission Factor: 42 ppmvd, 25 ppmvd corrected to 15% O2 for oil and gas. Hourly emissions based on oil firing. Annual emissions based on 2,920 hours of oil firing and 5,840 hours of natural gas firing</b>	

Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Combined Cycle Unit 8  
Nitrogen Oxides

A.

1. Basis for Allowable Emissions Code: <b>Other</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>42 ppmvd; 244 TPY</b>
4. Equivalent Allowable Emissions: <b>176 lb/hour</b> <b>244 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual compliance test; EPA Method 20</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Requested Allowable Emissions and Units corrected to 15% O2. Established as BACT for oil firing; testing required if &gt; 400hrs/yr.</b>

B.

1. Basis for Allowable Emissions Code: <b>Other</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>25 ppmvd; 425 TPY</b>
4. Equivalent Allowable Emissions: <b>105 lb/hour</b> <b>425 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual compliance test; EPA Method 20</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Requested Allowable Emissions and Units corrected to 15% O2. Established as BACT for gas firing.</b>

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted:	CO		
2. Total Percent Efficiency of Control:	%		
3. Potential Emissions:	59 lb/hour	254 tons/year	
4. Synthetically Limited?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:	[ ] 1    [ ] 2    [ ] 3    _____ to _____ tons/yr		
6. Emission Factor:	25 ppmvd Reference: AC53-190437/PSDFL166		
7. Emissions Method Code:	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):	<b>FORMULA:</b> Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%) / 100] x 2116.8 lb/ft <sup>2</sup> x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr ÷ [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]. Basis, ppmvd: 25; Moisture (%): 7.25; Volume Flow (acfm): 1,549,432; Temperature (°F): 950; lb/hr: 58.6. <b>CALCULATION:</b> 232 TPY x 2/3 (gas) + 79 TPY (oil) = 254 TPY.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	Hourly emissions based on oil firing. Annual emissions based on 2,920 hours of oil firing and 5,840 hours of natural gas firing.		

Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Combined Cycle Unit 8

Carbon Monoxide

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>79 tons/year</b>		
4. Equivalent Allowable Emissions:	<b>59 lb/hour</b>	<b>79 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for oil firing.</b>		

B.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>232 tons/year</b>		
4. Equivalent Allowable Emissions:	<b>58 lb/hour</b>	<b>232 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for gas firing</b>		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: <b>VOC</b>	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	7 lb/hour      12.3 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr	
6. Emission Factor:      See Comment  Reference: AC53-190437/PSDFL166	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):  <b>FORMULA:</b> VOCs (lb/hr)= VOC(ppm) x [1 - Moisture(%) / 100] x 2116.8 lb/ft <sup>2</sup> x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr ÷ [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]. Basis, ppmvd: 3.5; Moisture (%): 7.25; Volume Flow (acfm): 1,549,432; Temperature (°F): 950; lb/hr: 4.7. <b>CALCULATION:</b> 9 TPY X 2/3 (gas) + 6.7 TPY (oil) = 12.3 TPY.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emission Factor: 3.5 ppmvd for oil; 1.4 ppmvd for gas. Hourly emissions based on oil firing. Annual emissions based on 2,920 hours of oil firing and 5,840 hours of natural gas firing.</b>	

Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Combined Cycle Unit 8  
Volatile Organic Compounds

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>9 tons/year</b>		
4. Equivalent Allowable Emissions:	<b>4.7 lb/hour</b>	<b>9 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Gas firing; Annual emissions established as a construction permit limit.</b>		

B.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>6.7 tons/year</b>		
4. Equivalent Allowable Emissions:	<b>1.9 lb/hour</b>	<b>6.7 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Oil firing; Annual emissions established as a construction permit limit</b>		

### H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Only - Emissions Limited Pollutants Only)

### Pollutant Detail Information:

1. Pollutant Emitted: <b>H114</b>		
2. Total Percent Efficiency of Control:		<b>%</b>
3. Potential Emissions:	<b>lb/hour</b>	<b>0.003 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		<b>3 lb/10<sup>12</sup> Btu</b>
Reference: <b>AC53-190437/PSDFL166</b>		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Emissions estimate based on oil firing. This limit requested to be deleted.		



Emissions Unit Information Section 3 of 5  
**Allowable Emissions (Pollutant identified on front page)**

Combined Cycle Unit 8  
Mercury Compounds

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	<b>0.003</b> tons/year
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as construction permit limit; this limit is requested to be deleted.</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PB</b>	
2. Total Percent Efficiency of Control: %	
3. Potential Emissions:	lb/hour <b>0.03</b> tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: <b>0.000028</b> lb/MMBtu Reference: <b>AC53-190437/PSDFL166</b>	
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): <b>Based on oil firing; this limit requested to be deleted.</b>	

Emissions Unit Information Section 3 of 5  
Allowable Emissions (Pollutant identified on front page)

Lead - Total

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	<b>0.03 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as a construction permit limit for oil firing; this limit requested to be deleted;</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

### H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Only - Emissions Limited Pollutants Only)

### Pollutant Detail Information:

1. Pollutant Emitted: <b>H021</b>					
2. Total Percent Efficiency of Control: _____ %					
3. Potential Emissions:		lb/hour	<b>0.003 tons/year</b>		
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3        _____ to _____ tons/yr					
6. Emission Factor: <b>0.000003 lb/MMBtu</b>  Reference: <b>AC53-190437/PSDFL166</b>					
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5					
8. Calculation of Emissions (limit to 600 characters):         					
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  Based on oil firing; this limit requested to be deleted.					

Emissions Unit Information Section 3 of 5  
**Allowable Emissions (Pollutant identified on front page)**

Combined Cycle Unit 8  
Beryllium Compounds

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	<b>0.003</b> tons/year
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for oil firing; this limit requested to be deleted.</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

### H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION (Regulated Emissions Units Only - Emissions Limited Pollutants Only)

### Pollutant Detail Information:

1. Pollutant Emitted: <b>SAM</b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	lb/hour	tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr		
6. Emission Factor:		0.2 %sulfur oil
Reference: AC53-190437/PSDFL166		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
This limit requested to be deleted.		

Emissions Unit Information Section 3 of 5  
**Allowable Emissions (Pollutant identified on front page)**

Combined Cycle Unit 8  
Sulfuric Acid Mist

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT limit; this limit requested to be deleted.</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM10</b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	<b>26 lb/hour</b>	<b>37 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor: <b>0.025 lb/MMBtu</b>  Reference: <b>AC53-190437/PSDFL166</b>		
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>1,040 MMBtu/hr x 0.025 lb/MMBtu = 26 lb/hr. 22 TPY x 2/3 (gas) + 22 TPY (oil) = 36.7 TPY.</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Hourly emissions based on oil firing. Annual emissions based on oil and natural gas firing (AC53-190437/PSD-FL-166).</b>		



Emissions Unit Information Section 3 of 5  
**Allowable Emissions (Pollutant identified on front page)**

Combined Cycle Unit 8  
Particulate Matter - PM10

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.025 lb/MMBtu;22 TPY</b>		
4. Equivalent Allowable Emissions:	<b>26 lb/hour</b>	<b>22 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Annual stack test; EPA Method 5 and 17</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for oil firing. Does not include allowance for excess emissions for startup, shutdown and malfunction [FDEP Rule 62-210.700(1)].</b>		

B.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.006 lb/MMBtu;22 TPY</b>		
4. Equivalent Allowable Emissions:	<b>6.3 lb/hour</b>	<b>22 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>None</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Established as BACT for natural gas firing. Does not include allowance for excess emissions for startup, shutdown and malfunction [FDEP Rule 62-210.700(1)].</b>		

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)****Visible Emissions Limitations:** Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: <b>VE10</b>
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>10.</b> %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance: <b>Annual VE testing; EPA Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>Established as BACT limit</b>

**Visible Emissions Limitations:** Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: <b>VE99</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:      %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>None</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(1). Allowed for 2 hours (120 minutes) per 24-hour period for start-up, shut-down and malfunction.</b>

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)****Continuous Monitoring System** Continuous Monitor 1 of 4

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOX</b>
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Advanced Pollution Inst.</b> Model Number: <b>252</b> Serial Number: <b>132</b>	
5. Installation Date: <b>28 Nov 1994</b>	
6. Performance Specification Test Date: <b>12 Dec 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>CEM required pursuant to 40 CFR Part 75</b>	

**Continuous Monitoring System** Continuous Monitor 2 of 4

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOX</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Advanced Pollution Inst.</b> Model Number: <b>252</b> Serial Number: <b>120</b>	
5. Installation Date: <b>28 Nov 1994</b>	
6. Performance Specification Test Date: <b>12 Dec 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>Redundant backup</b>	

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)****Continuous Monitoring System** Continuous Monitor 3 of 4

1. Parameter Code: <b>O2</b>	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: <b>Graseby STI</b> Model Number: <b>DP0802</b> Serial Number: <b>1511-1-8</b>	
5. Installation Date: <b>28 Nov 1994</b>	
6. Performance Specification Test Date: <b>12 Dec 1995</b>	
7. Continuous Monitor Comment (limit to 200 characters): <b>Required pursuant to 40 CFR Part 75 for dilution with NOx monitors.</b>	

**Continuous Monitoring System** Continuous Monitor 4 of 4

1. Parameter Code: <b>WTF</b>	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date: <b>07 Jul 1992</b>	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): <b>Required by 40 CFR 60.334, WTF ratio monitored by CT control system as part of DCS. Pollutant emitted = NOx.</b>	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ☒ [ x ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ☐ [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ☐ [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ☒ The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO <sub>2</sub>	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO <sub>2</sub>	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO <sub>2</sub>	lb/hour	tons/year	
NO <sub>2</sub>		tons/year	
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**  
(Regulated Emissions Units Only)**Supplemental Requirements for All Applications**

1.	Process Flow Diagram		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU3-L1</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
2.	Fuel Analysis or Specification		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU3-L2</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
3.	Detailed Description of Control Equipment		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU3-L3</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
4.	Description of Stack Sampling Facilities		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU3-L4</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
5.	Compliance Test Report		
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/>	Not Applicable
<input checked="" type="checkbox"/>	Previously Submitted, Date: _____		
6.	Procedures for Startup and Shutdown		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU3-L6</u>	<input type="checkbox"/>	Not Applicable
7.	Operation and Maintenance Plan		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable
8.	Supplemental Information for Construction Permit Application		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable
9.	Other Information Required by Rule or Statute		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU3-L10</u> <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU3-L12</u> <input type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required)
<input checked="" type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: <u>LR-EU2-L14</u>
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable



**ATTACHMENT LR-EU3-D**  
**EMISSIONS UNIT REGULATIONS**

## ATTACHMENT LR-EU3-D

### Applicable Requirements Listing - Power Plants Acid Rain Units

EMISSION UNIT ID: EU3 - Larsen Plant - Combined Cycle Unit 8

#### FDEP Rules:

##### Air Pollution Control-General Provisions:

- 62-204.800(7)(b)37. (State Only) - NSPS Subpart GG
- 62-204.800(7)(c) (State Only) - NSPS authority
- 62-204.800(7)(d)(State Only) - NSPS General Provisions

- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring
- 62-204.800(16) (State Only) - Excess Emissions (Potentially applicable over term of permit)

##### Stationary Sources-General:

- 62-210.650 - Circumvention; EUs with control device
- 62-210.700(1) - Excess Emissions;
- 62-210.700(4) - Excess Emissions; poor maintenance
- 62-210.700(6) - Excess Emissions; notification

##### Acid Rain:

- 62-214.300 - All Acid Rain Units (Applicability)
- 62-214.320(1)(a),(2) - All Acid Rain Units (Application Shield)
- 62-214.330(1)(a)1. - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - All Acid Rain Units (Certification)
- 62-214.370 - All Acid Rain Units  
(Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - All Acid Rain Units (Compliance Options-if required)

##### Stationary Sources-Emission Standards:

- 62-296.320(4)(b)(State Only) - CTs/Diesel Units

##### Stationary Sources-Emission Monitoring (where stack test is required):

- 62-297.310(1) - All Units (Test Runs-Mass Emission)
- 62-297.310(2)(b) - All Units (Operating Rate; other than CTs;no CT)
- 62-297.310(3) - All Units (Calculation of Emission)
- 62-297.310(4)(a) - All Units (Applicable Test Procedures;Sampling time)
- 62-297.310(4)(b) - All Units (Sample Volume)
- 62-297.310(4)(c) - All Units (Required Flow Rate Range-PM/H2SO4/F)
- 62-297.310(4)(d) - All Units (Calibration)
- 62-297.310(4)(e) - All Units (EPA Method 5-only)
- 62-297.310(5) - All Units (Determination of Process Variables)

- 62-297.310(6)(a)
  - 62-297.310(6)(c)
  - 62-297.310(6)(d)
  - 62-297.310(6)(e)
  - 62-297.310(6)(f)
  - 62-297.310(6)(g)
  - 62-297.310(7)(a)1.
  - 62-297.310(7)(a)2.
  - 62-297.310(7)(a)3.
  - 62-297.310(7)(a)4.a
  - 62-297.310(7)(a)5.
  - 62-297.310(7)(a)6.
  - 62-297.310(7)(a)7.
  - 62-297.310(7)(a)9.
  - 62-297.310(7)(c)
  - 62-297.310(8)
- All Units (Permanent Test Facilities-general)
  - All Units (Sampling Ports)
  - All Units (Work Platforms)
  - All Units (Access)
  - All Units (Electrical Power)
  - All Units (Equipment Support)
  - Applies mainly to CTs/Diesels
  - FFSG excess emissions
  - Permit Renewal Test Required
  - Annual Test
  - PM exemption if < 400 hrs/yr
  - PM FFSG semi annual test required if > 200 hrs/yr
  - PM quarterly monitoring if > 100 hrs/yr
  - FDEP Notification - 15 days
  - Waiver of Compliance Tests (Fuel Sampling)
  - Test Reports

**Federal Rules:**

**NSPS Subpart GG:**

- 40 CFR 60.332(a)(1)
  - 40 CFR 60.332(a)(3)
  - 40 CFR 60.333
  - 40 CFR 60.334
  - 40 CFR 60.335
- NOx for Electric Utility CTs
  - NOx for Electric Utility CTs
  - SO2 limits
  - Monitoring of Operations (Custom Monitoring for Gas)
  - Test Methods

**NSPS General Requirements:**

- 40 CFR 60.7(a)(4)
  - 40 CFR 60.7(b)
  - 40 CFR 60.7(c)
  - 40 CFR 60.7(d)
  - 40 CFR 60.7(f)
  - 40 CFR 60.8(c)
  - 40 CFR 60.8(e)
- Notification and Recordkeeping (Physical/Operational Cycle)
  - Notification and Recordkeeping (startup/shutdown/malfunction)
  - Notification and Recordkeeping (startup/shutdown/malfunction)
  - Notification and Recordkeeping (startup/shutdown/malfunction)
  - Notification and Recordkeeping (maintain records-2 yrs)
  - Performance Tests (representative conditions)
  - Provide Stack Sampling Facilities
- 
- 40 CFR 60.8(f)
  - 40 CFR 60.11(a)
  - 40 CFR 60.11(b)
  - 40 CFR 60.11(c)
  - 40 CFR 60.11(d)
  - 40 CFR 60.11(e)(2)
  - 40 CFR 60.12
  - 40 CFR 60.13(a)
  - 40 CFR 60.13(c)
  - 40 CFR 60.13(d)(1)
  - 40 CFR 60.13(d)(2)
  - 40 CFR 60.13(e)
  - 40 CFR 60.13(f)
- Test Runs
  - Compliance (ref. S. 60.8 or Subpart; other than opacity)
  - Compliance (opacity determined EPA Method 9)
  - Compliance (opacity; excludes startup/shutdown/malfunction)
  - Compliance (maintain air pollution control equip.)
  - Compliance (opacity; ref. S. 60.8)
  - Circumvention
  - Monitoring (Appendix B; Appendix F)
  - Monitoring (Opacity COMS)
  - Monitoring (CEMS; span, drift, etc.)
  - Monitoring (COMS; span, system check)
  - Monitoring (frequency of operation)
  - Monitoring (frequency of operation)

40 CFR 60.13(h)

- Monitoring (COMS; data requirements)

Acid Rain-Permits:

- 40 CFR 72.9(a)
  - Permit Requirements
- 40 CFR 72.9(b)
  - Monitoring Requirements
- 40 CFR 72.9(c)(1)
  - SO<sub>2</sub> Allowances-hold allowances
- 40 CFR 72.9(c)(2)
  - SO<sub>2</sub> Allowances-violation
- 40 CFR 72.9(c)(3)(iii)
  - SO<sub>2</sub> Allowances-Phase II Units (listed)
- 40 CFR 72.9(c)(4)
  - SO<sub>2</sub> Allowances-allowances held in ATS
- 40 CFR 72.9(c)(5)
  - SO<sub>2</sub> Allowances-no deduction for 72.9(c)(1)(i)
- 40 CFR 72.9(d)
  - NO<sub>x</sub> Requirements
- 40 CFR 72.9(e)
  - Excess Emission Requirements
- 40 CFR 72.9(f)
  - Recordkeeping and Reporting
- 40 CFR 72.9(g)
  - Liability
- 40 CFR 72.20(a)
  - Designated Representative; required
- 40 CFR 72.20(b)
  - Designated Representative; legally binding
- 40 CFR 72.20(c)
  - Designated Representative; certification requirements
- 40 CFR 72.21
  - Submissions
- 40 CFR 72.22
  - Alternate Designated Representative
- 40 CFR 72.23
  - Changing representatives; owners
- 40 CFR 72.24
  - Certificate of representation
- 40 CFR 72.30(a)
  - Requirements to Apply (operate)
- 40 CFR 72.30(b)(2)
  - Requirements to Apply (Phase II-Complete)
- 40 CFR 72.30(c)
  - Requirements to Apply (reapply before expiration)
- 40 CFR 72.30(d)
  - Requirements to Apply (submittal requirements)
- 40 CFR 72.31
  - Information Requirements; Acid Rain Applications
- 40 CFR 72.32
  - Permit Application Shield
- 40 CFR 72.33(b)
  - Dispatch System ID;unit/system ID
- 40 CFR 72.33(c)
  - Dispatch System ID;ID requirements
- 40 CFR 72.33(d)
  - Dispatch System ID;ID change
- 40 CFR 72.40(a)
  - General; compliance plan
- 40 CFR 72.40(b)
  - General; multi-unit compliance options
- 40 CFR 72.40(c)
  - General; conditional approval
- 40 CFR 72.40(d)
  - General; termination of compliance options
- 40 CFR 72.51
  - Permit Shield
- 40 CFR 72.90
  - Annual Compliance Certification

Allowances:

- 40 CFR 73.33(a),(c)
  - Authorized account representative
- 40 CFR 73.35(c)(1)
  - Compliance: ID of allowances by serial number

Monitoring Part 75:

- 40 CFR 75.4
  - Compliance Dates;
- 40 CFR 75.5
  - Prohibitions
- 40 CFR 75.10(a)(1)
  - Primary Measurement; SO<sub>2</sub>;
- 40 CFR 75.10(a)(2)
  - Primary Measurement; NO<sub>x</sub>;
- 40 CFR 75.10(a)(3)(iii)
  - Primary Measurement; CO<sub>2</sub>; O<sub>2</sub> monitor

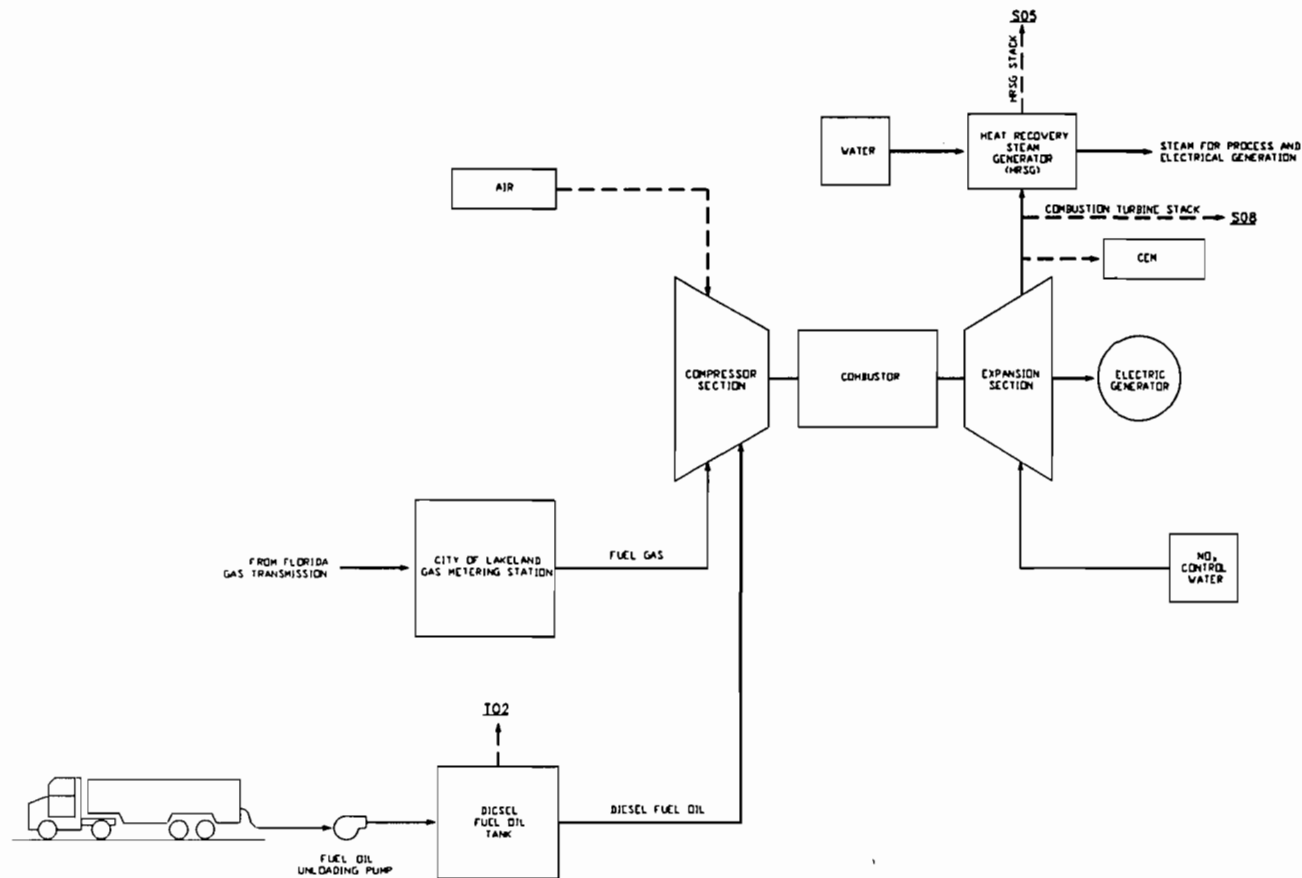
- 40 CFR 75.10(b) - Primary Measurement; Performance Requirements
- 40 CFR 75.10(c) - Primary Measurement; Heat Input; Appendix F
- 40 CFR 75.10(e) - Primary Measurement; Optional Backup Monitor
- 40 CFR 75.10(f) - Primary Measurement; Minimum Measurement
- 40 CFR 75.10(g) - Primary Measurement; Minimum Recording
- 40 CFR 75.11(d) - SO<sub>2</sub> Monitoring; Gas- and Oil-fired units
- 40 CFR 75.11(e) - SO<sub>2</sub> Monitoring; Gaseous firing
- 40 CFR 75.12(a) - NO<sub>x</sub> Monitoring; Coal; Non-peaking oil/gas units
- 40 CFR 75.12(b) - NO<sub>x</sub> Monitoring; Determination of NO<sub>x</sub> emission rate;
- Appendix F
- 40 CFR 75.13(b) - CO<sub>2</sub> Monitoring; Appendix G
- 40 CFR 75.13(c) - CO<sub>2</sub> Monitoring; Appendix F
- 40 CFR 75.14(c) - Opacity Monitoring; Gas units; exemption
- 40 CFR 75.20(a) - Initial Certification Approval Process; Loss of Certification
- 40 CFR 75.20(b) - Recertification Procedures (if recertification necessary)
- 40 CFR 75.20(c) - Certification Procedures (if recertification necessary)
- 40 CFR 75.20(d) - Recertification Backup/portable monitor
- 40 CFR 75.20(f) - Alternate Monitoring system
- 40 CFR 75.21(a) - QA/QC; CEMS; Appendix B (Suspended 7/17/95-12/31/96)
- 40 CFR 75.21(c) - QA/QC; Calibration Gases
- 40 CFR 75.21(d) - QA/QC; Notification of RATA
- 40 CFR 75.21(e) - QA/QC; Audits
- 40 CFR 75.21(f) - QA/QC; CEMS (Effective 7/17/96-12/31/96)
- 40 CFR 75.22 - Reference Methods
- 40 CFR 75.24 - Out-of-Control Periods; CEMS
- 40 CFR 75.30(a)(3) - General Missing Data Procedures; NO<sub>x</sub>
- 40 CFR 75.30(a)(4) - General Missing Data Procedures; SO<sub>2</sub>
- 40 CFR 75.30(b) - General Missing Data Procedures; certified backup monitor
- 40 CFR 75.30(c) - General Missing Data Procedures; certified backup monitor
- 40 CFR 75.30(d) - General Missing Data Procedures; SO<sub>2</sub> (optional before 1/1/97)
- 40 CFR 75.30(e) - General Missing Data Procedures; bypass/multiple stacks
- 40 CFR 75.31 - Initial Missing Data Procedures (new/re-certified CMS)
- 40 CFR 75.32 - Monitoring Data Availability for Missing Data
- 40 CFR 75.33 - Standard Missing Data Procedures
- 40 CFR 75.36 - Missing Data for Heat Input
- 40 CFR 75.40 - Alternate Monitoring Systems-General
- 40 CFR 75.41 - Alternate Monitoring Systems-Precision Criteria
- 40 CFR 75.42 - Alternate Monitoring Systems-Reliability Criteria
- 40 CFR 75.43 - Alternate Monitoring Systems-Accessability Criteria
- 40 CFR 75.44 - Alternate Monitoring Systems-Timeliness Criteria
- 40 CFR 75.45 - Alternate Monitoring Systems-Daily QA
- 40 CFR 75.46 - Alternate Monitoring Systems-Missing data
- 40 CFR 75.47 - Alternate Monitoring Systems-Criteria for Class
- 40 CFR 75.48 - Alternate Monitoring Systems-Petition
- 40 CFR 75.53 - Monitoring Plan ; revisions
- 40 CFR 75.54(a) - Recordkeeping-general
- 40 CFR 75.54(b) - Recordkeeping-operating parameter
- 40 CFR 75.54(c) - Recordkeeping-SO<sub>2</sub>

40 CFR 75.54(d)	- Recordkeeping-NOx
40 CFR 75.54(e)	- Recordkeeping-CO2
40 CFR 75.54(f)	- Recordkeeping-Opacity
40 CFR 75.55(c)	- General Recordkeeping (Specific Situations)
40 CFR 75.55(e)	- General Recordkeeping (Specific Situations)
40 CFR 75.56	- Certification; QA/QC Provisions
40 CFR 75.60	- Reporting Requirements-General
40 CFR 75.61	- Reporting Requirements-Notification cert/recertification
40 CFR 75.62	- Reporting Requirements-Monitoring Plan
40 CFR 75.63	- Reporting Requirements-Certification/Recertification
40 CFR 75.64(a)	- Reporting Requirements-Quarterly reports; submission
40 CFR 75.64(b)	- Reporting Requirements-Quarterly reports; DR statement
40 CFR 75.64(c)	- Rep. Req.; Quarterly reports; Compliance Certification
40 CFR 75.64(d)	- Rep. Req.; Quarterly reports; Electronic format
40 CFR 75.66	- Petitions to the Administrator (if required)
Appendix A-1	- Installation and Measurement Locations
Appendix A-2.	- Equipment Specifications
Appendix A-3.	- Performance Specifications
Appendix A-4.	- Data Handling and Acquisition Systems
Appendix A-5.	- Calibration Gases
Appendix A-6.	- Certification Tests and Procedures
Appendix A-7.	- Calculations
Appendix B	- QA/QC Procedures
Appendix C-1.	- Missing Data; SO2/NOx for controlled sources
Appendix C-2.	- Missing Data; Load-Based Procedure; NOx & flow
Appendix D	- Optional SO2; Oil-/gas-fired units
Appendix F	- Conversion Procedures
Appendix H	- Traceability Protocol

Acid Rain Program-Excess Emissions (these are future requirements that may become applicable during the term of the Title V permit):

40 CFR 77.3	- Offset Plans (future)
40 CFR 77.5(b)	- Deductions of Allowances (future)
40 CFR 77.6	- Excess Emissions Penalties (SO2 and NOx;future)

**ATTACHMENT LR-EU3-L1**  
**PROCESS FLOW DIAGRAM**



0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION
1	MG	5-15-96	HP	CHANGE TITLE
2	MC	5-29-96	HP	ISSUED FOR TITLE V
REV. NO.	BY	DATE	APPR.	REVISION



DESCRIPTION  
 LAKELAND ELECTRIC & WATER UTILITIES  
 LARSEN POWER PLANT  
 COMBINED CYCLE TURBINE NO. 8  
 TITLE V PROCESS FLOW DIAGRAM

DIVISION	PRODUCTION ENGINEERING	CAD	SCALE	NONE
ENGINEER	PATTERSON	PROJ. NO.	AIR PERMIT	
DRN. BY: MGIEGER	DATE: 9-19-94	DWG. NO.	REV.	
APPR. BY:		LR-EU3-L1/SKL-11	2	



**ATTACHMENT LR-EU3-L2**  
**FUEL ANALYSIS OR SPECIFICATION**

Attachment LR-EU3-L2

Fuel Analysis

Natural Gas Analysis

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
Relative density	0.58 (compared to air)	
heat content	950 - 1124 Btu/cu ft. (HHV)	
% sulfur	0.43 grains/CCF <sup>1</sup>	1 grain/100 CF
% nitrogen	0.8% by volume	
% ash	negligible	

Note: The values listed are "typical" values based upon information supplied by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

Attachment LR-EU3-L2

Fuel Analysis

No. 2 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	6.92 lb/gal <sup>2</sup>	
Heat content	18,400 Btu / lb (LHV)	
% sulfur	< 0.2 <sup>2</sup>	0.2 <sup>3</sup>
% nitrogen	0.025 - 0.030	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Permit limit

<sup>3</sup> Data from current air permit.

**ATTACHMENT LR-EU3-L3**

**DETAILED DESCRIPTION OF CONTROL EQUIPMENT**

## ATTACHMENT LR-EU3-L3

### DETAILED DESCRIPTION OF CONTROL EQUIPMENT

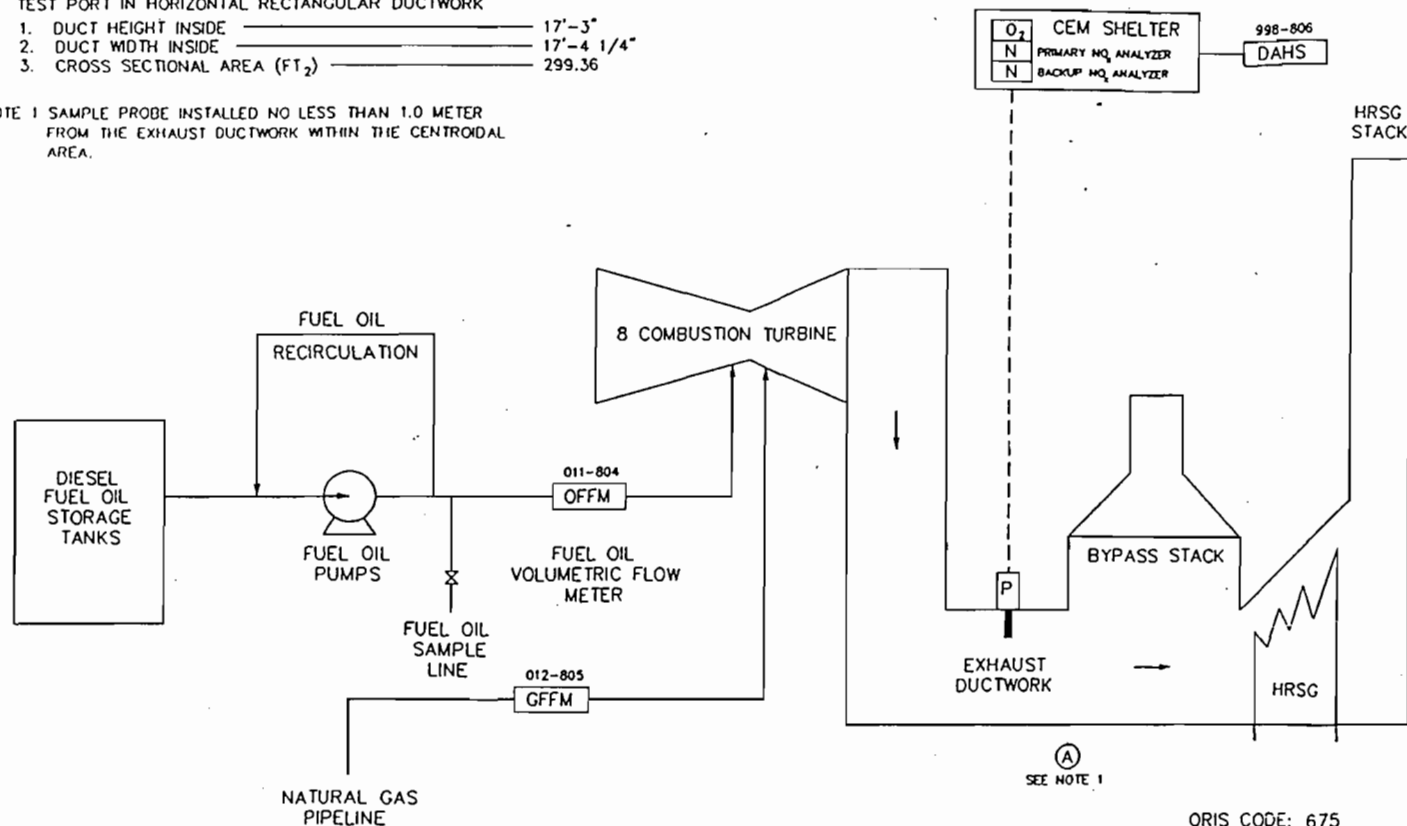
The GE Mark IV NO<sub>x</sub> control algorithm utilizes data from digital temperature and humidity monitors located at each combustion turbine. The algorithm receives and processes the ambient temperature and humidity on a continuous basis. A temperature/humidity correction is used in determining the amount of water to inject for NO<sub>x</sub> control. The correction accounts for the ambient water entering the combustion chamber, and then it adds the correct amount of injection water in order to ensure compliance with the unit's required water-to-fuel ratio as determined from the water/fuel curve. This algorithm ensures compliance on a continuous basis regardless of the unit load and ambient weather conditions.

**ATTACHMENT LR-EU3-L4**  
**DESCRIPTION OF STACK SAMPLING FACILITIES**

## A. TEST PORT IN HORIZONTAL RECTANGULAR DUCTWORK


1. DUCT HEIGHT INSIDE \_\_\_\_\_ 17'-3"
2. DUCT WIDTH INSIDE \_\_\_\_\_ 17'-4 1/4"
3. CROSS SECTIONAL AREA (FT<sup>2</sup>) \_\_\_\_\_ 299.36

NOTE 1 SAMPLE PROBE INSTALLED NO LESS THAN 1.0 METER FROM THE EXHAUST DUCTWORK WITHIN THE CENTROIDAL AREA.



(A)  
SEE NOTE 1

ORIS CODE: 675  
NADB BOILER ID: 8

						 LAKELAND ELECTRIC & WATER	DESCRIPTION	DIVISION PRODUCTION ENGINEERING		CAD	SCALE	NONE	
							LARSEN MEMORIAL POWER PLANT UNIT 8 COMBINED CYCLE CONTINUOUS EMISSIONS MONITORING SYSTEM SCHEMATIC	ENGINEER LARSEN		PROJ. NO. -			
A	MC	X		FOR APPROVAL				DRN. BY: MCEGER	DATE	8-18-94	DWG. NO.		REV.
REV. NO.	BY	DATE	APPR.	REVISION				APPR. BY:			18-0402-6010		A

SIZE B

**ATTACHMENT LR-EU3-L6**  
**STARTUP AND SHUTDOWN PROCEDURES**



**ATTACHMENT LR-EU3-L6**  
**PROCEDURES FOR STARTUP/SHUTDOWN**

Startup for the gas turbine begins with an electric control system using a switch to initiate the unit startup cycle. The unit generator is synchronized with the grid and can be "on line" (electrical power production) within 5 minutes from startup.

The gas turbine utilizes water injection for controlling NO<sub>x</sub> emissions. Initiation of water injection occurs when the turbine reaches stabilized load. The amount of water is a function of load based on preset algorithms in the CT digital control system. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective action taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best operating practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit generator from the system electrical grid), shutting off the fuel, and coasting to a stop.

**ATTACHMENT LR-EU3-L10**  
**ALTERNATIVE METHODS OF OPERATION**

**ATTACHMENT LR-EU3-L10**  
**ALTERNATIVE METHODS OF OPERATION**  
**COMBINED CYCLE UNIT**

The gas turbine can operate on both natural gas and No. 2 fuel oil. The maximum sulfur content in the fuel oil shall not exceed 0.2 percent. This unit can operate for the entire year (i.e., 8,760 hours) with natural gas or using up to 23,914,800 gallons/year of oil. The unit may operate at various loads. Routine maintenance includes injection of a turbine wash chemical to clean the inlet turbine (compressor). These chemicals consist of detergents and surfactants that are decomposed during the combustion stages of the turbine. This unit has a stack that can bypass the HRSG and can be operated in simple cycle.

**ATTACHEMENT LR-EU3-L12**  
**ADDITIONAL APPLICABLE REQUIREMENTS**

## ATTACHMENT LR-EU3-L12

### REQUEST TO CHANGE CONDITIONS THAT ARE OBSOLETE AND OUTDATED

This request is to remove from the Title V permit, several conditions of the FDEP issued PSD/air construction permit (AC53 -219296;PSD-FL-166) that are obsolete and outdated. This request is made pursuant to FDEP's Guidance on Implementation of Existing Permit Conditions Into Title V Permits (DARM-PER/V-14; February 8, 1996).

#### Specific Condition 1:

Delete Emissions Limits for Sulfuric Acid Mist, Beryllium, Lead and Mercury as Applicable Requirements. The limits for beryllium, lead and mercury are requested to be deleted based on FDEP guidance dated May 19, 1995 (DARM-PER/GEN-18). The guidance states that mass emission limitations for metals should not be included in the permit. The only compliance requirement for this unit in the construction permit was to determine the concentrations of Be and Hg in the distillate fuel during the initial compliance test. Since oil is secondary fuel and metal concentrations are expected to be non-detectable, the emission limits for Be, Pb and Hg should be omitted from the Title V permit. It should be noted that only the emissions for beryllium would trigger PSD. Therefore, the BACT requirement can be listed as distillate fuel oil as provided by the FDEP May 19, 1995 guidance. The production limit on the amount of distillate fuel and the current knowledge of information on trace parameters in that fuel, indicate that emissions limits for these parameters are no longer necessary. The emission limits for sulfuric acid mist should not be included in the Title V permit, since emissions of this pollutant did not trigger PSD review and there is a requirement to use very low sulfur fuel oil (i.e., 0.2 percent). There is also no requirement for testing this pollutant and the requirement for fuel analyses would provide assurance that the sulfur limit would be met. Therefore the emission limit for sulfuric acid mist is requested not to be included in the Title V permit.

#### Specific Condition 2:

Delete condition--The acceptable ambient air concentrations (AACs), which are currently referred to as air reference concentrations (ACRs), have not been promulgated by the Department as part of the SIP or department rule. Moreover, the original application evaluated these concentrations

and found that the facility meets these criteria. Therefore, there is no need for this condition in the Title V permit.

Specific Condition 9:

Reference to initial compliance tests should not be included in the Title V permit since the emission unit has already demonstrated initial compliance.



# Department of Environmental Protection

*2-14-96*  
*File Orig. - Permits*  
*(Larsen)*

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

## NOTICE OF PERMIT AMENDMENT

### CERTIFIED MAIL

February 1, 1996

Mr. Charles D. Garing, Manager  
Charles Larsen Power Plant  
City of Lakeland  
Department of Electric & Water  
501 East Lemon Street  
Lakeland, FL 33801-5050

**RECEIVED**  
FEB 14 1996

Dear Mr. Garing:

Re: Polk County - Air Permit  
DEP File No. 1050003-002-A0  
Permit A053-219296  
(Larsen Unit No. 8)

I.C. Bates, McIntosh Plant Manager  
Dept. of Electric & Water Utilities  
City of Lakeland  
Lakeland, Florida

Enclosed is an amendment to A053-219296, for the combined-cycle combustion turbine designated Charles Larsen Power Plant Unit No. 8, located at 2002 E. U.S. Hwy 92, Lakeland, Polk County. The Department, pursuant to Florida Administrative Code Rule 62-4.070, hereby amends the permit as follows:

### CHANGE SPECIFIC CONDITION NO. 5 FROM:

5. The maximum allowable emissions from this source shall not exceed the emission rates shown in the table below:

Pollutant	Standards		Tons/year	
	Natural Gas	No. 2 Oil	Gas	Oil
NOx	25 ppm (a)	42 ppm (a)	425	244
SO2	-	-	2.6	307
PM/PM10	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22
VOC	-	-	9	6.7
CO	-	-	232	79
Mercury (Hg)	-	0.000003 (b)	-	0.003
Lead (Pb)	-	0.000028 (b)	-	0.03
Beryllium	-	0.0000025 (b)	-	0.003
S. Acid Mist	-	-	-	0.0032

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

City of Lakeland  
A053-219296

Specific Condition No. 5 - continued:

Notes: (a) @ 15% oxygen on a dry basis (b) lbs/MMBtu  
[Const. Permit No. AC53-190437 and BACT Determination of 7/26/91].

CHANGE SPECIFIC CONDITION NO. 5 TO:

5. The maximum allowable emissions from this source shall not exceed the emission rates shown in the table below:

Pollutant	Standards		Tons/year	
	Natural Gas	No. 2 Oil	Gas	Oil
NOx	25 ppm (a)	42 ppm (a)	425	244
SO2	0.009 lb/MMBtu	-	8.6	307
PM/PM10	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22
VOC	-	-	9	6.7
CO	-	-	232	79
Mercury(Hg)	-	0.000003 (b)	-	0.003
Lead (Pb)	-	0.000028 (b)	-	0.03
Beryllium	-	0.0000025 (b)	-	0.003
S.Acid Mist	0.0017 lb/MMBtu	0.002 lb/MMBtu	0.8	9.13

1.963516  
4.6

Notes: (a) @ 15% oxygen on a dry basis (b) lbs/MMBtu

[Const. Permit No. AC53-190437, BACT Determination of 7/26/91, and amendment request dated October 19, 1995].

CHANGE SPECIFIC CONDITION NO. 13 FROM:

13. Test the gas turbine exhaust stack for emissions of the following annually on or during the 60 day period prior to August 6. Copies of the test data shall be submitted to the Air Program of the SW District Office of the Department within 45 days of such testing:

- (X) Visible Emissions (VE) (See also Specific Condition No. 21)  
(this also serves as demonstration of compliance with the particulate emission limit)
- (X) Nitrogen Oxides (NOx)

[Construction Permit No. AC53-190437 and Rules 17-297.340 and 17-297.570, F.A.C.].



City of Lakeland  
A053-219296

CHANGE SPECIFIC CONDITION NO. 13 TO:

13. Test the gas turbine exhaust stack for emissions of the following annually on or during the 60 day period prior to December 31st. The initial compliance test using this new anniversary date shall be conducted beginning in 1996. Copies of the test data shall be submitted to the Air Program of the SW District Office of the Department within 45 days of such testing:

- (X) Visible Emissions (VE) (See also Specific Condition No. 21)  
(this also serves as demonstration of compliance with the particulate emission limit)
- (X) Nitrogen Oxides (NOx)

[Rules 62-297.340 and 62-297.570, F.A.C.].

CHANGE SPECIFIC CONDITION NO. 19 FROM:

19. For purposes of documenting compliance with the NOx limitation of Specific Condition No. 5 based on the results of the Method 20 stack test results, the NOx emission rate shall be computed for each run in accordance with 40 CFR 60.335(c)(1) (or 60.335(f)(1) if appropriate approvals are obtained).

[Rule 17-296.800, F.A.C., and 40 CFR 60.335].

CHANGE SPECIFIC CONDITION NO. 19 TO:

19. For purposes of documenting compliance with the NOx limitation of Specific Condition No. 5 based on the results of the Method 20 stack test results, the NOx emission rate shall be computed for each run in accordance with the requirements of the Method. ISO correction is not required.

[Rule 62-296.800, F.A.C., 40 CFR 60.335, and H. Rhodes memorandum dated November 22, 1995].

A person whose substantial interests are affected by this permit amendment may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these Permits. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

City of Lakeland  
A053-219296

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in these permits. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This Permit Amendment is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 62-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this Permit Amendment will not be effective until further Order of the Department.

When the Order (Permit Amendment) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate procedure, with the Clerk of the

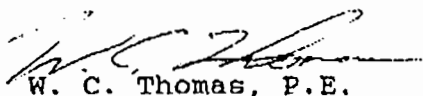
City of Lakeland  
A053-219296

Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

This Permit Amendment replaces the amendment dated January 18, 1996. This letter must be attached to and becomes a part of Permit No. A053-219296. If you should have any questions, please call Bill Schroeder of my staff at (813)744-6100 extension 104.

Executed in Tampa, Florida.

Sincerely,



W. C. Thomas, P.E.  
District Air Program Administrator

WCT/WES

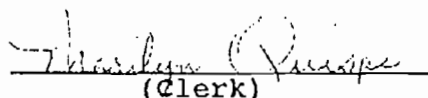
cc: Farzie Shelton, City of Lakeland  
Martin Costello, DARM

#### CERTIFICATE OF SERVICE

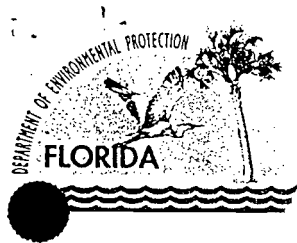
This is to certify that this NOTICE OF PERMIT AMENDMENT and all copies were mailed by certified mail before the close of business on  
FEB 13 1996 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED,  
on this date, pursuant to Section  
120.52(11), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledge.

  
(Clerk)

FEB 13 1996  
(Date)



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

December 18, 1995

## CERTIFIED MAIL RETURN RECEIPT REQUESTED

Ms. Farzie Shelton  
Environmental Coordinator  
Department of Electric and Water Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: Charles Larson Power Plant Unit 8--Combustion Turbine  
PSD-FL-166/AC53-190437  
Request to amend permit

The Department is in receipt of your June 27, 1995 request to amend the above referenced permit. You requested a customized fuel monitoring schedule for the sulfur and nitrogen content of the natural gas fired in the turbine. You also requested that the sulfur dioxide and sulfuric acid mist permit limits be changed. In addition, you requested clarification of the nitrogen oxides compliance testing requirements, i.e. the ISO correction, specified in the above referenced permit.

The Department acknowledges your oversight in neglecting the sulfur from mercaptans (which are added to the natural gas for safety reasons) in your estimate of annual SO<sub>2</sub> emissions. The Department also agrees that a typographical error was apparently made in the annual emission limits for sulfuric acid mist, both for natural gas and oil.

The Department hereby incorporates each of the following amendments to the above referenced permit:

### Custom Fuel Monitoring Schedule

The proposed custom fuel monitoring schedule (attached) has been approved by EPA and is included as an attachment to the above referenced permit. This fuel monitoring schedule supersedes AC53-190437 / PSD-FL-166 condition 23 which

Ms. Farzie Shelton  
December 18, 1995  
page 2

requires annual reports for nitrogen content of the fuel being fired, as this condition applies to the firing of natural gas.

#### **Annual Sulfur Dioxide And Sulfuric Acid Mist Limits**

The annual sulfur dioxide and sulfuric acid mist limits is changed as follows:

##### TABLE 1

FROM:

SO<sub>2</sub>..... 2.6 (tpy on gas)

Sulfuric Acid Mist..... - (tpy on gas)...  $3.3 \times 10^{-3}$  (tpy on oil)

TO:

SO<sub>2</sub>..... 8.6 (tpy on gas)

Sulfuric Acid Mist..... 0.8 (tpy on gas)... 9.13 (tpy on oil)

#### **Correction of NO<sub>x</sub> Emissions to ISO Conditions**

Based on the recent guidance memorandum on combustion turbines the Department hereby removes the requirement to correct the test data to ISO conditions for comparison with the NO<sub>x</sub> emission limits established pursuant to the BACT determination for gas and oil firing. To institute this change, Permit PSD-FL-166/AC53-190437 Specific Condition 13 is amended as follows:

During the initial performance tests, to determine compliance with the proposed NSPS NO<sub>x</sub> standard, measured NO<sub>x</sub> emission at 15 percent oxygen will be adjusted to ISO .....

A copy of this amendment letter shall be attached to and

Ms. Farzie Shelton  
December 18, 1995  
page 3

shall become a part of Air Construction Permit PSD-FL-166 /  
AC53-190437.

Sincerely,

*HL Rhodes*  
for Howard L. Rhodes, Director  
Division of Air Resources  
Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy clerk hereby certifies that this **PERMIT AMENDMENT** and all copies were mailed by certified mail before the close of business on 12-22-95 to the listed persons.

Clerk Stamp  
**FILING AND ACKNOWLEDGMENT FILED,**  
on this date, pursuant to  
120.52(11), Florida Statutes,  
with the designated Department  
Clerk, receipt of which is hereby  
acknowledged.

*Lynn J. Ober*      12-22-95  
Clerk                      Date

Copies to be furnished to:

Jerry Kissel, SWD  
Jewell Harper, EPA  
Roy Harwood, Polk Co.

## CUSTOMED FUEL MONITORING SCHEDULE

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum, attached.
2. Sulfur Monitoring
  - a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR § 60.335(b)(2).
  - b. Effective on the approval date of the customized fuel monitoring schedule, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the sulfur content and indicates consistent compliance with 40 CFR § 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
  - c. If the sulfur content monitoring required for natural gas by 2(b) above shows little variability and the calculated sulfur dioxide emissions represent consistent compliance with the sulfur dioxide emission limits specified under 40 CFR § 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.
  - d. Should any sulfur analysis as required by items 2(b) or 2(c) above indicate noncompliance with 40 CFR § 60.333, the City will notify the Department of Environmental Protection of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.
3. The City will notify the Department of Environmental Protection of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content varying greater than 10 grains/1000 cf gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.
4. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of three years, and shall be available for inspection by appropriate regulatory personnel.
5. The City will obtain the sulfur content of the natural gas from Florida Gas Transmission Company. (The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.)

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
NOTICE OF PERMIT

In the matter of an  
Application for Permit by:

DER File No. AC 53-190437  
PSD-FL-166  
Polk County

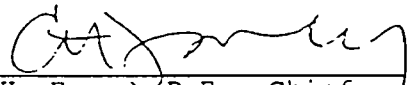
City of Lakeland  
501 East Lemon Street  
Lakeland, Florida 33801-5050  
/

Enclosed is Permit Number AC 53-190437/PSD-FL-166 to install a combined cycle gas turbine plant at the existing Charles Larsen power plant in Lakeland, Polk County, Florida, issued pursuant to Section(s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
C. H. Fancy, P.E., Chief  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400  
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 7-26-91 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,  
on this date, pursuant to  
§120.52(11), Florida Statutes,  
with the designated Department  
Clerk, receipt of which is hereby  
acknowledged.

  
(Clerk)

7-26-91  
(Date)

Copies furnished to:

J. Harper, EPA  
S. Day, B&V  
H. Kerns, SW District  
D. Schultz, B&V  
C. Shaver, NPS

CC: Bill Rodriguez  
Ed McDonald  
Chuck Garing



Final Determination

City of Lakeland-Charles Larsen Power Plant  
Lakeland, Florida

120 MW Combined Cycle Gas Turbine System

Permit Number: AC 53-190437  
PSD-FL-166

Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

July 19, 1991

## Final Determination

The Technical Evaluation and Preliminary Determination for the permit to install a combined cycle gas turbine at the City of Lakeland-Charles Larsen power plant in Lakeland, Polk County, Florida, was distributed on March 15, 1990. The Notice of Intent to Issue was published in the Lakeland Ledger on April 3, 1991. Copies of the evaluation were available for public inspection at the Department's Tampa and Tallahassee offices.

The City of Lakeland's (City) permit application has been reviewed and the Final Determination made by the Division of Air Resources Management. EPA Region IV indicated in their April 4 letter (attachment 2) that they had no adverse comments on the Technical Evaluation and Preliminary Determination (TE & PD). Comments were received from the City of Lakeland dated April 3 and May 15, 1991 (see attachments 1 and 4) and from the National Park Service (NPS) dated May 3, 1991 (attachment 3). The Division concurs with the City's comments concerning the narrative portion of the TE & PD and the comments will become part of the permit file. The NPS and the City's comments which pertain to BACT and Air Quality Analysis are addressed as follows:

### BACT

The City would like a 33 percent instead of the proposed 25 percent capacity limit when using oil. In their May 15 letter they provided several supporting reasons as follows:

- a. Limiting the oil to a maximum sulfur content of 0.2 percent is lower than recent permit applications of 0.3 to 0.5 percent sulfur.
- b. The planned improvements will retire an existing 2.5 percent sulfur unit at the same facility.
- c. The higher capacity limit is consistent with permit conditions being revised for the City of Vero Beach, should low NOx burners be installed.
- d. Most 25 percent capacity limitations on other Florida projects have 65 ppmvd instead of the 42 ppmvd limit on the City's proposed facility.
- e. Increased concern for natural gas capacity given existing uses and proposals to build new facility with generation exceeding 3500MW over the next 8-10 years.

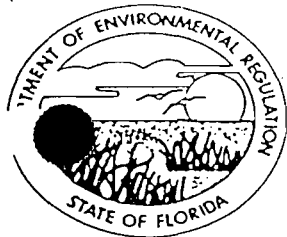
Considering the use of low NOx burners (emission rate of 42 ppmvd) and the use of 0.2 percent maximum sulfur No. 2 fuel oil to limit the SO<sub>2</sub> emissions, DER is willing to allow up to 33% capacity limit for oil firing or 2925 hours per year.

Air Quality Analysis

NPS found the City's dispersion modeling analysis to be deficient since it lacked cumulative Class I increment analysis including all increment consuming sources impacting Chassahowitzka Wilderness Area. The NPS is becoming increasingly concerned about the cumulative impact of emissions on resources, such as lichens and bryophytes, that are known to be particularly sensitive to SO<sub>2</sub>. They are also concerned about the acidification of surface water in the Wilderness Area due to increased sulfur and nitrogen deposition. They state that, "Acidification can have serious implications not only to invertebrates and fish but... species higher on the food chain... such as alligator, pelican, and bald eagle."

The Department agrees on the necessity to evaluate the total ambient pollution levels in the Wilderness Area. The Department agrees that future applicants will be required to perform a cumulative analysis for all increment consuming sources impacting the Chassahowitzka Wilderness Area.

The final action of the Department will be to issue construction permit AC 53-190437/PSD-FL-166 as proposed in the Technical Evaluation and Preliminary Determination.



## Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

### PERMITTEE:

City of Lakeland  
501 E. Lemon Street  
Lakeland, Florida 32961

Permit Number: AC 53-190437

Expiration Date: March 30, 1993

County: Polk

Latitude/Longitude: 28°02'56"N  
81°55'25"W

Project: 120 MW Combined Cycle  
Gas Turbine

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of a 120 MW combined cycle gas turbine to be located at the City of Lakeland-Charles Larsen Power Plant in Lakeland, Florida. The turbine will fire natural gas as the primary fuel and have limited hours firing No. 2 fuel oil. The turbine is a GE PG7111 (EA) Frame 7 unit with water injection to reduce NOx emissions. Fuel flow rate for natural gas is 17,333 scfm @ ISO and 124.2 gal/min @ ISO for No. 2 fuel oil. The UTM coordinates are 409.185 km East and 3102.754 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. City of Lakeland-Charles Larsen Power Plant's letter dated April 3, 1991.
2. EPA Region IV letter dated April 4, 1991.
3. National Park Service's letter dated May 3, 1991.
4. City of Lakeland's letter dated May 15, 1991.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

GENERAL CONDITIONS:

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

GENERAL CONDITIONS:

- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
  - the person responsible for performing the sampling or measurements;
  - the dates analyses were performed;
  - the person responsible for performing the analyses;
  - the analytical techniques or methods used; and
  - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Emission Limits

1. The maximum allowable emissions from this facility shall not exceed the emission rates listed in Table 1.

2. Unless the Department has determined other concentrations are required to protect public health and safety, predicted acceptable ambient air concentrations (AAC) of the following pollutants shall not be exceeded:



PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

SPECIFIC CONDITIONS:

Pollutant	Acceptable Ambient Concentrations		
	8-hrs	24-hrs	Annual
Beryllium	0.02	0.005	0.0004
Lead	1.5	0.36	0.09
Inorganic mercury compounds, all forms of vapor, as Hg	-	-	0.3

3. Visible emissions shall not exceed 10% opacity.

Operating Rates.

4. This source is allowed to operate continuously (8760 hours per year).

5. This source is allowed to use natural gas as the primary fuel and No. 2 distillate oil as the secondary fuel (limited as shown in Specific Condition 6 below).

6. The permitted materials and utilization rates for the combined cycle gas turbine shall not exceed the values as follows:

- Maximum No. 2 fuel oil consumption shall not exceed either of the following limitations: 8,190 gals/hr; 23,914,800 gals/yr.
- Maximum annual firing using No. 2 fuel oil shall not exceed 1/3 of the annual capacity factor.
- Maximum sulfur (S) content in the No. 2 fuel oil shall not exceed 0.20 percent by weight.
- Maximum heat input shall not exceed 1055 MMBtu/hr (gas) or 1040 MMBtu/hr No. 2 fuel (oil).

7. Any change in the method of operation, equipment or operating hours shall be submitted to the DER's Bureau of Air Regulation and Southwest District offices.

8. Any other operating parameters established during compliance testing and/or inspection that will ensure the proper operation of this facility shall be included in the operating permit.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

SPECIFIC CONDITIONS:

Compliance Determination

9. Initial (I) compliance tests shall be performed on each CT using both fuels. The stack test for each turbine shall be performed within 10 percent of the maximum heat rate input for the tested operating temperature. Annual (A) compliance tests shall be performed on each CT with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

- a. 5 or 17 for PM (I, A, for oil only)
- b. 10 for CO (I)
- c. 9 for VE (I, A)
- d. 20 for NO<sub>x</sub> (I, A)
- e. Trace elements of Beryllium (Be) shall be tested (I, for oil only) using EMTIC Interim Test Method. As an alternative, Method 104 may be used; or Be may be determined from fuel sample analysis using either Method 7090 or 7091, and sample extraction using Method 3040 as described in the EPA solid waste regulations SW 846.
- f. Mercury (Hg) shall be tested using EPA Method 101 (40 CFR 61, Appendix B) (I, for oil only) or fuel sampling analysis using methods acceptable to the Department.

Other DER approved methods may be used for compliance testing after prior Departmental approval.

10. Method 5 or 17 must be used to determine the initial compliance status of this unit. Thereafter, the opacity emissions test may be used unless 10% opacity is exceeded.

11. Compliance with the SO<sub>2</sub> emission limit can also be determined by calculations based on fuel analysis using ASTM D2880-71 for the sulfur content of liquid.

12. Compliance with the total volatile organic compound emission limits will be assumed, provided the CO allowable emission rate is achieved; specific VOC compliance testing is not required.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

SPECIFIC CONDITIONS:

13. During performance tests, to determine compliance with the proposed NO<sub>x</sub> standard, measured NO<sub>x</sub> emission at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_x \text{ obs}) \left( \frac{P_{\text{ref}}}{P_{\text{obs}}} \right)^{0.5} e^{19(H_{\text{obs}} - 0.00633)} \left( \frac{288^\circ K}{T_{\text{AMB}}} \right)^{1.53}$$

where:

NO<sub>x</sub> = Emissions of NO<sub>x</sub> at 15 percent oxygen and ISO standard ambient conditions.

NO<sub>x</sub> obs = Measured NO<sub>x</sub> emission at 15 percent oxygen, ppmv.

P<sub>ref</sub> = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P<sub>obs</sub> = Measured combustor inlet absolute pressure at test ambient pressure.

H<sub>obs</sub> = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T<sub>AMB</sub> = Temperature of ambient air at test.

14. Test results will be the average of 3 valid runs. The Southwest District office will be notified at least 30 days in advance of the compliance test. The source shall operate between 90% and 100% of permitted capacity during the compliance test. Compliance test results shall be submitted to the Southwest District office no later than 45 days after completion.

15. Water injection shall be utilized for NO<sub>x</sub> control. The water to fuel ratio at which compliance is achieved shall be incorporated into the permit and shall be continuously monitored. In addition, the Permittee shall install a duct module suitable for future installation of SCR equipment.

16. To determine compliance with the capacity factor condition for oil firing, the Permittee shall maintain daily records of fuel usage. All records shall be maintained for a minimum of three years after the date of each record and shall be made available to representatives of the Department upon request.

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

SPECIFIC CONDITIONS:

17. Sulfur, nitrogen content and lower heating value of the fuel being fired in the gas turbine shall also be recorded per fuel oil shipment. These records shall also be kept by the company for at least three years and made available for regulatory agency's inspection.

18. Compliance with the acceptable ambient concentrations for Be, Lead, and Hg emissions shall be demonstrated based on calculations certified by a Professional Engineer registered in Florida, using actual operating conditions. Determination of the ambient concentrations for chemical compounds shall be determined by Department approved dispersion modeling. This compliance determination shall be made available upon request.

Rule Requirements

19. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes and Chapters 17-2 and 17-4, Florida Administrative Code.

20. This source shall comply with all requirements of 40 CFR 60, Subpart GG and F.A.C. Rule 17-2.660(2)(a), Standards of Performance for Stationary Gas Turbines.

21. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-2.210(1)).

22. This source shall comply with F.A.C. Rule 17-2.700, Stationary Point Source Emission Test Procedures.

23. Pursuant to F.A.C. Rule 17-2.210(2), Air Operating Permits, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. These reports shall include, but are not limited to the following: sulfur, nitrogen content and lower heating value of the fuel being fired, fuel usage, hours of operation, air emissions limits, etc. Annual reports shall be sent to the Department's Southwest District office.

24. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

PERMITTEE:  
City of Lakeland

Permit Number: AC 53-190437  
Expiration Date: March 30, 1993

SPECIFIC CONDITIONS:

25. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 25<sup>th</sup> day  
of July, 1991

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

Carol M. Browner  
Carol M. Browner, Secretary

TABLE 1  
ALLOWABLE EMISSION LIMITS  
Combined Cycle Combustion Turbine

Pollutant	Standards		Gas Turbine and HRSG <sup>(a)</sup>		Basis
	Gas Firing	No. 2 Fuel Oil Firing	Tons Per Year		
			Gas	Oil	
NO <sub>x</sub>	25 ppm at 15% oxygen on a dry basis	42 ppmv at 15 percent oxygen on a dry basis	425	244	BACT
SO <sub>2</sub>	Natural gas as fuel	0.2 percent S by weight	2.6	307	BACT
PM/PM <sub>10</sub>	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22	BACT
VOC	-	-	9	6.7	BACT
CO	-	-	232	79	BACT
Mercury (Hg)	-	3.0 x 10 <sup>-6</sup> lbs/MMBtu	-	.003	Est. by Appl.
Lead (Pb)	-	2.8 x 10 <sup>-5</sup> lbs/MMBtu	-	0.03	" "
Beryllium (be)	-	2.5 x 10 <sup>-6</sup> lbs/MMBtu	-	.003	BACT
Sulfuric Acid Mist	Natural gas as fuel	Low sulfur content oil	-	3.2 x 10 <sup>-3</sup>	BACT

(a) Emissions rates based on 100 percent capacity factor for natural gas and 1/3 capacity factor for oil firing.

## Best Available Copy

### Best Available Control Technology (BACT) Determination City of Lakeland-Charles Larsen Power Plant Polk County

The applicant proposes to install a combustion turbine generator at their facility in Lakeland. The generator system will consist of a single nominal 80 megawatt (MW) combustion turbine, and a single heat recovery steam generator (HRSG) which will be used to repower an existing nominal 40 MW steam turbine.

The combustion turbine will be capable of both combined cycle and simple cycle operation. The applicant requested that the combustion turbine use either natural gas or distillate oil. The applicant has indicated the maximum annual tonnage of regulated air pollutants emitted from the facility based on 100 percent capacity and type of fuel fired at ISO conditions to be as follows:

Pollutant	Potential Emissions (tons/yr)		PSD Significant Emission Rate (tons/yr)
	Natural Gas	Fuel Oil	
NOx	425	732	40
SO <sub>2</sub>	2.6	920	40
PM	22.0	66	25
PM <sub>10</sub>	22.0	66	15
CO	232	237	100
VOC	9	20.0	40
H <sub>2</sub> SO <sub>4</sub>	0.8	27.4	7
Be	0.0	0.01	0.0034
Hg	0.0	0.01	0.1
Pb	0.0	0.12	0.1

Florida Administrative Code Rule 17-2.500(2)(f)(3) requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in the previous table.

#### Date of Receipt of a BACT Application

December 17, 1990

### BACT Determination Requested by the Applicant

<u>Pollutant</u>	<u>Determination</u>
NOx	25 ppmvd @ 15% O <sub>2</sub> (natural gas burning) 42 ppmvd @ 15% O <sub>2</sub> (diesel oil firing)
SO <sub>2</sub>	Firing of natural gas or No. 2 fuel oil with a maximum sulfur content of 0.20%
PM and PM <sub>10</sub>	Combustion control
H <sub>2</sub> SO <sub>4</sub>	Firing of No. 2 fuel oil with a maximum sulfur content of 0.20%.
Be	Firing of No. 2 fuel oil

### BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.



The air pollutant emissions from combined cycle power plants can be grouped into categories based upon what control equipment and techniques are available to control emissions from these facilities. Using this approach, the emissions can be classified as follows:

- o Combustion Products (Particulates and Heavy Metals). Controlled generally by good combustion of clean fuels.
- o Products of Incomplete Combustion (CO, VOC, Toxic Organic Compounds). Control is largely achieved by proper combustion techniques.
- o Acid Gases (SOx, NOx, HCl, F1). Controlled generally by gaseous control devices.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "nonregulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., particulates, sulfur dioxide, fluorides, sulfuric acid mist, etc.), if a reduction in "nonregulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

#### Combustion Products

The City of Lakeland's projected emissions of particulate matter, PM<sub>10</sub>, and beryllium surpass the significant emission rates given in Florida Administrative Code Rule 17-2.500, Table 500-2 for No. 2 fuel oil firing only.

A PM/PM<sub>10</sub> emissions limitation of .025 lb/MMBtu for No. 2 fuel oil firing is reasonable as BACT for the Lakeland facility.

In general, the BACT/LAER Clearinghouse does not contain specific emission limits for beryllium from turbines. BACT for these heavy metals is typically represented by the level of particulate control. As this is the case, the emission factor of .025 lb/MMBtu for particulate matter PM<sub>10</sub> is judged to also represent BACT for beryllium.

#### Products of Incomplete Combustion

The emissions of carbon monoxide exceeds the significant level and therefore requires a BACT analysis.

At the proposed BACT NO<sub>x</sub> emissions of 25/42 ppmvd (gas/oil) the turbine will be capable of maintaining CO emission rates of 25 ppmvd for either natural gas or No. 2 fuel oil. The applicant states that catalytic reduction could be installed at a levelized cost of 1.0 million/year to further reduce the CO emissions by 140 tons/year while burning natural gas (8760 hrs/yr). The incremental removal cost of using such control would be approximately \$7340/ton of CO removed. This cost exceeds that which is consistent with BACT and is not economically justifiable.

#### Acid Gases

The emissions of sulfur dioxide, nitrogen oxides, and sulfuric acid mist, represent a significant proportion of the total emissions and need to be controlled if deemed appropriate. Sulfur dioxide emissions from combustion turbines are directly related to the sulfur content of the fuel being combusted.

The applicant has proposed the use of natural gas and No. 2 fuel oil with a maximum sulfur content of 0.20% to control sulfur dioxide emissions. A review of the latest edition (1990) of the BACT/LAER Clearinghouse indicates that sulfur dioxide emissions from combustion turbines have been controlled by limiting fuel oil sulfur content to a range of 0.1 to 0.3%, with the average for the facilities listed being approximately 0.24 percent. As this is the case, the applicant's proposal to use No. 2 fuel oil with a maximum sulfur content of 0.20% is judged to represent BACT.

The applicant has stated that BACT for nitrogen oxides will be met by using wet (water or steam) injection necessary to limit emissions to 42 ppmvd or 25 ppmvd at 15% oxygen when burning No. 2 fuel oil or natural gas, respectively.

A review of the EPA's BACT/LAER Clearinghouse indicates that the lowest NO<sub>x</sub> emission limit established to date for a combustion turbine is 4.5 ppmvd at 15% percent oxygen. This level of control was accomplished through the use of water injection and a selective catalytic reduction (SCR) system.

Selective catalytic reduction is a post-combustion method for control of NO<sub>x</sub> emissions. The SCR process combines vaporized ammonia with NO<sub>x</sub> in the presence of a catalyst to form nitrogen and water. The vaporized ammonia is injected into the exhaust gases prior to passage through the catalyst bed. The SCR process can achieve up to 90% reduction of NO<sub>x</sub> with a new catalyst. As the catalyst ages, the maximum NO<sub>x</sub> reduction will decrease to approximately 86 percent.

Given the applicant's proposed BACT level for nitrogen oxides control stated above, an evaluation can be made of the cost and associated benefit of using SCR as follows:

The applicant has indicated that the total levelized annual cost (operating plus amortized capital cost) to install SCR for natural gas firing at 100 percent capacity factor is \$2,190,000. Taking into consideration the total levelized annual cost, a cost/benefit analysis of using SCR can now be developed.

Based on the information supplied by the applicant, it is estimated that the maximum annual NOx emissions with wet injection from the Lakeland facility will be 425 tons/year. Assuming that SCR would reduce the NOx emissions by an additional 80-85%, the SCR would control at least 340 tons of NOx annually for natural gas firing. When this reduction is taken into consideration with the total levelized annual cost of \$2,190,000, the cost per ton of controlling NOx is \$6,441. This calculated cost is higher than has previously been approved as BACT.

Since SCR has been determined to be BACT for several combined cycle facilities, the EPA has clearly stated that there must be unique circumstances to consider the rejection of such control on the basis of economics.

In a recent letter from EPA Region IV to the Department regarding the permitting of a combined cycle facility (Tropicana Products, Inc.), the following statement was made:

"In order to reject a control option on the basis of economic considerations, the applicant must show why the costs associated with the control are significantly higher for this specific project than for other similar projects that have installed this control system or in general for controlling the pollutant."

A review of the combined cycle facilities in which SCR has been established as a BACT requirement indicates that the majority of these facilities are also intended to operate at high capacity factors. As this is the case, the proposed project is similar to other facilities in which SCR has been established as BACT, thereby supporting SCR as BACT for the proposed facility.

For fuel oil firing, the cost associated with controlling NOx emissions must take into account the potential operating problems that can occur with using SCR in the oil firing mode.

A concern associated with the use of SCR on combined cycle projects is the formation of ammonium bisulfate. For the SCR process, ammonium bisulfate can be formed due to the reaction of sulfur in the fuel and the ammonia injected. The ammonium bisulfate formed has a tendency to plug the tubes of the heat recovery steam generator leading to operational problems. As this is the case, SCR has been judged to be technically infeasible for oil firing in some previous BACT determinations.

The latest information available now indicates that SCR can be used for oil firing provided that adjustments are made in the ammonia to NOx injection ratio. For natural gas firing operation NOx emissions can be controlled with up to a 90 percent efficiency using a 1 to 1 or greater injection ratio. By lowering the injection ratio for oil firing, testing has indicated that NOx can be controlled with efficiencies ranging from 60 to 75 percent. When the injection ratio is lowered there is not a problem with ammonium bisulfate formation since essentially all of the ammonia is able to react with the nitrogen oxides present in the combustion gases.

Based on this strategy SCR has been both proposed and established as BACT for oil fired combined cycle facilities with NOx emission limits ranging from 11.7 to 25 ppmvd depending on the efficiency of control established.

Assuming that the lowered ammonia injection ratio strategy was used to control NOx emissions by 65%, the SCR would control 386 tons of NOx annually for oil/gas firing, assuming a maximum capacity factor of 33 percent on oil. When this reduction is taken into consideration with the total annual cost of \$2,190,000, the cost per ton of controlling NOx is \$5,674. This cost is lower than that determined for natural gas firing alone; however, it is still higher than what has been previously accepted as BACT.

#### Environmental Impact Analysis

The predominant environmental impacts associated with this proposal are related to the use of SCR for NOx control. The use of SCR results in emissions of ammonia, which may increase with increasing levels of NOx control. In addition, some catalysts may contain substances which are listed as hazardous waste, thereby creating an additional environmental burden. Although the use of SCR does have some environmental impacts, the disadvantages do not outweigh the benefit which would be provided by reducing nitrogen oxide emissions by 80 percent. The overwhelming benefit of NOx control by using SCR is substantiated by the fact that nearly one half of all BACT determinations have established SCR as the control measure for nitrogen oxides over the last five years.

In addition to the criteria pollutants, the impacts of toxic pollutants associated with the combustion of natural gas and No. 2 fuel oil have been evaluated. Beryllium for oil fired operation exceeds PSD significant levels. Other toxics are expected to be emitted in minimal amounts, with the total emissions combined to be less than 0.1 tons per year.

Although the emissions of the toxic pollutants could be controlled by particulate control devices such as a baghouse or scrubber, the amount of emission reductions would not warrant the added expense. As this is the case, the Department does not believe that the BACT determination would be affected by the emissions of the toxic pollutants associated with the firing of natural gas or No. 2 fuel oil.

### Potentially Sensitive Concerns

With regard to controlling NOx emissions with SCR, the applicant has identified the following technical limitations:

1. SCR would reduce output of combustion turbines by one percent.
2. SCR could result in the release of unreacted quantities of ammonia to the atmosphere.
3. SCR would require handling of ammonia by plant operators. Since it is a hazardous material, there is a concern about safety and productivity of operators.
4. SCR results in contaminated catalyst from flue gas trace elements which could be considered hazardous. Safety of operators and disposal of spent catalyst is a concern.

### BACT Determination by DER

#### NOx Control

A review of the permitting activities for combined cycle proposals across the nation indicates that SCR has been required and most recently proposed for installations with a variety of operating conditions (i.e., natural gas, fuel oil, capacity factors ranging from low to high). However, the cost and other concerns expressed by the applicant are valid.

The information that the applicant presented and Department calculations indicates that the incremental cost of controlling NOx (\$6,441/ton) for natural gas is high compared to other BACT determinations which require SCR. However, the cost of controlling NOx emissions for oil firing (\$4,600/ton) could be considered reasonable. Based on the information presented by the applicant and the studies conducted, the Department believes that the use of SCR for NOx control is not justifiable at this time as BACT. Therefore, the Department is willing to accept low NOx combustors with the firing of natural gas as the primary fuel. However, No. 2 distillate oil firing must be limited to 1/3 of the annual capacity factor. The applicant is also expected to design the facility to accommodate SCR should additional oil usage become necessary and SCR becomes a BACT requirement in the future.

#### SO<sub>2</sub> Control

For sulfur dioxide BACT is represented by firing natural gas or No. 2 fuel oil with an average sulfur content not to exceed 0.20 percent.

### Other Emissions Control

The emission limitations for PM and PM<sub>10</sub>, are based on previous BACT determinations for similar facilities, with the heavy metal beryllium being addressed through the particulate limitation and sulfuric acid mist being addressed through the sulfur dioxide limitation.

The emission limits for the City of Lakeland project are thereby established as follows:

Pollutant	Emission Limit	
	Natural Gas Firing	No. 2 Fuel Oil Firing
NOx	25 ppmvd @ 15% O <sub>2</sub>	42 ppmvd @ 15% O <sub>2</sub> *
SO <sub>2</sub>	Natural gas as fuel	Sulfur content not to exceed 0.20%
CO	25 ppmvd @ 15% O <sub>2</sub>	25 ppmvd @ 15% O <sub>2</sub>
PM & PM <sub>10</sub>	0.006 lb/MMBtu	0.025 lb/MMBtu
Sulfuric Acid Mist	Emissions limited by natural gas and No. 2 fuel oil firing	
Beryllium	Emissions limited by natural gas and No. 2 fuel oil firing	

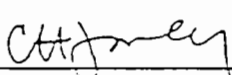
\* No. 2 fuel oil usage limited to 1/3 of the total heat input on an annual basis.

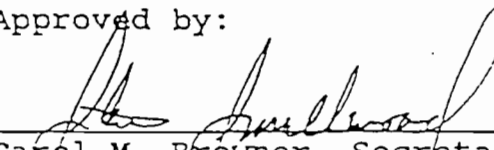
### Details of the Analysis May be Obtained by Contacting:

Preston Lewis, P.E., BACT Coordinator  
Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

  
C. H. Fancy, P.E., Chief  
Bureau of Air Regulation

  
Carol M. Browner, Secretary  
Dept. of Environmental Regulation

Date

July 19, 1991

Date

July 26, 1991

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

☒ [ x ] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

☒ [ x ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
(Regulated and Unregulated Emissions Units)**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Gas Turbine Peaking Units 1, 2 and 3</b>		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown *		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <b>*ARMS IDs: 007, 006, 005. Fired with diesel (No. 2) fuel and natural gas. Generator nameplate for all 3 units combined which have been regulated collectively.</b>		



**Emissions Unit Control Equipment Information****A.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

### C. EMISSIONS UNIT DETAIL INFORMATION (Regulated Emissions Units Only)

#### Emissions Unit Details

1. Initial Startup Date:	1 Jan 1973		
2. Long-term Reserve Shutdown Date:			
3. Package Unit: Manufacturer:	Model Number:		
4. Generator Nameplate Rating:	34 MW		
5. Incinerator Information:			
	Dwell Temperature:	°F	
	Dwell Time:	seconds	
	Incinerator Afterburner Temperature:	°F	

#### Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	209	mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day	
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters):			
<p><b>Maximum heat input shown for both distillate oil and natural gas for each gas turbine. MW rating is 34.5 MW for 3 turbines (11.5 MW each).</b></p>			

#### Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day	days/week	
	weeks/yr	8,760 hours/yr	

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment LR-EU4-D

**E. EMISSION POINT (STACK/VENT) INFORMATION**  
**(Regulated Emissions Units Only)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:  See Att. LR-EU4-L1		
2. Emission Point Type Code:  [ ] 1      [ ] 2      [ <b>x</b> ] 3      [ ] 4		
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  Each gas turbine has a single emission point.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: [ ] D      [ ] F      [ ] H      [ ] P [ ] R      [ <b>x</b> ] V      [ ] W		
6. Stack Height:	31	feet
7. Exit Diameter:	11.8	feet
8. Exit Temperature:	800	°F

9. Actual Volumetric Flow Rate:	662,400 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone: 17	East (km): 409.1 North (km): 3102.8
14. Emission Point Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
(Regulated and Unregulated Emissions Units)**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Distillate (No. 2) fuel oil</b>	
2. Source Classification Code (SCC):  <b>2-01-001-01</b>	
3. SCC Units:  <b>1000 gallons</b>	
4. Maximum Hourly Rate:  <b>1.475</b>	5. Maximum Annual Rate:  <b>12,921</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>0.5</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:  <b>150</b>	
10. Segment Comment (limit to 200 characters):  <b>Fuel usage for each gas turbine.</b>	

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural gas</b>	
2. Source Classification Code (SCC): <b>2-01-002-01</b>	
3. SCC Units: <b>Million Cubic Feet</b>	
4. Maximum Hourly Rate: <b>0.226</b>	5. Maximum Annual Rate: <b>1,985</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>1,024</b>	
10. Segment Comment (limit to 200 characters): <b>Fuel usage based on 1,024 BTU/CF natural gas which is a typical average.</b>	



**G. EMISSIONS UNIT POLLUTANTS**  
**(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
SO2			EL
NOX			NS
CO			NS
VOC			NS
PM10			NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO<sub>2</sub></b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	<b>106.2 lb/hour</b>	<b>465.2 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor: <b>0.5 % sulfur fuel</b>  Reference: Oper. permit limit		
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>1,475 gal/hr x 7.2 lb/gal x 0.005 lbs/lb fuel x 2 lb SO<sub>2</sub>/lbs = 106.2 lb/hr; 106.2 lb/hr x 8760 hr/yr x ton/2000 lb = 465.2 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emissions for distillate oil firing for each gas turbine.</b>		

Emissions Unit Information Section 4 of 5  
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: <b>Other</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.5 % sulfur</b>		
4. Equivalent Allowable Emissions:	<b>106.2 lb/hour</b>	<b>465.2 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>Fuel analysis; vendor supplied</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>Operating Permit Limit</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION**  
(Regulated Emissions Units Only)**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: <b>VE20</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: <b>20.</b> %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance: <b>Annual VE test; EPA Method 9 if &gt; 400 hrs/yr</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-296.320(4)(b)1.; 62-297.310(7)(a)8.</b>

**Visible Emissions Limitations:** Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: <b>VE99</b>
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions:      %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>None</b>
5.	Visible Emissions Comment (limit to 200 characters): <b>FDEP Rule 62-210.700(1) allowed for 2 hours (120 minutes) per 24-hour for startup, shutdown or malfunction.</b>

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)****Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**Continuous Monitoring System** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ☒ None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☒ None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO <sub>2</sub>	lb/hour	tons/year	
NO <sub>2</sub>		tons/year	
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**  
(Regulated Emissions Units Only)**Supplemental Requirements for All Applications**

1.	Process Flow Diagram		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU4-L1</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
2.	Fuel Analysis or Specification		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU4-L2</u>	<input type="checkbox"/>	Waiver Requested
<input type="checkbox"/>	Not Applicable		
3.	Detailed Description of Control Equipment		
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/>	Waiver Requested
<input checked="" type="checkbox"/>	Not Applicable		
4.	Description of Stack Sampling Facilities		
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/>	Waiver Requested
<input checked="" type="checkbox"/>	Not Applicable		
5.	Compliance Test Report		
<input type="checkbox"/>	Attached, Document ID: _____	<input type="checkbox"/>	Not Applicable
<input checked="" type="checkbox"/>	Previously Submitted, Date: _____		
6.	Procedures for Startup and Shutdown		
<input checked="" type="checkbox"/>	Attached, Document ID: <u>LR-EU4-L6</u>	<input type="checkbox"/>	Not Applicable
<input type="checkbox"/>	Not Applicable		
7.	Operation and Maintenance Plan		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable
<input type="checkbox"/>	Not Applicable		
8.	Supplemental Information for Construction Permit Application		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable
<input type="checkbox"/>	Not Applicable		
9.	Other Information Required by Rule or Statute		
<input type="checkbox"/>	Attached, Document ID: _____	<input checked="" type="checkbox"/>	Not Applicable
<input type="checkbox"/>	Not Applicable		



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input checked="" type="checkbox"/> Attached, Document ID: <u>LR-EU4-L10</u> <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required)
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input checked="" type="checkbox"/> Not Applicable

**ATTACHMENT LR-EU4-D**  
**EMISSIONS UNIT REGULATIONS**

ATTACHMENT LR-EU4-D  
Applicable Requirements Listing - Power Plants Non-Acid/NSPS Rain Units

EMISSION UNIT ID: EU4 - Larsen Plant - Gas Turbine Peaking Units 1-3

FDEP Rules:

Stationary Sources-General:

- 62-210.700(1) - Excess Emissions (startup/shutdown/malfunction)
- 62-210.700(4) - Poor Maintenance
- 62-210.700(6) - Notification

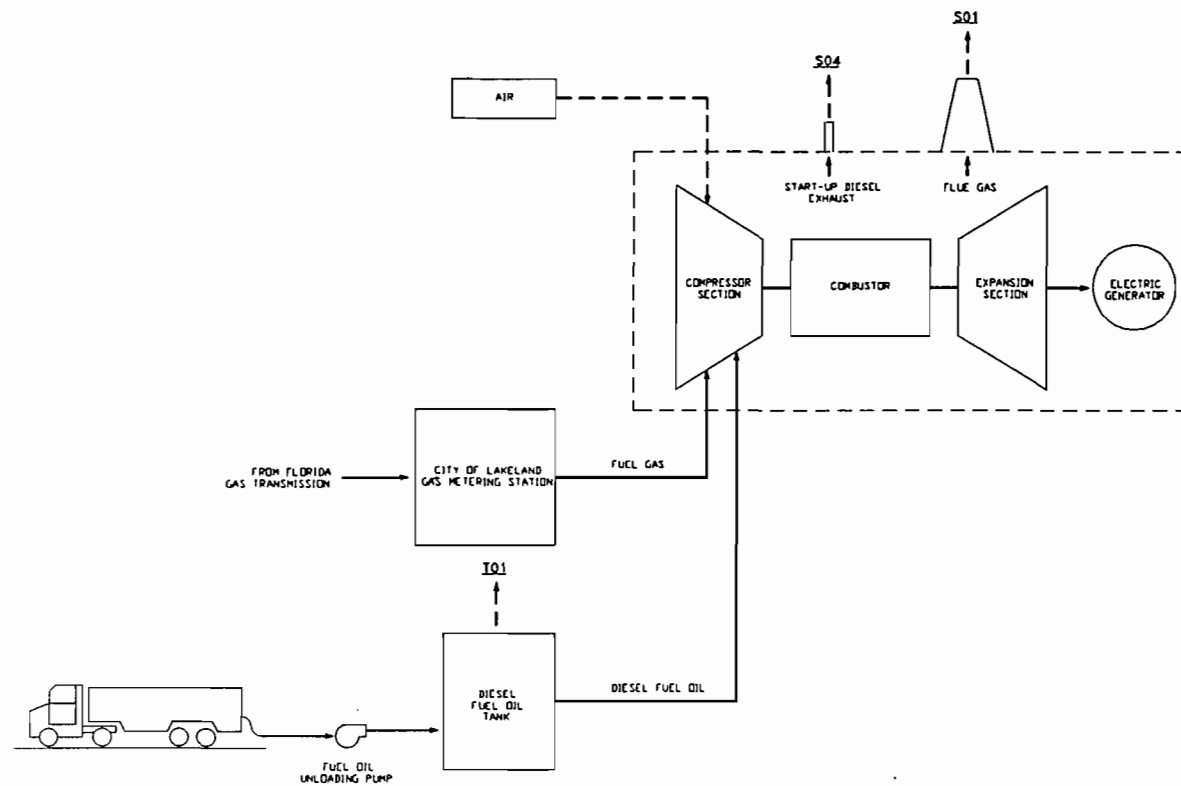
Stationary Sources-Emission Standards/RACT:


- 62-296.320(4)(b) - General VE

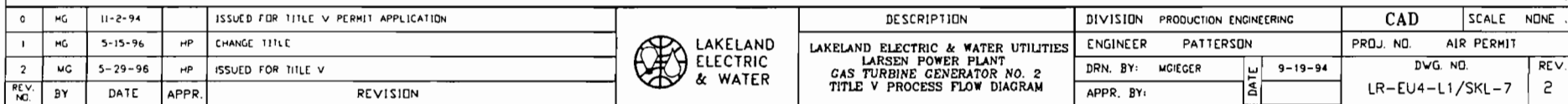
Stationary Sources-Emission Monitoring:

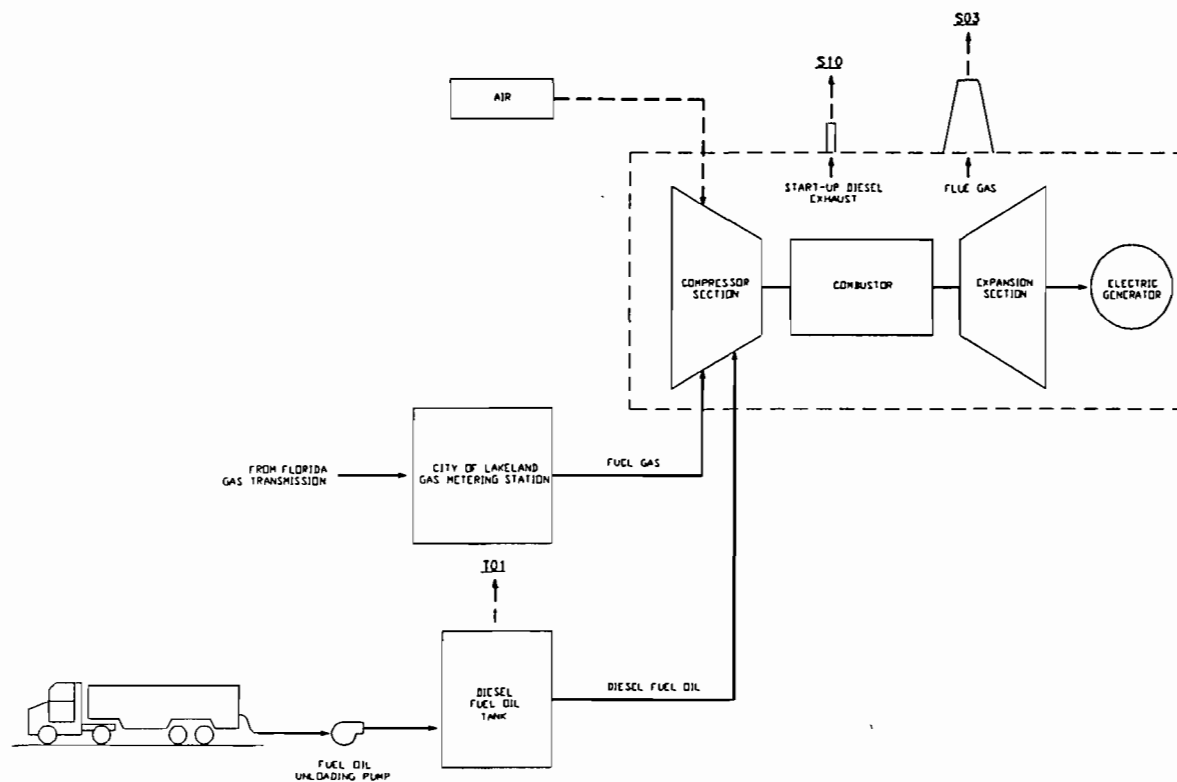
- 62-297.310(2)(a) - Operating Rate; reserved for CTs
- 62-297.310(4)(a)2. - Applicable Test Procedures; Sampling time
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.a. - Annual Test
- 62-297.310(7)(a)8 - CTs; Exempts Test <400hrs/yr; 1 per 5 yr
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(8)(a)(b) - Test Reports


**ATTACHMENT LR-EU4-L1**  
**PROCESS FLOW DIAGRAM**



0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION	 LAKELAND ELECTRIC & WATER	DESCRIPTION	DIVISION PRODUCTION ENGINEERING		CAD	SCALE NONE	
1	MG	5-15-96	HP	CHANGE TITLE		LAKELAND ELECTRIC & WATER UTILITIES LARSEN POWER PLANT GAS TURBINE GENERATOR NO. 1 TITLE V PROCESS FLOW DIAGRAM	ENGINEER	PATTERSON	PROJ. NO.	AIR PERMIT	
2	MC	5-29-96	HP	ISSUED FOR TITLE V			DRN. BY: MGIEGER	DATE	9-19-94	DWG. NO.	REV.
REV. NO.	BY	DATE	APPR.	REVISION			APPR. BY:			LR-EU4-L1/SKL-6	2





0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION	 <b>LAKELAND ELECTRIC &amp; WATER</b>	DESCRIPTION	DIVISION	PRODUCTION ENGINEERING	CAD	SCALE	NONE
1	MG	5-15-96	HP	CHANGE TITLE		LAKELAND ELECTRIC & WATER UTILITIES LARSEN POWER PLANT GAS TURBINE GENERATOR NO. 3 TITLE V PROCESS FLOW DIAGRAM	ENGINEER	PATTERSON	PROJ. NO.	AIR PERMIT	
2	MG	5-29-96	HP	ISSUED FOR TITLE V			DRN. BY:	MCIEGER	DATE	9-19-94	DWG. NO. LR-EU4-L1/SKL-8
REV. NO.	BY	DATE	APPR.	REVISION			APPR. BY:				REV. 2

**ATTACHMENT LR-EU4-L2**  
**FUEL ANALYSIS OR SPECIFICATION**



Attachment LR-EU4-L2

Fuel Analysis

Natural Gas Analysis

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
Relative density	0.58 (compared to air)	
heat content	950 - 1124 Btu/cu ft. (HHV)	
% sulfur	0.43 grains/CCF <sup>1</sup>	1 grain/100 CF
% nitrogen	0.8% by volume	
% ash	negligible	

Note: The values listed are "typical" values based upon information supplied by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

Attachment LR-EU4-L2

Fuel Analysis

No. 2 Fuel Oil

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	6.92 lb/gal <sup>2</sup>	
Heat content	18,400 Btu / lb (LHV)	
% sulfur	< 0.5 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.030	
% ash	negligible	0.01 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

**ATTACHMENT LR-EU4-L6**  
**STARTUP AND SHUTDOWN PROCEDURES**

**ATTACHMENT LR-EU4-L6**  
**PROCEDURES FOR STARTUP/SHUTDOWN**

Startup and shutdown for these units are fully automatic.

Startup for the combustion turbine begins with "lighting off" of the machines on either natural gas or light distillate oil.

Corrective actions may include switching the unit from automatic (remote) to local control, or changing fuel combination(s). Best operating practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit from the system electrical grid), shutting off the fuel and coasting down to stop. The CT is then put "on turning gear" to prevent possible disfiguration of the turbine components.

**ATTACHMENT LR-EU4-L10**  
**ALTERNATIVE METHODS OF OPERATION**

**ATTACHMENT LR-EU4-L10**  
**ALTERNATIVE METHODS OF OPERATION**  
**GAS TURBINES**

The gas turbine can operate on both natural gas and No. 2 fuel oil. The maximum sulfur content in the fuel oil shall not exceed 0.5 percent. This unit can operate for the entire year (i.e., 8,760 hours) and can fire either fuel oil or natural gas fire with no restrictions on hours of operation.

**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ **x** ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? 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).

[ **x** ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Facility-wide Unregulated Units		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input checked="" type="checkbox"/> Unknown		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters):  <b>This emission unit information section pertains to all unregulated emission activities at the facility. All tanks with greater than 10,000 gallon capacity installed prior to July 23, 1984. See LR-EU5-B6.</b>		



**Emissions Unit Control Equipment Information****A.**1. Description (limit to 200 characters):  
  
  
  
  
  
  
  
  
  
2. Control Device or Method Code:  
  
  
  
  
  
  
  
  
  
**B.**1. Description (limit to 200 characters):  
  
  
  
  
  
  
  
  
  
2. Control Device or Method Code:  
  
  
  
  
  
  
  
  
  
**C.**1. Description (limit to 200 characters):  
  
  
  
  
  
  
  
  
  
2. Control Device or Method Code:

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)****Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Residual Oil</b>	
2. Source Classification Code (SCC):  <b>A2505030060</b>	
3. SCC Units:  <b>1,000 gallons</b>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:  <b>52,767</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):  <b>Annual rate based on inputs to FFFSG Units 6 and 7 (EU 1 and 2).</b>	

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Distillate Oil</b>	
2. Source Classification Code (SCC): <b>A2505030090</b>	
3. SCC Units: <b>1,000 gallons</b>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: <b>62,678</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): <b>Annual rate based on inputs to Combined Cycle Unit 8 (EU 3), and GTs 1, 2, and 3 (EU 4).</b>	

**G. EMISSIONS UNIT POLLUTANTS**  
**(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC			NS
PM			NS
NOX			NS

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ☒ None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

## 2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ☐ The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- ☐ For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- ☒ None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
SO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
NO <sub>2</sub>	<input type="checkbox"/> C	<input type="checkbox"/> E	<input checked="" type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO <sub>2</sub>	lb/hour	tons/year	
NO <sub>2</sub>		tons/year	
5. PSD Comment (limit to 200 characters):			

**ATTACHMENT LR-EU5-B6**  
**EMISSIONS UNIT COMMENT**

**ATTACHMENT LR-EU5-B6**  
**EMISSIONS UNIT COMMENT**

The emission unit contains identification of unregulated activities. Since some of the activities may have been or may be subject to permitting requirements, a notification of temporary exemption is provided.

**NOTIFICATION OF TEMPORARY EXEMPTIONS**

Pursuant to Rule 62-210.300(3)(b)1., notice is herein provide that the emissions units listed below are not subject to a permit issued by the Department of Environmental Protection and are exempt from permitting until a final determination is made under the Title V permitting requirements (Rule 62-213 F.A.C.). These units would not have triggered review under Rules 62-212.400 or 62-212.500 or any new source performance standard listed in Rule 62-204.800 F.A.C. The type of emission units for which this notification is made includes the following:

1. GT-1 Start-up Diesel,
2. GT-2 Start-up Diesel,
3. GT-3 Start-up Diesel,
4. Emergency Generators (Propane/Diesel; < 32,000 gal/yr),
5. General Purpose Diesel Engines (< 32,000 gal/yr),
6. Surface Coating (painting; < 6 gal/month average),
7. Sand Blasting (maintenance only) , and
8. Parts washing.