APPLICATION FOR
TITLE V AIR OPERATION PERMIT
CITY OF LAKELAND
LAKELAND, FLORIDA

Prepared For:
City of Lakeland
501 East Lemon Street, MS-AS2
Lakeland, Florida 33801

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

June 2007

07387542

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1 Copy – Golder Associates Inc.

APPLICATION FOR AIR PERMIT – LONG FORM

Department of Environmental Protection

Division of Air Resource Management

RECEIVED
JUN 26 2007
BUREAU OF AIR REGULATION

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **City of Lakeland**
2. Site Name: **Charles Larsen Memorial Power Plant**
3. Facility Identification Number: **1050003**
4. Facility Location...:
   Street Address or Other Locator: **2002 Highway 92 East**
   City: **Lakeland** County: **Polk** Zip Code: **33801**
5. Relocatable Facility? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Farzie Shelton, Assoc. General Manager of Technical Support**
2. Application Contact Mailing Address...
   Organization/Firm: **City of Lakeland**
   Street Address: **501 East Lemon Street, MS - AS2**
   City: **Lakeland** State: **FL** Zip Code: **33801-5079**
3. Application Contact Telephone Numbers...
   Telephone: **(863) 834-6603** ext. Fax: **(863) 834-6362**
4. Application Contact Email Address: **farzie.shelton@lakelandelectric.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:
2. Project Number(s): 1050003-014-AV
3. PSD Number (if applicable):
4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

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

Air Operation Permit

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

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

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

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

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

Application Comment

This application is for the renewal of the Title V permit No. 1050003-013-AV for the Charles Larsen Memorial Power Plant, which expires on December 31, 2007.

Per Title V Permit No. 1050003-013-AV, the facility consists of two fossil fuel-fired steam generators (Units 6 and 7), two simple-cycle turbine peaking units (Units 2 and 3), and one combined-cycle combustion turbine (Unit 8). Unit 6 is retired and the City of Lakeland requests to remove the emissions unit from the renewed Title V permit. Unit 7 is not operating and is in an cold shutdown situation. City of Lakeland has no immediate plans to bring it online. A compliance plan is attached for Unit 7.

Unregulated emissions units and/or activities at the facility are emergency generators (EU ID 009), general purpose engines (EU ID 010), surface coating (EU ID 011), sand blasting (EU ID 012), and parts washing (EU ID 013).

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
004	Fossil Fuel-Fired Steam Generator No. 7		
005	Peaking Gas Turbine No. 3		
006	Peaking Gas Turbine No. 2		
008	Combined-Cycle Combustion Turbine No. 8		

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name :

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

   Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:
   Mr. Timothy Bachand, P.E., Manager of Engineering

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☒ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **City of Lakeland**
   Street Address: **501 East Lemon Street**
   City: **Lakeland** State: **FL** Zip Code: **33801 - 5079**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(863) 834-6633** ext. Fax: **(863) 834-5670**

5. Application Responsible Official Email Address: **timothy.bachand@lakelandelectric.com**

6. Application Responsible Official Certification:
   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Signature 6/21/07 Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc. ****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext.**516** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **kkosky@golder.com**
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

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

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

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature 6/21/07
Date

(seal)

* Attach any exception to certification statement.
** Board of Professional Engineers Certificate of Authorization # 00001670

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **408.9** North (km) **3,102.5**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **28/02/56** Longitude (DD/MM/SS) **81/55/25**	
3. Governmental Facility Code: **4**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment : **Emission units designated in this application correspond to those in FDEP Permit No. 1050003-013-AV.**			

Facility Contact

1. Facility Contact Name: **Farzie Shelton, Assoc. General Manager of Technical Support**
2. Facility Contact Mailing Address... Organization/Firm: **City of Lakeland** Street Address: **501 East Lemon Street, MS - AS2** City: **Lakeland** State: **FL** Zip Code: **33801-5079**
3. Facility Contact Telephone Numbers: Telephone: **(863) 834-6603** ext. Fax: **(863) 834-6362**
4. Facility Contact Email Address: **farzie.shelton@lakelandelectric.com**

Facility Primary Responsible Official

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

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

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

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☐ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☐ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: **Combined-cycle CT 8 (EU 008) is subject to NSPS Subpart GG-Standards of Performance for Stationary Gas Turbines.**	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM_{10}	A	N
SO_2	A	N
NO_x	A	N
CO	A	N

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

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

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

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **LR-FI-C1** ☐ Previously Submitted, Date:____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: **See EU Sections** ☐ Previously Submitted, Date:____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **LR-FI-C3** ☐ Previously Submitted, Date:____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: ☐ Attached, Document ID:____ ☐ Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): ☐ Attached, Document ID:____
3. Rule Applicability Analysis: ☐ Attached, Document ID:____
4. List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: ☐ Attached, Document ID:____ ☐ Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:____ ☐ Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☒ Attached, Document ID: **LR-FI-CV1** ☐ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☒ Attached, Document ID: **LR-FI-CV2**
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☒ Attached, Document ID: **LR-FI-CV3**
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☒ Attached, Document ID: **LR-FI-CV4**
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☒ Attached, Document ID: **LR-FI-CV6** ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT LR-FI-C1

FACILITY PLOT PLAN

LAKE PARKER

UNIT 7

EU 004

EU 006

RELEASED FOR CONSTRUCTION

D.J. SCHULTZ 05-03-01
SIGNED DATE

BUILDING AND FACILITIES LEGEND

NO.	NOMENCLATURE
1	AIR INLET CHILLER COMPARTMENT
2	COMBUSTION TURBINE
3	COMBUSTION TURBINE GENERATOR
4	GENERATOR AUXILIARY COMPARTMENT
5	ACCESSORY COMPARTMENT
6	PACKAGED ELECTRICAL CONTROL CENTER
7	CONTROL CABINET
8	GENERATOR TRANSFORMER
9	BYPASS STACK
10	SUBSTATION CONTROL BUILDING
11	BOILER UNIT (FUTURE)
12	HEAT RECOVERY STEAM GENERATOR (HRSG)
13	HRSG STACK
14	WATER WHEEL UNIT
15	COOLING WATER UNIT
16	INJECTION WATER SKID
17	SILENCER
19	FUEL FORWARDING UNIT
20	POWER EQUIPMENT CENTER
21	AUXILIARY TRANSFORMER
22	FUEL OIL UNLOADING AREA
23	500,000 GAL WATER STORAGE TANK
24	WATER TREATMENT BUILDING
25	NEUTRALIZATION BASIN
26	MAINTENANCE BUILDING
27	SLUDGE BASIN
28	SLUDGE BASIN PUMP STRUCTURE
29	OIL/WATER SEPARATOR
30	OIL/WATER SEPARATOR LIFT STATION 1
34	COVERED PARKING
35	CHEMICAL WASTE PUMP
36	
37	ACOUSTIC BARRIER WALL
38	FUEL OIL TRANSFER PUMPS
39	FUEL OIL UNLOADING PUMPS
27	PIPE RACK
28	GUARD HOUSE
29	SANITARY LIFT STATION
40	MAINTENANCE BUILDING TRANSFORMER
41	WASTEWATER LIFT STATION 2
42	WASTEWATER LIFT STATION 3

EXISTING BUILDING AND FACILITIES LEGEND

NO	NOMENCLATURE
E1	GENERATION BUILDING
E2	OFFICE
E3	NORTHEAST SWITCHYARD
E4	EAST SWITCHYARD
E5	CHIMNEY
E6	DEMINERALIZER
E7	WATER STORAGE TANKS
E8	HEAVY OIL STORAGE TANK
E9	CO-OPS PARKING
E10	GAS TURBINE UNITS
E11	WEST SWITCHYARD
E12	GAS TRANS STATION
E13	CITY OF LAKELAND GAS STATION
E14	WASTEWATER TREATMENT
E15	BATTERY ROOM
E16	
E17	LIGHT OIL STORAGE TANK
E18	LIGHT OIL STORAGE TANK CTO BE CONVERTED FROM HEAVY OIL
E19	
E20	
E21	WASTEWATER SUMP
E22	LIGHT OIL PUMPHOUSE
E23	BATAGE STRUCTURE

LEGEND

- EXISTING FENCING
- NEW FENCING
- RIGHT OF WAY LINE

NO	DATE	REVISIONS AND RECORD OF ISSUE	BY	CHK	APP'D
4	05-03-01	REVISED BYPASS STACK AND EXHAUST	ALB	VPS	
3	05-01-01	REVISED BYPASS STACK, PIPE RACK, PLANT STAKE AND			
1	01-05-00	CONFORMED TO CONSTRUCTION RECORDS	VPS	DSW	
0	01-07-97	ADDED GSU TRANSFORMER DESIGNATED	ALB	VPS	
2	00-12-01	ADDED GSU BOWS, REVISED TRAILERS, TRANSFORMER,	ALB	VPS	
1	00-11-01	REVISED BYPASS STACK, MOVED 6 TO THREE PUMPS	ALB	VPS	
0	00-04-01	ISSUED FOR CONSTRUCTION	ALB	VPS	
1	00-04-01	REVISED TRAILERS, HEAT BANK, EAST WATER TANKS,			
0	00-03-01	SUBSTATION CONTROL BLDG AND LEGENDS, ADD 3,34,35,36,			
0	00-02-01	ISSUED FOR CONSTRUCTION	ALB	VPS	
0	00-01-01	10,20,26 AND 27	ALB	VPS	
0	00-00-01	DETAIL ISSUE	ALB	VPS	

1"=200'

BLACK & VEATCH ENGINEERS–ARCHITECTS

LAKELAND ELECTRIC & WATER
CHARLES LARSEN PLANT REPOWERING PROJECT 16587-CSTU-S1001 7

ATTACHMENT LR_FI_C1
FACILITY PLOT PLAN

07387542

ATTACHMENT LR-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

ATTACHMENT LR-FI-C3

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)2, 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-FI-CV1

LIST OF INSIGNIFICANT ACTIVITIES

ATTACHMENT LR-FI-CV1
LIST OF INSIGNIFICANT ACTIVITIES

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

Brief Description of Emissions Units and/or Activities:

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. Comfort heating with a maximum heat output of less than 1 MMBtu per hour.
6. Internal combustion engines used for the transportation of passengers or freight.
7. Refrigeration units not using ozone-depleting substance.
8. Vacuum pumps for laboratory operations.
9. Steam cleaning equipment.
10. Sanders of less than 5 square feet used exclusively on wood, plastic, or their products.
11. Space heating equipment other than boilers.
12. Laboratory equipment.
13. Brazing, soldering, or welding equipment.
14. Laundry dryers.
15. Fire and safety equipment.
16. Surface coatings with VOC content <5% by volume, 6 gallons per day or less.
17. Degreasing.

ATTACHMENT LR-FI-CV2

IDENTIFICATION OF APPLICABLE REQUIREMENTS

ATTACHMENT LR-FI-CV2
TITLE V CORE LIST

Effective: 03/01/02

(Updated based on current version of FDEP Air Rules)

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

Federal: ***(description)***

40 CFR 61, Subpart M: NESHAP for Asbestos.

40 CFR 82: Protection of Stratospheric Ozone.
40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).
40 CFR 82, Subpart F: Recycling and Emissions Reduction.

State: ***(description)***

CHAPTER 62-4, F.A.C.: PERMITS, effective 02-07-06

62-4.030, F.A.C.: General Prohibition.
62-4.040, F.A.C.: Exemptions.
62-4.050, F.A.C.: Procedure to Obtain Permits; Application.
62-4.060, F.A.C.: Consultation.
62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.
62-4.080, F.A.C.: Modification of Permit Conditions.
62-4.090, F.A.C.: Renewals.
62-4.100, F.A.C.: Suspension and Revocation.
62-4.110, F.A.C.: Financial Responsibility.
62-4.120, F.A.C.: Transfer of Permits.
62-4.130, F.A.C.: Plant Operation - Problems.
62-4.150, F.A.C.: Review.
62-4.160, F.A.C.: Permit Conditions.
62-4.210, F.A.C.: Construction Permits.
62-4.220, F.A.C.: Operation Permit for New Sources.

CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 05-09-07

62-210.300, F.A.C.: Permits Required.
62-210.300(1), F.A.C.: Air Construction Permits.
62-210.300(2), F.A.C.: Air Operation Permits.
62-210.300(3), F.A.C.: Exemptions.
62-210.300(5), F.A.C.: Notification of Startup.
62-210.300(6), F.A.C.: Emissions Unit Reclassification.
62-210.300(7), F.A.C.: Transfer of Air Permits.

ATTACHMENT LR-FI-CV2
TITLE V CORE LIST

Effective: 03/01/02
(Updated based on current version of FDEP Air Rules)

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

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.
62-210.400, F.A.C.: Emission Estimates.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions.

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

CHAPTER 62-212, F.A.C.: STATIONARY SOURCES - PRECONSTRUCTION REVIEW, effective 02-02-06

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 04-14-03

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

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

ATTACHMENT LR-FI-CV2
TITLE V CORE LIST

Effective: 03/01/02
(Updated based on current version of FDEP Air Rules)

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 05-09-07

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

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

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

62-297.310, F.A.C.: General Test Requirements.
62-297.310(4), F.A.C.: Applicable Test Procedures.
62-297.310(7), F.A.C.: Frequency of Compliance Tests.
62-297.310(6), F.A.C.: Repaired Stack Sampling Facilities.
62-297.310(5), F.A.C.: Determination of Process Variables.
62-297.510(8), F.A.C.: Test Report.
62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

Miscellaneous:

CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests
CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective 07-01-98
CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 11-30-94
CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 02-09-99
CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling, effective 09-10-96

ATTACHMENT LR-FI-CV3

COMPLIANCE REPORT AND PLAN

LAKELAND ELECTRIC
2006 ANNUAL STATEMENT OF COMPLIANCE

Charles Larsen Memorial Power Plant, Facility ID 1050003
C.D. McIntosh, Jr. Power Plant, Facility ID 1050004
Winston Peaking Station, Facility ID 1050352

Professional Engineer Certification

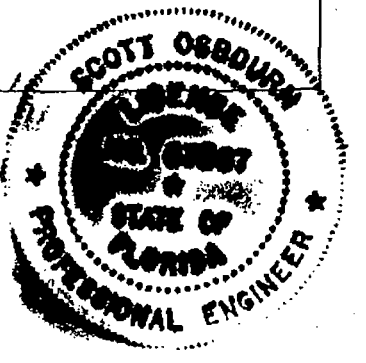
1. Professional Engineer Name: **Scott Osbourn**
   Registration Number: **57557**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **5100 W. Lemon St, Suite 114**
   City: **Tampa** State: **FL** Zip Code: **33609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(813) 287-1717** ext. **211** Fax: **(813) 287-1716**
4. Professional Engineer Email Address: **SOsbourn@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify that to the best of my knowledge, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in the Lakeland Electric 2006 Annual Statements of Compliance for the Charles Larsen Memorial Power Plant, the C.D. McIntosh, Jr. Power Plant and the Winston Peaking Station are true, accurate and complete.

Signature
(seal)

2/23/07
Date

** Board of Professional Engineers Certificate of Authorization #00001670



Department of Environmental Protection

Division of Air Resource Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

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

× **Annual Requirement**	☐ **Transfer of Permit**	☐ **Permanent Facility Shutdown**

REPORTING PERIOD*	REPORT DEADLINE**
January 1 through December 31 of 2006 (year)	March 1, 2007

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

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

Facility Owner/Company Name: Lakeland Electric

Site Name: Charles Larsen Memorial Power Plant Facility ID No. 1050003 County: Polk

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

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

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

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

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

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

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

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

STATEMENT OF COMPLIANCE - TITLE V SOURCE

RESPONSIBLE OFFICIAL CERTIFICATION

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

(Signature of Title V Source Responsible Official) 2/23/07 *(Date)*

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

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

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

(Signature of Acid Rain Source Designated Representative) 2/23/07 *(Date)*

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

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

Lakeland Electric
Charles Larsen Memorial Power Plant
Statement of Compliance

ıent	Description of Incident
sions reports shall le submitted owever, this report loes not relieve : operator of the legl liability for ıe purpose of report required under 7(c), periods of excess emissions that ɔrted are defined as ollows: oxides. Any one-hur period during /erage water-to-fuelratio, as / the continuous moitoring system, the water-to-fuel rato determined to : compliance with tle permitted de standard by the nitial test required in 40CFR 60.8 or any ıg which the fuel-bound nitrogen of reater than the maxmum nitrogen wed by the fuel-bound nitrogen sed during the initil performance	According to records on file for the past 4 quarters, excess emissions were within allowable standards and were due to startup and shutdown periods when water injection was not available. Excess emissions and monitor system (MS) downtime occurred as follows: Q1 2006 NOx- Start/shutdown NOx-MS downtime- none reported. Q2 2006 NOx- Start/shutdown NOx-MS downtime- none reported Q3 2006 NOx- Startup/shutdown NOx-MS downtime- none reported Q4 2006 NOx- No excess emissions reported NOx-MS downtime- none reported.

ATTACHMENT LR-FI-CV4

LIST OF EQUIPMENT / ACTIVITIES REGULATED UNDER TITLE VI

ATTACHMENT LR-FI-CV4
LIST OF EQUIPMENT / ACTIVITIES REGULATED — TITLE VI
(STRATOSPHERIC OZONE PROTECTION)

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

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

ATTACHMENT LR-FI-CV6

REQUEST FOR ADMINISTRATIVE CHANGES

ATTACHMENT LR-FI-CV6

REQUESTED ADMINISTRATIVE CHANGES

The City of Lakeland requests removal of the retired emission unit fossil fuel-fired steam generator No. 6 from the renewed Title V permit. The City of Lakeland also requests administrative changes to reflect the recent revisions to 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines and requests the following changes to the Title V permit:

Condition D.5.1. – D.18. (Emissions Limitations and Standards)
Because of the numerous emissions limitations associated with different operating methods listed in 22 different permit conditions from D.5.1 to D.18., which are difficult to track, City of Lakeland requests that the emissions limitations are summarized in a easy-to-follow table similar to the Attachment LR-EU3-F1.11:

Condition D.23. (Monitoring of Operations)
City of Lakeland requests that the condition, which currently says:

> *"The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:*
>
> *"(1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.*
>
> *"(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with 40 CFR 60.334(b)."*

be revised to add the following:

> *"The owner may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 60.331(u)."*

Condition D.25. (Custom Monitoring Schedule for Natural Gas)
City of Lakeland requests the removal of the sulfur monitoring requirement for natural gas described in Condition D.25.2 of the current Title V permit; and per 40 CFR 60.334(h)(3), elects not to monitor the total sulfur content of natural gas by demonstrating that the natural gas used meet the definition of natural gas in 40 CFR 60.331(u). To make the demonstration, City of Lakeland presents the most recent natural gas sampling data and the purchase contract with Florida Gas

Transmission characterizing the quality of natural gas, which specifies that the sulfur content is 20 grains/100 standard cubic feet (scf) or less.

Condition D.25 should be revised to say that the sulfur content of natural gas shall be demonstrated based on 40 CFR 60.334(h)(3)(i).

Condition D.27. (Test Methods and Procedures)
City of Lakeland requests the regulation cited in the condition to be revised from 40 CFR 60.335(c)(2) to 40 CFR 60.335(b)(4). The condition, which currently says:

> *"When determining compliance with 40 CFR 60.332, Subpart GG – Standards of Performance for Stationary Gas Turbines, the monitoring device of 60.334(a) shall be used to determine the fuel consumption and the water –to-fuel ratio necessary to comply with the permitted NO_x standard at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer."*

Should be revised to:

> *"When determining compliance with the applicable 60.332 NOx emission limit, the monitoring device of 60.334(a) shall be used to determine the fuel consumption and the water to fuel ratio."*

Condition D.28. (Test Methods and Procedures)
City of Lakeland requests the condition, which currently says:

> *"The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in 40 CFR 60.332 as follows:*
>
> *"c. U.S. EPA Method 20 (40 CFR 60, Appendix A) shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxides and 21 percent oxygen. The NOx emissions shall be determined at each of the load conditions specified in 40 CFR 60.335(c)(2).*
>
> *"EPA Method 7E may be used for compliance with the nitrogen oxides limits, provided there is no stack stratification."*

Be revised to:

> *"The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in 60.332 by conducting performance tests using EPA Method 20, ASTM D6522-00 (incorporated by reference, 60.17), or EPA Method 7E."*

Condition D.30. (Test Methods and Procedures)
City of Lakeland requests the condition, which currently says:

> *"The owner or operator shall determine compliance with the sulfur content standard of 0.20 percent, by weight, as follows: ASTM D 2880-96 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-90(94)E-1, D 3031-81(86), D 4084-94, D 3246-92 shall be used for the sulfur content of gaseous fuels (incorporated by reference – see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator."*

Should be revised to:

> *"The owner or operator shall determine compliance with the sulfur content standard of 0.20 percent, by weight, as follows: ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00 or D1552-01 shall be used to determine the sulfur content of liquid fuels and ASTM 1072-80, 90, D3246-81, 92, 96, D4468-85, or D6667-01 shall be used to determine the sulfur content of gaseous fuels (all of which are incorporated by reference, see 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator. [40 CFR 60.335(b)(10)]."*

Condition D.31. (Test Methods and Procedures)
City of Lakeland requests the condition, which currently says:

> *"To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and 40 CFR 60.335(d) of 40 CFR 60.335 to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.""*

Should be revised to:

> *"To meet the requirements of 40 CFR 60.334(h), the owner or operator shall use the methods specified in 40 CFR 60.335(b)(9) and 60.335(b)(10) to determine the nitrogen and sulfur content of the fuel being fired. The analysis may be performed by the owner or operator, a service contractor retained by the the owner or operator, the fuel vendor, or any other qualified agency."*

Condition D.39. (Record Keeping and Reporting Requirements)
City of Lakeland requests the regulation cited in the condition to be revised from 40 CFR 60.334(c)(1) to 40 CFR 60.334(J)(1).

Condition D.46. (Miscellaneous Requirements)
City of Lakeland requests that the emission limits for mercury, lead and beryllium in Condition D.46. be removed from the Title V permit. These limits are artifacts of PSD permitting prior to the change in PSD regulations not regulating certain HAPs (beryllium) and the Department's determinations that natural gas and No. 2 distillate oil have extremely low concentrations of contaminants (mercury and lead).

No other changes are requested or necessary.

III. EMISSIONS UNIT INFORMATION

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

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

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

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

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

   Fossil Fuel Fired Steam Generator #7

3. Emissions Unit Identification Number: **004**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**Jan 1966**	**49**	☒ Yes ☐ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **50** MW

11. Emissions Unit Comment:

    Emission unit is a natural gas or No. 6 fuel oil-fired steam generator. Initial startup date is emission unit's commercial in-service date.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

2. Control Device or Method Code(s):

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **763.0** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input rates: Natural gas firing - 763.0 MMBtu/hr** **No. 6 fuel oil firing - 728.0 MMBtu/hr** **Maximum heat input rates based on high heating value (HHV) of the fuels.**	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU004**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Exhausts through a single stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **004**		
5. Discharge Type Code: **V**	6. Stack Height: **165** feet	7. Exit Diameter: **10** feet
8. Exit Temperature: **340** °F	9. Actual Volumetric Flow Rate: **103,673** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **408.9** North (km): **3,102.9**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **28/02/56** Longitude (DD/MM/SS) **81/55/25**	
15. Emission Point Comment: **Stack parameters from Title V renewal application dated May 2002.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Natural-Gas Boilers >100 MMBtu/hr**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.743**	5. Maximum Annual Rate: **6,509**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,027**
10. Segment Comment: **Maximum hourly rate = 763 MMBtu/hr / 1,027 MMBtu/MM ft^3 = 0.743 MM ft^3/hr** **Maximum annual rate = 0.743 MM ft^3/hr x 8,760 hr/yr = 6,508.7 MM ft^3/yr.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Electric Generation; Residual Oil No. 6 - Normal Firing**		
2. Source Classification Code (SCC): **1-01-004-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **4.85**	5. Maximum Annual Rate: **42,515**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly rate = 728 MMBtu/hr /150 MMBtu/1,000 gallons = 4,853.3 gallons/hr.** **Maximum annual rate = 4,853.3 gallons/hr x 8,760 hr/yr = 42,515.2x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			NS
CO			NS
VOC			NS
SO_2			EL
NO_x			NS

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **218.4** lb/hour **398.6** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.3 lb/MMBtu** Reference: **Permit No. 1050003-013-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly emissions = 0.3 lb/MMBtu x 728 MMBtu/hr = 218.4 lb/hr (Oil firing, soot blowing scenario)

Annual emissions = (0.3 lb/MMBtu x 728 MMBtu/hr x 3 hrs/day) + (0.1 lb/MMBtu x 728 MMBtu/hr x 21 hours/day) x 365 days/yr x 1 TPY/2,000 lbs = 398.6 TPY
See Attachment LR-EU1-F1.10.

11. Potential Fugitive and Actual Emissions Comment:

Hourly emissions based on soot blowing while oil firing.

Annual emissions based on 3 hours of soot blowing during any 24-hour period and normal operation for 21 hours in any 24-hour period.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.1 lb/MMBtu**	4. Equivalent Allowable Emissions: **72.8** lb/hour **318.9** tons/year
5. Method of Compliance: **EPA Methods 17, 5, 5B, or 5F**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on oil firing during normal operations. Rule 62-296.405(1)(b), F.A.C. and Permit No. 1050003-013-AV. Annual compliance test not required if firing only natural gas or if the unit is in cold standby. Compliance test required if oil firing >400 hr/yr.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.3 lb/MMBtu**	4. Equivalent Allowable Emissions: **218.4** lb/hour **119.6** tons/year
5. Method of Compliance: **EPA Methods 17, 5, 5B, or 5F**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on oil firing during soot blowing operations. Rule 62-210.700(3), F.A.C. and Permit No. 1050003-013-AV. Annual emissions based on 3 hours of soot blowing during any 24-hour period. Compliance test required if oil firing >400 hr/yr.**	

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **2,002.0** lb/hour **8,769.0** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2.75 lb/MMBtu** Reference: **Permit No. 1050003-013-AV**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
Hourly emissions = 2.75 lb/MMBtu x 728 MMBtu/hr = 2002.0 lb/hr (Oil firing scenario)
Annual emissions = (2002.0 lb/hr x 8,760 hrs/yr) x ton/2,000 lb = 8,768.8 TPY

See Attachment LR-EU1-F1.10.

11. Potential Fugitive and Actual Emissions Comment:
Hourly emissions based on oil firing. Fuel sulfur content limited to 2.5 percent by weight.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.75 lb/MMBtu**	4. Equivalent Allowable Emissions: **2,002.0** lb/hour **8,769.0**tons/year
5. Method of Compliance: **Fuel oil analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Equivalent allowable emissions based on No. 6 fuel oil firing. Rule 62-296.405(1)(c)1.j., F.A.C. and Permit No. 1050003-013-AV.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 3

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: **40 %** Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.405(1)(a), F.A.C. and Permit No. 1050003-013-AV. Annual VE test required if >400 hrs/yr oil operation.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 3

1. Visible Emissions Subtype: **VE60**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **60 %** Exceptional Conditions: **>60 %** Maximum Period of Excess Opacity Allowed: **4 periods of 6** min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-210.700(3), F.A.C. and Permit No. 1050003-013-AV.** **60 percent opacity during load changing and boiler cleaning (soot blowing) for 3 hours in any 24-hour period.** **Annual VE test required if >400 hrs/yr oil operation.**	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 3 of 3

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: Exceptional Conditions: **100 %** Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown, or malfunction. See Rule 62-210.700(1) and (2), F.A.C. Permit No. 1050003-013-AV.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor _____ of _____

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

Continuous Monitoring System: Continuous Monitor _____ of _____

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU1-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU1-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [1]
Fossil Fuel-Fired Steam Generator No. 7

Additional Requirements for Air Construction Permit Applications

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

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **LR-EU1-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **LR-EU1-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☒ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☒ Previously Submitted, Date: **August 5, 2002**
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT LR-EU1-F1.10

CALCULATION OF EMISSIONS

ATTACHMENT LR-EU1-F1.10

MAXIMUM POTENTIAL EMISSIONS FOR EMISSIONS-LIMITED POLLUTANTS
STEAM GENERATOR UNIT 7
LARSEN POWER PLANT

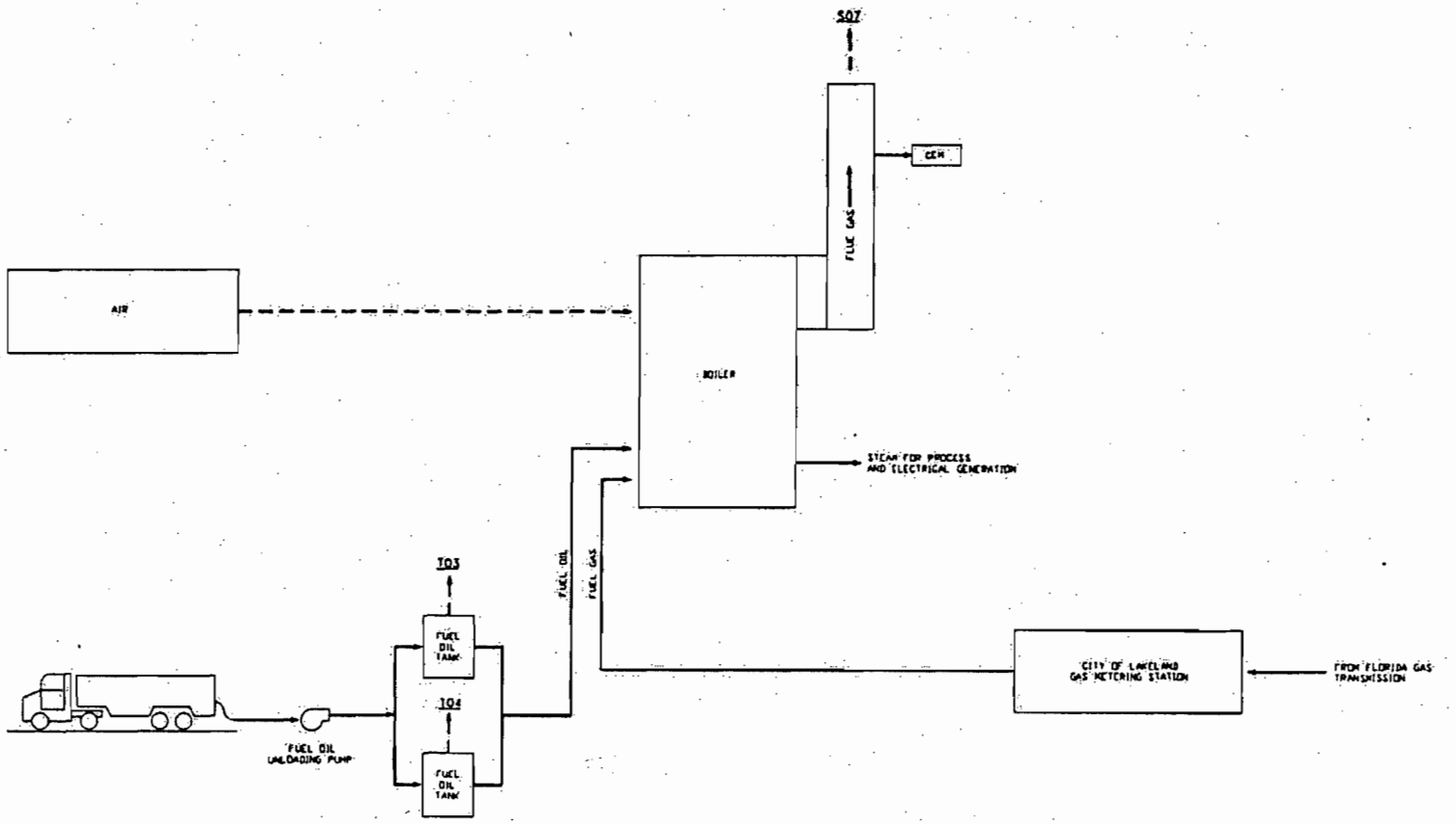
Pollutant	Unit 7	
	Oil Firing	Natural Gas Firing
Hours of Operation	8,760	8,760
SO_2		
Sulfur Dioxide (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Sulfur Dioxide (lb/hr) (Gas)= Fuel sulfur content (Percent; gr/ 100 cf) x 2 (64 MW SO_2/32 MW S) x Fuel Consumption (Fuel units/hr)		
Basis	DEP Rules	1 gr S/100 cf
EF (lb/MMBtu)	2.75	
HIR (MMBtu/hr)	728.0	763.0
Sulfur content (gr/100 cf)		1
Fuel consumptiom (100 cf/hr)		7,430.0
lb/hr	2,002.0	2.1
TPY	8,768.8	9.3
PM		
Particulate Matter (lb/hr) (Oil)= EF (lb/MMBtu) x Heat Input Rate (MMBtu/hr)		
Particulate Matter (lb/hr) (Gas)= EF (lb/fuel unit) x Fuel Consumption (fuel unit)		
Basis (1)	DEP Rules	AP-42
EF (lb/MMBtu) or (lb/MMcf)	0.3	7.6
EF (lb/MMBtu) (Oil; normal/sootblowing; annual)	0.125	
HIR (MMBtu/hr)	728.0	763.0
Fuel consumptiom (MMcf/hr)		0.743
lb/hr	218.4	5.6
TPY	398.6	24.7

(1) FDEP Rule 62-296.405(1) and 62-296.800; 0.3 and 0.1 lb/MMBtu for soot-blowing and normal operations, respectively; EPA, 1998, AP-42, Table 1.4-2.

ATTACHMENT LR-EU1-I1

PROCESS FLOW DIAGRAM

ATTACHMENT LR-EU1-I1



REV. NO	BY	DATE	APPR.	REVISION
0	MG	11-2-94		ISSUED FOR TITLE V PERMIT APPLICATION
1	MG	5-16-96	MP	CHANGE TITLE
2	MG	5-29-98	MP	ISSUED FOR TITLE V

LAKELAND ELECTRIC & WATER

DESCRIPTION: LAKELAND ELECTRIC & WATER UTILITIES
LARSEN POWER PLANT
UNIT NO. 7
TITLE V PROCESS FLOW DIAGRAM

DIVISION: PRODUCTION ENGINEERING
ENGINEER: PATTERSON
DRN. BY: MGREGER
DATE: 9-19-94
APPR. BY:

CAD | SCALE: NONE
PROJ. NO. AIR PERMIT
Attachment LR-EU1-I1 | REV. 2

ATTACHMENT LR-EU1-I2

FUEL ANALYSIS OR SPECIFICATION

Gas Fuel F Factor & Heating Value Calculation

City of Lakeland, Charles Larsen Power Plant
Sample ID: Florida Gas Transmission Stream #1 @ 100%

Date: December 12, 2006

CALCULATION OF DENSITY AND HEATING VALUE @ 60°F and 30 in Hg

Component	% Volume	Molecular Wt.	Density (lb/ft3)	% volume x Density	weight %	Component Gross Btu/lb	Weight Fract. Btu	Gross Heat Value (Btu/SCF)	Volume Fract. Btu
Hydrogen		2.016	0.0053	0.00000	0.0000	61100	0.00	325.0	0
Oxygen		32.000	0.0846	0.00000	0.0000	0	0.00	0.0	0
Nitrogen	0.371	28.016	0.0744	0.00028	0.6199	0	0.00	0.0	0
Carbon dioxide	0.920	44.010	0.1170	0.00108	2.4173	0	0.00	0.0	0
Carbon monoxide		28.010	0.0740	0.00000	0.0000	4347	0.00	322.0	0
Methane	96.241	16.041	0.0424	0.04081	91.6402	23879	21882.77	1013.0	974.921
Ethane	1.877	30.067	0.0803	0.00151	3.3849	22320	755.50	1792.0	33.6358
Ethylene		28.051	0.0746	0.00000	0.0000	21644	0.00	1614.0	0
Propane	0.328	44.092	0.1196	0.00039	0.8810	21661	190.83	2590.0	8.4952
propylene		42.077	0.1110	0.00000	0.0000	21041	0.00	2336.0	0
Isobutane	0.083	58.118	0.1582	0.00013	0.2949	21308	62.83	3363.0	2.79129
n-butane	0.074	58.118	0.1582	0.00012	0.2629	21257	55.89	3370.0	2.4938
Isobutene		56.102	0.1480	0.00000	0.0000	20840	0.00	3068.0	0
Isopentane	0.032	72.144	0.1904	0.00006	0.1368	21091	28.86	4008.0	1.28256
n-pentane	0.019	72.144	0.1904	0.00004	0.0812	21052	17.10	4016.0	0.76304
n-hexane	0.055	86.169	0.2274	0.00013	0.2809	20940	58.82	4762.0	2.6191
Hydrogen sulfide		34.076	0.0911	0.00000	0.0000	7100	0.00	647.0	0
total	100.00	Average Density		0.04453	100.0000	Gross Heating Value	23053	Gross Heating Value	1027.0
		Specific Gravity		0.5893		Btu/lb		Btu/SCF	

CALCULATION OF F FACTORS

Component	Mol. Wt.	C Factor	H Factor	% volume	Fract. Wt.	Weight Percents Carbon	Hydrogen	Nitrogen	Oxygen
Hydrogen	2.016	0	1	0.00	0.0000		0		
Oxygen	32.000	0	0	0.00	0.0000				0
Nitrogen	28.016	0	0	0.37	10.3939			0.617537563	
Carbon dioxide	44.010	0.272273	0	0.92	40.4892	0.654978604			1.74887
Carbon monoxide	28.010	0.42587	0	0.00	0.0000	0			0
Methane	16.041	0.75	0.25	96.24	1543.8019	68.7917203	22.9305734		
Ethane	30.067	0.8	0.2	1.88	56.4358	2.682425681	0.67060642		
Ethylene	28.051	0.85714	0.14286	0.00	0.0000	0	0		
Propane	44.092	0.81818	0.181818	0.33	14.4622	0.703017025	0.1562262		
Propene	42.077	0.85714	0.14286	0.00	0.0000	0	0		
Isobutane	58.118	0.82759	0.17247	0.08	4.8238	0.237185059	0.04942944		
n-butane	58.118	0.82759	0.17247	0.07	4.3007	0.211466197	0.04406962		
Isobutene	56.102	0.85714	0.14286	0.00	0.0000	0	0		
Isopentane	72.144	0.83333	0.16667	0.03	2.3086	0.114301138	0.02286078		
n-pentane	72.144	0.83333	0.16667	0.02	1.3707	0.067866301	0.01357359		
n-hexane	86.169	0.83721	0.16279	0.06	4.7393	0.235739029	0.04583791		
Hydrogen sulfide	34.076	0	0.0586923	0.00	0.0000	0	0		
Totals				100.00000	1683.1261	73.69869934	23.93	0.617537563	1.74887

CALCULATED VALUES		
O_2 F Factor (dry)	8639	DSCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
O_2 F Factor (wet)	10643	SCF of Exhaust/MM Btu of Fuel Burned @ 0% excess air
Moisture F Factor	2004	SCF of Water/MM Btu of Fuel Burned @ 0% excess air
Combust. Moisture	18.83	volume % water in flue gas @ 0% excess air
CO_2 F Factor	1026	DSCF of CO2/MM Btu of Fuel Burned @ 0% excess air
Fuel VOC % (non-C1)	5.44%	
Fuel VOC % (non-C1,C2)	2.04%	

Fuel Data Table - PEAK Runs

City of Lakeland, Charles Larsen Power Plant Unit-8
Sample ID: Florida Gas Transmission Stream #1 @ 100%

Date: December 12, 2006

Test Run Number	Run-1	Run-2	Run-3	
Date	Dec. 12, 2006	Dec. 12, 2006	Dec. 12, 2006	
Start Time	13:33	14:37	15:43	
Stop Time	14:33	15:37	16:43	
Turbine Fuel Data (Pipeline Grade Natural Gas)				Average
Fuel Heating value (Btu/scf, HHV)	1027	1027	1027	1027
Fuel Specific Gravity	0.5893	0.5893	0.5893	0.5893
O_2 "F-factor" (DSCFex/MMBtu @ 0% excess air, published)	8639	8639	8639	8639
CO_2 "F-factor" (DSCFex/MMBtu @ 0% excess air, published)	1026	1026	1026	1026
Average Fuel Flow KSCF	1052.8	1055.3	1066.8	1058.3
Heat Input (MMBtu/Hr, HHV from fuel analysis and fuel flow)	1081.3	1083.8	1095.6	1086.9
Heat Input (MMBtu/Hr, LHV from fuel analysis and fuel flow)	973.1	975.4	986.1	978.2
Calculated $H_{CAP(LHV)}$ (MMBtu/Hr from GE Curve)	1017.2	1019.8	1027.8	1021.6
Calculated % Heat Input	96%	96%	96%	96%

Fuel Data Table - BASE Runs

City of Lakeland, Charles Larsen Power Plant Unit-8
Sample ID: Florida Gas Transmission Stream #1 @ 100%

Date: December 12, 2006

Test Run Number	Run-1	Run-2	Run-3	
Date	Dec. 12, 2006	Dec. 12, 2006	Dec. 12, 2006	
Start Time	17:20	18:32	19:42	
Stop Time	18:26	19:37	20:47	
Turbine Fuel Data (Pipeline Grade Natural Gas)				Average
Fuel Heating value (Btu/scf, HHV)	1027	1027	1027	1027
Fuel Specific Gravity	0.5893	0.5893	0.5893	0.5893
O_2 "F-factor" (DSCFex/MMBtu @ 0% excess air, published)	8639	8639	8639	8639
CO_2 "F-factor" (DSCFex/MMBtu @ 0% excess air, published)	1026	1026	1026	1026
Average Fuel Flow KSCF	1000.5	1004.3	1007.2	1004.0
Heat Input (MMBtu/Hr, HHV from fuel analysis and fuel flow)	1027.5	1031.4	1034.4	1031.1
Heat Input (MMBtu/Hr, LHV from fuel analysis and fuel flow)	924.7	928.3	931	928.0
Calculated $H_{CAP(LHV)}$ (MMBtu/Hr from GE Curve)	947.1	949.7	952.4	949.7
Calculated % Heat Input	98%	98%	98%	98%

FGT SULFUR

Gas Day	Index	Stream #1 15SA36PSUL.A Avg ppm	Stream #1 Avg Grains/hcf	Stream #2 15SA30PSUL.A Avg ppm	Stream #2 Avg Grains/hcf	Stream #3 15SA24PSUL.A Avg ppm	Stream #3 Avg Grains/hcf	Stream BRO124PSUL.A Avg ppm	Stream Avg Grains/hcf	Perry 36" Stream #1 Grains/1000cf
5/1/2007	6	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	
5/2/2007	7	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/3/2007	8	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/4/2007	9	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/5/2007	10	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/6/2007	11	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/7/2007	12	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/8/2007	13	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/9/2007	14	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/10/2007	15	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/11/2007	16	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/12/2007	17	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/13/2007	18	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/14/2007	19	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/15/2007	20	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/16/2007	21	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/17/2007	22	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/18/2007	23	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/19/2007	24	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/20/2007	25	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/21/2007	26	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/22/2007	27	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/23/2007	28	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/24/2007	29	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/25/2007	30	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/26/2007	31	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/27/2007	32	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/28/2007	33	0.585	0.037	2.308	0.144	2.68	0.167	3.862	0.241	0.000
5/29/2007		0.708	0.044	0.891	0.056	0.928	0.058	1.361	0.085	-0.123
5/30/2007		0.588	0.037	0.895	0.056	0.971	0.061	0.045	0.003	0.120
5/31/2007		0.608	0.038	0.708	0.044	0.77	0.048	0.039	0.002	-0.020

SGS

December 28, 2006

LAKELAND ELECTRIC
3030 EAST PARKER DRIVE
LAKELAND FL 33805

ATTN: LARRY MOBLEY

Client Sample ID:	7053-06	Sample ID By	Lakeland Electric
Date Sampled:	December 13, 2006	Sample Taken At	U-8 Peak Load
Date Received:	Dec 18, 2006	Sample Taken By	John Williams & Mark Penix
Product Description:	FUEL OIL	Sample ID	U-8 Stack (Comp1-3)

SGS Minerals Sample ID: 491-0614370-001

Analyte	Result	Method	Regulatory Level
Sulfur, AR	0.04 %	ASTM D1552	0.00
Gross Calorific Value (Btu/lb)	19539	ASTM D240	0.00
lb. of SO2 / Million Btu	0.04 lb	ASTM D240	0.01
lb. of SO2 / Million Btu @ 97.5%	0.04 lb	ASTM D240	0.01
lb. of SO2 / Million Btu @ 95%	0.04 lb	ASTM D240	0.01
lb. of Sulfur / Million Btu	0.02 lb	ASTM D240	0.01
Gross Calorific Value (Btu/gal)	138003	ASTMD240	0.00
Pounds per gallon	7.063	ASTM D4052	0.00
Specific Gravity	0.8481	ASTM D4052	0.00
API Gravity	35.3	ASTM D4052	0.00

SGS

January 03, 2007

LAKELAND ELECTRIC
3030 EAST PARKER DRIVE
LAKELAND FL 33805

ATTN: LARRY MOBLEY

Client Sample ID:	7054-06	Sample ID By	Lakeland Electric
Date Sampled:	December 13, 2006	Sample Taken At	U-8 Base Load
Date Received:	Dec 18, 2006	Sample Taken By	John Williams & Mark Penix
Product Description:	FUEL OIL	Sample ID	U-8 Stack (Comp 4-6)

SGS Minerals Sample ID: 491-0614370-002

Analyte	Result	Method	Regulatory Level
Sulfur, AR	0.10 %	ASTM D1552	0.00
Gross Calorific Value (Btu/lb)	19401	ASTM D240	0.00
lb. of SO2 / Million Btu	0.10 lb	ASTM D240	0.01
lb. of SO2 / Million Btu @ 97.5%	0.10 lb	ASTM D240	0.01
lb. of SO2 / Million Btu @ 95%	0.09 lb	ASTM D240	0.01
lb. of Sulfur / Million Btu	0.05 lb	ASTM D240	0.01
Gross Calorific Value (Btu/gal)	138371	ASTMD240	0.00
Pounds per gallon	7.132	ASTM D4052	0.00
Specific Gravity	0.8564	ASTM D4052	0.00
API Gravity	33.7	ASTM D4052	0.00

Fuel Data Table - PEAK Runs

City of Lakeland, Charles Larsen Power Plant Unit-8
Sample ID: 7053-06 U8 Peak Load / SGS Lab #491-0614370-001

Date: December 13, 2006

Test Run Number	Run-1	Run-2	Run-3	
Date	Dec. 13, 2006	Dec. 13, 2006	Dec. 13, 2006	
Start Time	9:49	10:55	12:01	
Stop Time	10:49	11:55	13:01	
Turbine Fuel Data (#2 Low Sulfur Diesel Oil)				**Average**
Fuel Heating value (Btu/lb, HHV)	19539	19539	19539	19539
Fuel Density (Lb/Gal)	7.063	7.063	7.063	7.063
Average Fuel Flow (Gal/Hr)	7629.4	7578.9	7604.1	7604.1
Average Fuel Flow (Lb/Hr)	53886.5	53529.8	53707.8	53708.0
Heat Input (MMBtu/Hr, HHV from fuel analysis and fuel flow)	1052.9	1045.9	1049.4	1049.4
Heat Input (MMBtu/Hr, LHV from fuel analysis and fuel flow)	957.2	950.8	954	954.0
Calculated $H_{CAP(LHV)}$ (MMBtu/Hr from GE Curve)	1010.5	1007.8	1005.2	1007.8
Calculated % Heat Input	95%	94%	95%	95%

Fuel Data Table - BASE Runs

City of Lakeland, Charles Larsen Power Plant Unit-8
Sample ID: 7054-06 U8 Peak Load / SGS Lab #491-0614370-002

Date: December 13, 2006

Test Run Number	Run-1	Run-2	Run-3	
Date	Dec. 13, 2006	Dec. 13, 2006	Dec. 13, 2006	
Start Time	14:07	15:13	16:20	
Stop Time	15:07	16:13	17:20	
Turbine Fuel Data (#2 Low Sulfur Diesel Oil)				Average
Fuel Heating value (Btu/lb, HHV)	19401	19401	19401	19401
Fuel Density (Lb/Gal)	7.132	7.132	7.132	7.132
Average Fuel Flow (Gal/Hr)	6920.7	6921.4	6939.1	6927.1
Average Fuel Flow (Lb/Hr)	49358.4	49363.4	49489.7	49403.8
Heat Input (MMBtu/Hr, HHV from fuel analysis and fuel flow)	957.6	957.7	960.1	958.5
Heat Input (MMBtu/Hr, LHV from fuel analysis and fuel flow)	870.5	870.6	872.9	871.3
Calculated $H_{CAP(LHV)}$ (MMBtu/Hr from GE Curve)	924.1	918.8	921.5	921.5
Calculated % Heat Input	94%	95%	95%	95%

ATTACHMENT LR-EU1-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT LR-EU1-I4

PROCEDURES FOR STARTUP AND SHUTDOWN MINIMIZING EXCESS EMISSIONS

Startup of the fossil-fuel boilers begins when fuel (propane, 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 that may be taken in the event of excess emissions include, but are not limited to:

- burner elevation loading
- proper excess air adjustments
- recognition 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-IV1

IDENTIFICATION OF APPLICABLE REQUIREMENTS

(Title V Permit No. 1050003-013-AV attached for applicable requirements)

PERMIT NO. 1050003-013-AV

Lakeland Electric
Charles Larsen Memorial Power Plant
Facility ID No.: 1050003
Polk County

Title V Air Operation Permit Revision

FINAL Permit No.: 1050003-013-AV
Revision to Title V Air Operation Permit No.: 1050003-011-AV

Permitting Authority:
State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 850/488-0114
Fax: 850/922-6979

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

Title V Air Operation Permit Revision

FINAL Permit No.: 1050003-013-AV
Revision to Title V Air Operation Permit No.: 1050003-011-AV

Table of Contents

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

FINAL Permit No.: 1050003-013-AV
Facility ID No.: 1050003
SIC Nos.: 49, 4911
Project: Title V Air Operation Permit Revision

This permit revision is being issued for the purpose of incorporating the terms and conditions of the air construction permit, No. 1050003-012-AC, for a combined cycle combustion turbine Unit #8. This facility is located at 2002 Hwy 92 East, Lakeland, Polk County; UTM Coordinates: Zone 17, 408.9 km East and 3102.5 km North; and, Latitude: 28° 02' 56" North and Longitude: 81° 55' 25" West.

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

Referenced attachments made a part of this permit:
Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX TV-4, TITLE V CONDITIONS version dated 02/12/02
APPENDIX SS-1, STACK SAMPLING FACILITIES version dated 10/07/96
FIGURE 1 - SUMMARY REPORT-GASEOUS AND OPACITY EXCESS
EMISSION AND MONITORING SYSTEM PERFORMANCE REPORT version dated 07/96
Alternate Sampling Procedure: ASP Number 97-B-01

Effective Date: January 26, 2005
Renewal Application Due Date: July 5, 2007
Expiration Date: December 31, 2007

Michael G. Cooke, Director,
Division of Air Resource Management

MGC/jkp/rlb

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of two fossil fuel-fired steam generators, one combined (or simple) cycle combustion turbine and two simple cycle gas turbine peaking units. Natural gas and oil are the primary fuels.

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

Based on the Title V Air Operation Permit Renewal application received June 19, 2002, this facility is not a major source of hazardous air pollutants (HAPs).

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

Regulated Emissions Units and/or Activities

E.U. ID No.	Brief Description
-003	Fossil Fuel Fired Steam Generator #6
-004	Fossil Fuel Fired Steam Generator #7
-005	Peaking Gas Turbine #3
-006	Peaking Gas Turbine #2
-008	Combined or Simple Cycle Combustion Turbine 8

Unregulated Emissions Units and/or Activities

E.U. ID No.	Brief Description
-009	Emergency generators
-010	General purpose engines
-011	Surface coatings with VOC content >5% by volume
-012	Sand Blasting
-013	Parts Washing

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

Subsection C. Relevant Documents.

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

These documents are provided to the permittee for information purposes only:
Table 1-1: Summary of Air Pollutant Standards and Terms
Table 2-1: Summary of Compliance Requirements
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1, Permit History
Statement of Basis

These documents are on file with the permitting authority:
Initial Title V Air Operation Permit effective January 1, 1998
Title V Air Operation Permit Administrative Correction issued December 28, 1999
Title V Air Operation Permit Administrative Correction issued April 3,2000
Title V Air Operation Permit Revision effective July 18, 2001
Title V Air Operation Permit Administrative Correction issued December 18, 2001
Application for a Title V Air Operation Permit Renewal received June 19, 2002
Additional Information Request dated July 25, 2002
Additional Information Response received August 8, 2002
Letter from Ms. Farzie Shelton dated October 10, 2002, and received on October 15, 2002
E-mail from Ms. Farzie Shelton dated October 14, 2002, and received on October 14, 2002
Letter from Ms. Farzie Shelton dated October 14, 2002, and received on October 15, 2002
Application for a Title V Air Operation Permit Revision received August 2, 2004

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

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

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

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

4. Prevention of Accidental Releases (Section 112(r) of CAA).
a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, MD 20703-1515
Telephone: 301/429-5018

and,
b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.
[40 CFR 68]

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

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

7. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. **Nothing was deemed necessary and ordered at this time.**
[Rule 62-296.320(1)(a), F.A.C]

8. Not federally enforceable. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include: maintenance of paved areas, regular mowing of grass and care of vegetation, and limiting access to plant property of unnecessary vehicles.
[Rule 62-296.320(4)(c)2., F.A.C.; and, proposed by applicant in the Title V Air Operation Permit Renewal application received June 19, 2002]

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

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

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

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

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100; Fax: 813/744-6458

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

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

13. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.
[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Units.

Subsection A. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
-003	Fossil Fuel Fired Steam Generator #6

Fossil fuel fired steam generator #6 is a nominal 25 megawatt (electric) steam generator designated as Charles Larsen Memorial Power Plant Unit #6. This emission unit is fired on No. 6 fuel oil at a maximum heat input of 372.4 MMBtu per hour, or natural gas at a maximum heat input of 386.5 MMBtu per hour. Unit #6 began commercial service in 1959.

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

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

Essential Potential to Emit (PTE) Parameters

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

Unit No.	MMBtu/hr Heat Input	Fuel Type
6	386.5 (HHV)	Natural Gas
	372.4 (HHV)	No. 6 Fuel Oil

Compliance with the heat input limits shall be determined based on the higher heating value (HHV) of the fuels used and fuel flow meter data.
[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

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

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **A.21.**
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation. Fuel(s).
a. Startup: The only fuels allowed to be burned are propane, No. 2 fuel oil, natural gas, No. 6 fuel oil, or any combination of these fuels.
b. Normal: The only fuels allowed to be burned are natural gas, No. 6 fuel oil, or a combination of natural gas and No. 6 fuel oil. When a blend of liquid and gaseous fuel is fired, the heat input is prorated based on the percent heat input of each fuel.
[Rule 62-213.410, F.A.C.]

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

Emission Limitations and Standards

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

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

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

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

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

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

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

A.10. Sulfur Dioxide - Sulfur Content. The No. 6 fuel oil sulfur content shall not exceed 2.50 percent, by weight. See specific condition **A.20.**
[Rule 62-296.405(1)(e)3., F.A.C.; and, requested in a letter dated February 7, 1997.]

Excess Emissions

A.11. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

A.12. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

A.13. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

A.14. Sulfur Dioxide. **The permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery.** This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions **A.10., A.19.** and **A.20.**
[Rule 62-296.405(1)(f)1.b., F.A.C.]

A.15. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Test Methods and Procedures

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

A.16. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition **A.17.**
[Rule 62-296.405(1)(e)1., F.A.C.]

A.17. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen-second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
   a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.
   b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.
   In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

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

A.18. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

A.19. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedences of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor upon each fuel delivery.** See specific conditions **A.10. and A.20.**
[Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.]

A.20. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest edition.
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

A.21. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rule 62-297.310(2), F.A.C.]

A.22. General Compliance Testing. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
[Rule 62-297.310(7)(a)2., F.A.C.]

A.23. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
a. only gaseous fossil fuels; or
b. gaseous fossil fuels in combination with any amount of liquid and/or solid fuels for less than 400 hours per year; or
c. only liquid and/or solid fuels for less than 400 hours per year.
[Rule 62-297.310(7)(a)4., F.A.C.]

A.24. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:
a. only gaseous fossil fuels; or
b. gaseous fossil fuels in combination with any amount of liquid and/or solid fuels for less than 400 hours per year; or
c. only liquid and/or solid fuels for less than 400 hours per year.
[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01]

A.25. Cold Standby. If the emissions unit is on cold standby when the annual compliance test is required, the compliance test may be postponed until after startup. Compliance testing shall be conducted within 30 days of startup.
[Rule 62-210.300(2)(a)4., F.A.C.; and, AO 53-175871]

A.26. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Record keeping and Reporting Requirements

A.27. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years. [Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

A.28. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Section III. Emissions Unit(s) and Conditions.

Subsection B. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
-004	Fossil Fuel Fired Steam Generator #7

Fossil fuel fired steam generator #7 is a nominal 50 megawatt (electric) steam generator designated as Charles Larsen Memorial Power Plant Unit #7. This emission unit is fired on No. 6 fuel oil at a maximum heat input of 728.0 MMBtu per hour, or natural gas at a maximum heat input of 763.0 MMBtu per hour. Unit #7 began commercial service in 1966.

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

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

Essential Potential to Emit (PTE) Parameters

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

Unit No.	MMBtu/hr Heat Input	Fuel Type
7	763.0 (HHV)	Natural Gas
	728.0 (HHV)	No. 6 Fuel Oil

Compliance with the heat input limits shall be determined based on the higher heating value (HHV) of the fuels used and fuel flow meter data.
[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

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

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **B.21.**
[Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation. Fuel(s).
a. Startup: The only fuels allowed to be burned are propane, No. 2 fuel oil, natural gas, No. 6 fuel oil, or any combination of these fuels.
b. Normal: The only fuels allowed to be burned are natural gas, No. 6 fuel oil, or a combination of natural gas and No. 6 fuel oil. When a blend of liquid and gaseous fuel is fired, the heat input is prorated based on the percent heat input of each fuel.
[Rule 62-213.410, F.A.C.]

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

Emission Limitations and Standards

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

{Permitting note: Unless otherwise specified, the averaging time for conditions B.5. - B.9. are based on the specified averaging time of the applicable test method.}

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

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

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

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

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

B.10. Sulfur Dioxide - Sulfur Content. The No. 6 fuel oil sulfur content shall not exceed 2.50 percent, by weight. See specific condition **B.20.**
[Rule 62-296.405(1)(e)3., F.A.C.; and, requested in a letter dated February 7, 1997.]

Excess Emissions

B.11. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

B.12. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

B.13. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

B.14. Sulfur Dioxide. **The permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor or the permittee upon each fuel delivery.** This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions **B.10., B.19. and B.20.**
[Rule 62-296.405(1)(f)1.b., F.A.C.]

B.15. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Test Methods and Procedures

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

B.16. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition **B.17.**
[Rule 62-296.405(1)(e)1., F.A.C.]

B.17. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
   a. For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.
   b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.
   In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

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

B.18. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

B.19. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedences of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by accepting a liquid fuel sulfur limit that will be verified with a fuel analysis provided by the vendor upon each fuel delivery.** See specific conditions **B.10. and B.20.**
[Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.; and, AO 53-175870]

B.20. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest edition.
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

B.21. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rule 62-297.310(2), F.A.C.]

B.22. General Compliance Testing. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
[Rule 62-297.310(7)(a)2., F.A.C.]

B.23. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
a. only gaseous fossil fuels; or
b. gaseous fossil fuels in combination with any amount of liquid and/or solid fuels for less than 400 hours per year; or
c. only liquid and/or solid fuels for less than 400 hours per year.
[Rule 62-297.310(7)(a)4., F.A.C.]

B.24. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:
a. only gaseous fossil fuels; or
b. gaseous fossil fuels in combination with any amount of liquid and/or solid fuels for less than 400 hours per year; or
c. only liquid and/or solid fuels for less than 400 hours per year.
[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01]

B.25. Cold Standby. If the emissions unit is on cold standby when the annual compliance test is required, the compliance test may be postponed until after startup. Compliance testing shall be conducted within 30 days of startup.
[Rule 62-210.300(2)(a)4., F.A.C.]

B.26. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Record keeping and Reporting Requirements

B.27. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years. [Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

B.28. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**
[Rule 62-296.405(e)3., F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection C. This section addresses the following emissions units.

E.U. ID No.	Brief Description
-005	Peaking Gas Turbine #3
-006	Peaking Gas Turbine #2

The gas turbine peaking units are fired with natural gas, or No. 2 fuel oil with a maximum sulfur content of 0.50 percent by weight. The maximum heat input rate for each gas turbine is 209 MMBtu per hour and each unit is rated at 11.5 megawatts (electric). Emissions from the gas turbines are uncontrolled. Turbines #2 and #3 began commercial service in 1962.

{Permitting notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. These units are not subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. Each combustion turbine has its own stack.}

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

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity. The maximum operation heat input rates, at an inlet temperature of 20 degrees F when firing natural gas and at an inlet temperature of 25 degrees F when firing No. 2 fuel oil, are as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
3	209	Natural Gas
	209	No. 2 Fuel Oil
2	209	Natural Gas
	209	No. 2 Fuel Oil

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

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

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

C.3. Methods of Operation - Fuels. Only natural gas or distillate (No. 2) fuel oil shall be fired in the turbines.
[Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

C.4. Hours of Operation. These emissions unit(s) may operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AO 53-238714]

Emission Limitations and Standards

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

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

C.5. Visible Emissions. Visible emissions from each turbine shall not be equal to or greater than 20 percent opacity.
[Rule 62-296.320(4)(b)1., F.A.C.; and, AO 53-238714]

C.6. Not federally enforceable. Sulfur Dioxide - Sulfur Content. The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent, by weight.
[AO 53-238714]

Excess Emissions

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

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

Monitoring of Operations

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

C.10. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

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

C.11. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.
[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

C.12. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest edition.
[Rules 62-213.440 and 62-297.440, F.A.C.]

C.13. Operating Rate During Testing. **Not federally enforceable.**
a. Testing of emissions shall be conducted with each emissions unit operating at permitted capacity, which is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test.
b. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.
[Requested in a letter dated February 7, 1997.]

C.14. Applicable Test Procedures.
(a) Required Sampling Time.
2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

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

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

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

(a) General Compliance Testing.

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

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

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

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

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

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

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

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

[Rule 62-297.310(7), F.A.C.; SIP approved; and, AO 53-238714]

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

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

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

Recordkeeping and Reporting Requirements

C.17. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

C.18. Test Reports.
(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
[Rule 62-297.310(8), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection D. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
-008	Combined or Simple Cycle Combustion Turbine 8

The emission unit is a 120 megawatt combined or simple cycle combustion gas turbine with a heat recovery steam generator (HRSG) designated as Larsen Unit #8. The combustion turbine fires natural gas as the primary fuel, and No. 2 distillate oil, with a maximum sulfur content of 0.20 percent by weight, as a limited auxiliary fuel. The combustion turbine is a GE Model PG7111 (EA) Frame 7 unit equipped with water injection to reduce nitrogen oxides emissions and an inlet fogger system. The HRSG powers an existing steam turbine. The emissions unit can exhaust through the HRSG or through a by-pass stack. Turbine #8 began commercial service in July, 1992.

{Permitting note(s): The emissions unit is regulated under Acid Rain, Phase II; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines; adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Prevention of Significant Deterioration (PSD) in Rule 62-212.400, F.A.C.; and Best Available Control Technology (BACT), dated July 26, 1991, in Rule 62-212.410, F.A.C.; ***This emission unit is also subject to the requirements of previous PSD Permit No. PSD-FL-166 (as amended) and current Title V air operation permit No. 1050003-011-AV.}***

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

Essential Potential to Emit (PTE) Parameters

D.1.1. Permitted Capacity- Base Load Heat Input: The maximum process/operation rate, at an inlet temperature of 25 degrees F, is 1075 MMBtu per hour (lower heating value) heat input firing natural gas or 1060 MMBtu per hour (lower heating value) heat input firing No. 2 distillate oil. The inlet fogger system may be operated any time Unit #8 is in operation.
[1050003-012-AC]

D.1.2. Permitted Capacity- Peaking Mode Heat Input. During peak mode operation, the maximum base load process/operation rate, at an inlet temperature of 25 degrees F, shall not exceed 1161 MMBtu per hour (lower heating value) heat input firing natural gas or 1149 MMBtu per hour (lower heating value) heat input firing No. 2 distillate oil.
[1050003-012-AC]

D.2. Methods of Operation. Fuels.
a. This emissions unit fires natural gas as the primary fuel and No. 2 distillate oil as the secondary fuel.
b. The consumption of No. 2 distillate oil shall not exceed 8,190 gallons per hour and 23,914,800 gallons per year.
c. The maximum annual firing of No. 2 distillate oil shall not exceed 1/3 of the annual capacity factor.
d. The maximum sulfur content of the No. 2 distillate oil shall not exceed 0.20 percent by weight.
[Rules 62-210.200(PTE), 62-212.400, and 62-212.410, F.A.C.; and, PSD-FL-166]

D.3. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

D.4. Hours of Operation- Peaking Mode. During any consecutive 12 months, the unit shall operate in peaking mode no more than 3000 hours, of which a maximum of 500 hours can be used while firing fuel oil.
[1050003-012-AC]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}
{Permitting note: Unless otherwise specified, the averaging time for conditions D.5.1. - D.18. are based on the specified averaging time of the applicable test method.}

D.5.1. Nitrogen Oxides- Base Mode. The NO_X emissions shall not exceed 25 ppmv at 15 percent oxygen on a dry basis; 107 pounds per hour; and, 425 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002; 1050003-012-AC]

D.5.2. Nitrogen Oxides- Peaking Mode. The NO_X emissions shall not exceed 25 ppmv at 15 percent oxygen on a dry basis; 115 pounds per hour; and, 425 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002; 1050003-012-AC]

D.6.1. Nitrogen Oxides-Base Mode. The NO_X emissions shall not exceed 42 ppmv at 15 percent oxygen on a dry basis; 180 pounds per hour; and, 244 tons per year when firing No. 2 distillate oil.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.6.2. Nitrogen Oxides- Peaking Mode. The NO_X emissions shall not exceed 42 ppmv at 15 percent oxygen on a dry basis; 192 pounds per hour; and, 244 tons per year when firing No. 2 distillate oil.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

{Permitting note: Since the BACT limit established for nitrogen oxides is more stringent than the NSPS limit, compliance with the nitrogen oxides BACT limits of specific conditions **D5.** and **D.6.** is assumed to show compliance with the nitrogen oxides limit of 40 CFR 60.332.}

D.7.1. Sulfur Dioxide- Base Mode. The SO_2 emissions shall not exceed 2gr S/100 scf, 3.5 lb/hr; and, 12.9 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.7.2. Sulfur Dioxide- Peaking Mode. The SO_2 emissions shall not exceed 02gr S/100 scf, 3.5 lb/hr; and, 12.9 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.8.1. Sulfur Dioxide- Base Mode. The SO_2 emissions shall not exceed 215 pounds per hour; and, 316 tons per year when firing No. 2 distillate oil. The maximum sulfur content of the No. 2 distillate oil shall not exceed 0.20 percent by weight.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.8.2. Sulfur Dioxide- Peaking Mode. The SO_2 emissions shall not exceed 234 pounds per hour; and, 316 tons per year when firing No. 2 distillate oil. The maximum sulfur content of the No. 2 distillate oil shall not exceed 0.20 percent by weight.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.9.1. PM/PM_{10} - Base Mode- The PM/PM_{10} emissions shall not exceed 0.006 lb/MMBtu heat input, 6.5 lb/hr and 22 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166, 1050003-012-AC]

D.9.2. PM/PM_{10}- Peaking Mode. The PM/PM_{10} emissions shall not exceed 0.006 lb/MMBtu heat input, 7.0 lb/hr and 22 tons per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166, 1050003-012-AC]

D.10.1. PM/PM_{10}.- Base Mode- The PM/PM_{10} emissions shall not exceed 0.025 lb/MMBtu heat input, 27 lb/hr, and 22 tons per year when firing No. 2 distillate oil.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166, 1050003-012-AC]

D.10.2. PM/PM_{10}.- Peaking Mode- The PM/PM_{10} emissions shall not exceed 0.025 lb/MMBtu heat input, 29 lb/hr and 22 tons per year when firing No. 2 distillate oil.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166, 1050003-012-AC]

D.11. Sulfuric Acid Mist. The sulfuric acid mist emissions shall not exceed 1.73E-4 lb./MMBtu; and, 0.8 ton per year when firing natural gas.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; and, Applicant request dated October 14, 2002]

D.12. Sulfuric Acid Mist. The sulfuric acid mist emissions shall not exceed 0.006 lb./MMBtu; and, 9.13 ton per year when firing No. 2 distillate oil. The maximum sulfur content of the No. 2 distillate oil shall not exceed 0.20 percent by weight.
[Rule 62-212.400(6), F.A.C.; PSD-FL-166; and, Applicant request dated October 14, 2002]

D.13. Visible Emissions. Visible emissions shall not exceed 10 percent opacity.
[AC 53-190437, PSD-FL-166, 1050003-012-AC]

D.14.1. Volatile Organic Compounds- Base Mode. Volatile Organic Compounds emissions shall not exceed 0.0018 lb./MMBtu; 1.9 lb/hr and, 9 tons per year when firing natural gas or 0.0045 lb./MMBtu; 4.8 lb/hr and, 6.7 tons per year when firing oil.
[AC 53-190437; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.14.2. Volatile Organic Compounds- Peaking Mode. Volatile Organic Compounds emissions shall not exceed 1.4 ppmvd; 2.1 lb/hr and, 9 tons per year when firing natural gas or 3.5 ppmvd; 5.1 lb/hr and, 6.7 tons per year when firing oil.
[AC 53-190437; PSD-FL-166; Applicant request dated October 14, 2002, 1050003-012-AC]

D.15.1. Carbon Monoxide- Base Mode. Carbon Monoxide emissions shall not exceed 25 ppmv, and 59 lb/hr at 15 percent oxygen on a dry basis and 232 tons per year when firing natural gas or 25 ppmvd, 60 lb/hr, and 79 tons per year when firing oil.
[AC 53-190437, PSD-FL-166, 1050003-012-AC]

D.15.2. Carbon Monoxide- Peaking Mode. Carbon Monoxide emissions shall not exceed 25 ppmv and 63 lb/hr at 15 percent oxygen on a dry basis and 232 tons per year when firing natural gas or 25 ppmvd, 64 lb/hr 79 tons per year when firing oil.
[AC 53-190437, PSD-FL-166, 1050003-012-AC]

D.16. Mercury. Mercury emissions shall not exceed 3.0×10^{-6} pounds per million Btu heat input and 0.003 ton per year when firing oil.
[AC 53-190437 and PSD-FL-166]

D.17. Lead. Lead emissions shall not exceed 2.8×10^{-5} pounds per million Btu heat input and 0.03 ton per year when firing oil.
[AC 53-190437 and PSD-FL-166]

D.18. Beryllium. Beryllium emissions shall not exceed 2.5×10^{-6} pounds per million Btu heat input and 0.003 ton per year when firing oil.
[AC 53-190437 and PSD-FL-166]

Excess Emissions

D.19. Excess emissions from this emissions unit resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

D.20. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations

D.21. At all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
[40 CFR 60.11(d)]

D.22. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG and using water injection to control NO_X emissions shall operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within ± 5.0 percent and shall be approved by the Administrator.
[40 CFR 60.334(a)]

D.23. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:
(1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel

supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with 40 CFR 60.334(b).
[40 CFR 60.334(b)(1) & (2)]

{Permitting note: **No. 2 distillate oil is only supplied with intermediate bulk storage; and, a custom fuel schedule has been established for natural gas.**}

D.24. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

D.25. The permittee shall monitor sulfur content and nitrogen content of natural gas fired in the turbine as follows:

Custom Fuel Monitoring Schedule for Natural Gas

1. Monitoring of fuel nitrogen content shall not be required when firing natural gas.

2. Sulfur Monitoring:
   a. Analysis for fuel 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 alternative method. The reference methods are ASTM D1072-90(94)E-1; ASTM D3031-81(86); ASTM D3246-92; and ASTM D4084-94 as referenced in 40 CFR 60.335(b)(2).
   b. Sulfur monitoring shall be conducted once per quarter for six quarters, beginning on July 1, 1996.
   c. If the sulfur monitoring required for natural gas by 2(b) above shows little variability and the calculated sulfur dioxide emissions represents 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 re-examined.

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 five (5) 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.
[40 CFR 60.334(b)(2); Rule 62-213.400, F.A.C.; and, AC 53-190437 and PSD-FL-166]

Test Methods and Procedures

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

D.26. To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Department to determine the nitrogen content of the fuel being fired.

[40 CFR 60.335(a)]

D.27. When determining compliance with 40 CFR 60.332, Subpart GG - Standards of Performance for Stationary Gas Turbines, the monitoring device of 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with the permitted NO_X standard at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.
[40 CFR 60.335(c)(2)]

D.28. The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in 40 CFR 60.332 as follows:
c. U.S. EPA Method 20 (40 CFR 60, Appendix A) shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO_X emissions shall be determined at each of the load conditions specified in 40 CFR 60.335(c)(2).

EPA Method 7E may be used for compliance with the nitrogen oxides limits, provided there is no stack stratification.
[40 CFR 60.335(c)(3); and, Applicant request dated October 14, 2002]

D.29. Initial compliance with the nitrogen oxides limit pursuant to 40 CFR 60.8 was conducted August 3-7, 1992. For annual compliance purposes, compliance with the nitrogen oxides limits of specific conditions **D.5.** and **D.6.** will be determined using EPA Method 20 and testing at capacity as defined by specific condition **D.37.** Correction to ISO conditions is not required for these annual compliance tests. EPA Method 7E may be used for compliance with the nitrogen oxides limits of specific conditions **D.5.** and **D.6.**, provided there is no stack stratification.
[Rule 62-297.310, F.A.C.; and, Applicant request dated October 14, 2002]

D.30. The owner or operator shall determine compliance with the sulfur content standard of 0.20 percent, by weight, as follows: ASTM D 2880-96 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-90(94)E-1, D 3031-81(86), D 4084-94, or D 3246-92 shall be used for the sulfur content of gaseous fuels (incorporated by reference-see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator.
[40 CFR 60.335(d)]

D.31. To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335 (a) and 40 CFR 60.335(d) of 40 CFR 60.335 to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
[40 CFR 60.335(e)]

D.32. $\underline{PM/PM_{10}}$. The test methods for PM/PM_{10} emissions when firing oil shall be EPA Methods 5, 5B or 17, incorporated by reference in Chapter 62-297, F.A.C. The Method 9 opacity emissions test may be used unless 10% opacity is exceeded.
[Rules 62-213.440, 62-297.310, and 62-297.401, F.A.C.; and, PSD-FL-166]

D.33. Sulfuric Acid Mist. Compliance with the sulfuric acid mist standard shall be demonstrated by using natural gas or 0.2 percent sulfur, by weight, No. 2 distillate oil.
[Rules 62-213.440, 62-297.310, and 62-297.401, F.A.C.; and, PSD-FL-166]

D.34. Visible Emissions. The test method for visible emissions shall be EPA Method 9, incorporated by reference in Chapter 62-297, F.A.C.
[Rules 62-213.440, 62-297.310, and 62-297.401, F.A.C.; and, PSD-FL-166]

D.35. Volatile Organic Compounds, Carbon Monoxide, Mercury, Lead and Beryllium. The initial compliance test requirement for these pollutants has been satisfied and no further tests are required.
[AC 53-190437 and PSD-FL-166]

D.36. Frequency of Compliance Tests. General Compliance Testing. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
[Rule 62-297.310(7)(a)8., F.A.C.]

D.37. Operating Rate During Testing. **Not federally enforceable.** Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. When testing shows that NO_X emissions exceed the standard when operating at capacity, the permittee shall recalibrate the NO_X emission control system using emission testing at four loads as required in Subpart GG.
[Requested in a letter dated February 7, 1997.]

D.38. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Record Keeping and Reporting Requirements

D.39. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as follows:
a. *Nitrogen oxides.* Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the permitted nitrogen oxide standard by the initial performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the initial performance test. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335(a).
[Rule 62-296.800, F.A.C.; and, 40 CFR 60.334(c)(1)]

D.40. The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form [see 40 CFR 60.7(d)] to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or, the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or, the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:
(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
[40 CFR 60.7(c)(1), (2), (3), & (4)]

D.41. The summary report form shall contain the information and be in the format shown in Figure 1 (attached) unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.
(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.
(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.
[40 CFR 60.7(d)(1) & (2)]

D.42. Test Reports. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. At a minimum, the test report shall provide the information specified in Rule 62-297.310(8), F.A.C. [Rule 62-297.310(8), F.A.C.; 1050003-012-AC]

D.43. Hours of Operation. The applicant shall record the hours of operation for each fuel type and for operation in peaking mode.
[1050003-012-AC]

D.44. Future Emissions: The owner or operator shall submit to the department on an annual basis, for a period of 5 years representative of normal post-change operations of the unit, within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did

not result in an emissions increase. The definition of "representative actual annual emissions" found in 40 CFR 52.21(b)(33), adopted and incorporated by reference in Rule 62-204.800, F.A.C [1050003-012-AC]

D.45. This emissions unit is also subject to the conditions contained in **Subsection E. Common Conditions.**

Miscellaneous Requirements.

D.46. Unless the Department has determined that other ambient concentrations are required to protect the public health and safety, predicted ambient air concentrations (AAC) shall not exceed the following levels for the pollutants shown:

	Florida Air Reference Concentrations (ug/cubic meter)		
Pollutant	8 hr. avg.	24 hr. avg.	Annual avg.
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

[AC 53-190437 and PSD-FL-166]

D.47. Definitions. For the purposes of Rule 62-204.800(7), F.A.C., the definitions contained in the various provisions of 40 CFR 60, shall apply except that the term "Administrator" when used in 40 CFR 60, shall mean the Secretary or the Secretary's designee.
[40 CFR 60.2; and, Rule 62-204.800(7)(a), F.A.C.]

D.48. Circumvention. No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.
[40 CFR 60.12]

Subsection E. Common Conditions.

E.U. ID No.	Brief Description
-003	Fossil Fuel Fired Steam Generator #6
-004	Fossil Fuel Fired Steam Generator #7
-008	Combined Cycle Combustion Turbine

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

Monitoring of Operations

E.1. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

E.2. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

E.3. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

E.4. Applicable Test Procedures.

(a) Required Sampling Time.

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

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

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

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

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

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

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

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

E.5. The permittee shall comply with the requirements contained in APPENDIX SS-1, Stack Sampling Facilities, attached to this permit.

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

TABLE 297.310-1
CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent, or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass thermometer	5 degrees F

Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5 degrees F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/-0.001" mean of at least three readings Max. deviation between readings .004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, When 5% change observed, Annually 2. One Point: Semiannually	Spiro meter or calibrated wet test or dry gas test meter	2%
	3. Check after each test series.	Comparison check	5%

E.6. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

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

a Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

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

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

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

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

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

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

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

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

Record Keeping and Reporting Requirements

E.7. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

E.8. Test Reports.

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

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

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

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.

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

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

Section IV. This section is the Acid Rain Part.

Operated by: Lakeland Electric
ORIS code: 0675

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions units listed below are regulated under Acid Rain Program, Phase II.

E.U. ID No.	Description
-004	Fossil Fuel Fired Steam Generator #7
-008	Combined or Simple Cycle Combustion Turbine #8

A.1. The Phase II permit application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these Phase II acid rain unit(s) must comply with the standard requirements and special provisions set forth in the application(s) listed below:
a. DEP Form No. 62-210.900(1)(a), dated August 5, 2002
[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO_2) allowance allocations requirements for each Acid Rain unit are as follows:

E.U. ID No.	EPA ID	Year	2003	2004	2005	2006	2007
-004	ID No. 7	SO2 allowances, under Table 2 or 3 of 40 CFR Part 73	303*	303*	303*	303*	303*
-008	ID No. 8	SO2 allowances, under Table 2 or 3 of 40 CFR Part 73	659*	659*	659*	659*	659*

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.
[Rule 62-213.440(1)(c), F.A.C.]

A.4. Fast-Track Revisions of Acid Rain Parts. Those Acid Rain sources making a change described at Rule 62- 214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, F.A.C., Fast-Track Revisions of Acid Rain Parts.
[Rules 62-213.413 and 62-214.370(4), F.A.C.]

A.5. Comments, notes, and justifications: none

A.6. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.
[40 CFR 70.6(a)(1)(ii); and, Rule 62-210.200, Definitions - Applicable Requirements, F.A.C.]

ATTACHMENT LR-EU1-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT LR-EU1-IV3

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.

III. EMISSIONS UNIT INFORMATION

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

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

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

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

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

   Peaking Gas Turbines No. 2 and No. 3

3. Emissions Unit Identification Number: **005, 006**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**1962**	**49**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: **23 MW (11.5 MW per unit)**

11. Emissions Unit Comment:

    Two natural gas and No. 2 fuel oil fired peaking gas turbines.

Emissions Unit Control Equipment

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

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **418.0** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment:	

Combined maximum heat input rate for gas turbine units No. 2 and No. 3, each rated as follows:

Natural gas firing - 209 MMBtu/hr (based on 20 °F inlet temperature)
No. 2 fuel oil firing - 209 MMBtu/hr (based on 25 °F inlet temperature)

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Each gas turbine exhausts through a single emission point.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	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. 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): **3,102.9**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **28/02/56** Longitude (DD/MM/SS) **81/55/25**	
15. Emission Point Comment: **Stack parameters from Title V renewal application dated May 2002.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines; Electric Generation; Natural Gas; Turbine**		
2. Source Classification Code (SCC): **2-01-002-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **0.22**	5. Maximum Annual Rate: **1,927.2**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment: **Maximum hourly and annual rates are for each gas turbine.** **Maximum hourly rate = 209 MMBtu/hr /950 MMBtu/MM ft^3 (LHV) = 0.22 MM ft^3/hr** **Maximum annual rate = 0.22 MM ft^3/hr x 8,760 hr/yr = 1,927.2 MM ft^3/yr.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **+**		
2. Source Classification Code (SCC): **2-01-001-01**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **1.515**	5. Maximum Annual Rate: **13,267**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138**
10. Segment Comment: **Maximum hourly rate = 209 MMBtu/hr /138 MMBtu/1,000 gallons = 1,514.5 gallons/hr.** **Maximum annual rate = 1,514.5 gallons/hr x 8,760 hr/yr = 13,267x10^3 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			NS
PM_{10}			NS
CO			NS
VOC			NS
SO_2			NS*
NO_x			NS

*Sulfur content limited to 0.5%; not federally enforceable.

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted:	2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: Reference:		7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions:		
11. Potential Fugitive and Actual Emissions Comment:		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **VE test using EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.320(4)(b)1, F.A.C. and Permit No. 1050003-013-AV. Annual VE test if >400 hrs/yr oil operation.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100 %** Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **None**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown, or malfunction. Excess emissions limited to 2 hrs/24hrs. Permit No. 1050003-013-AV. Rule 62-210.700(1), F.A.C.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ____ of ____

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

Continuous Monitoring System: Continuous Monitor ____ of ____

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU2-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU2-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

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

Additional Requirements for Title V Air Operation Permit Applications

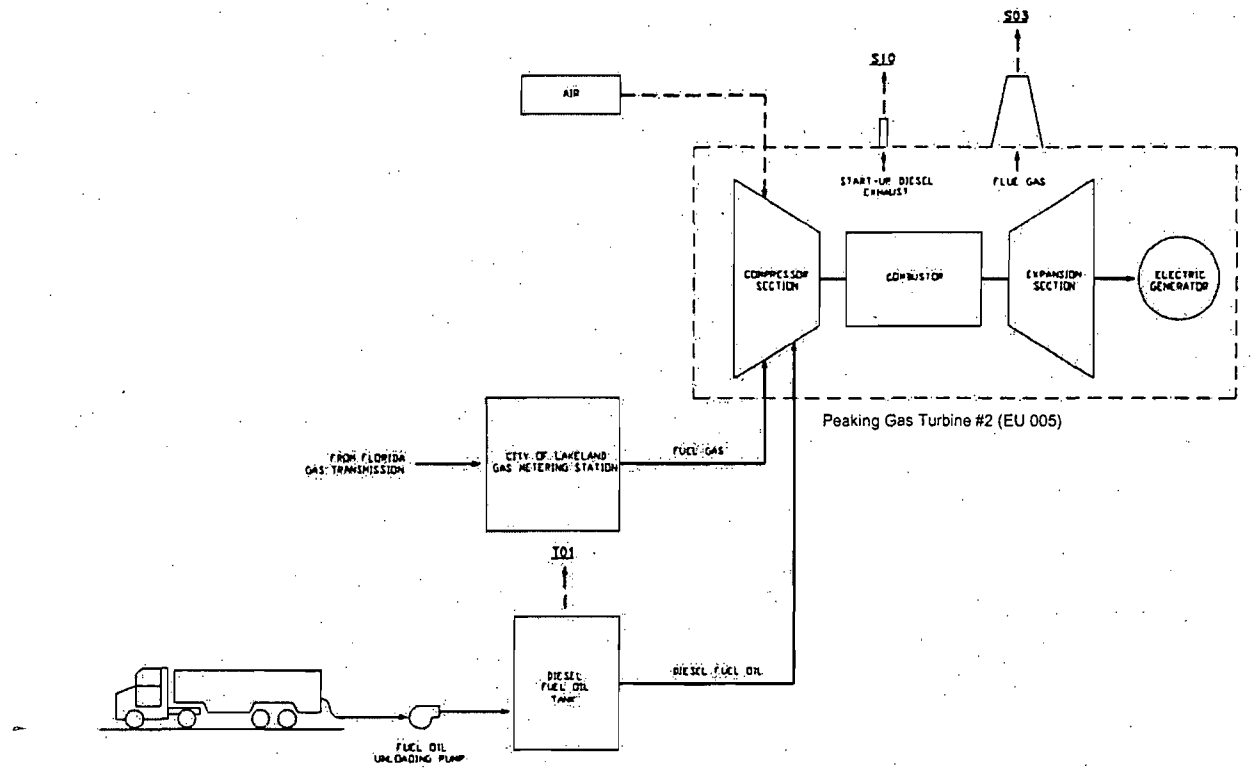
1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **LR-EU1-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **LR-EU2-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☒ Not Applicable

Additional Requirements Comment

ATTACHMENT LR-EU2-I1

PROCESS FLOW DIAGRAM

ATTACHMENT LR-EU2-I1a



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

LAKELAND ELECTRIC & WATER

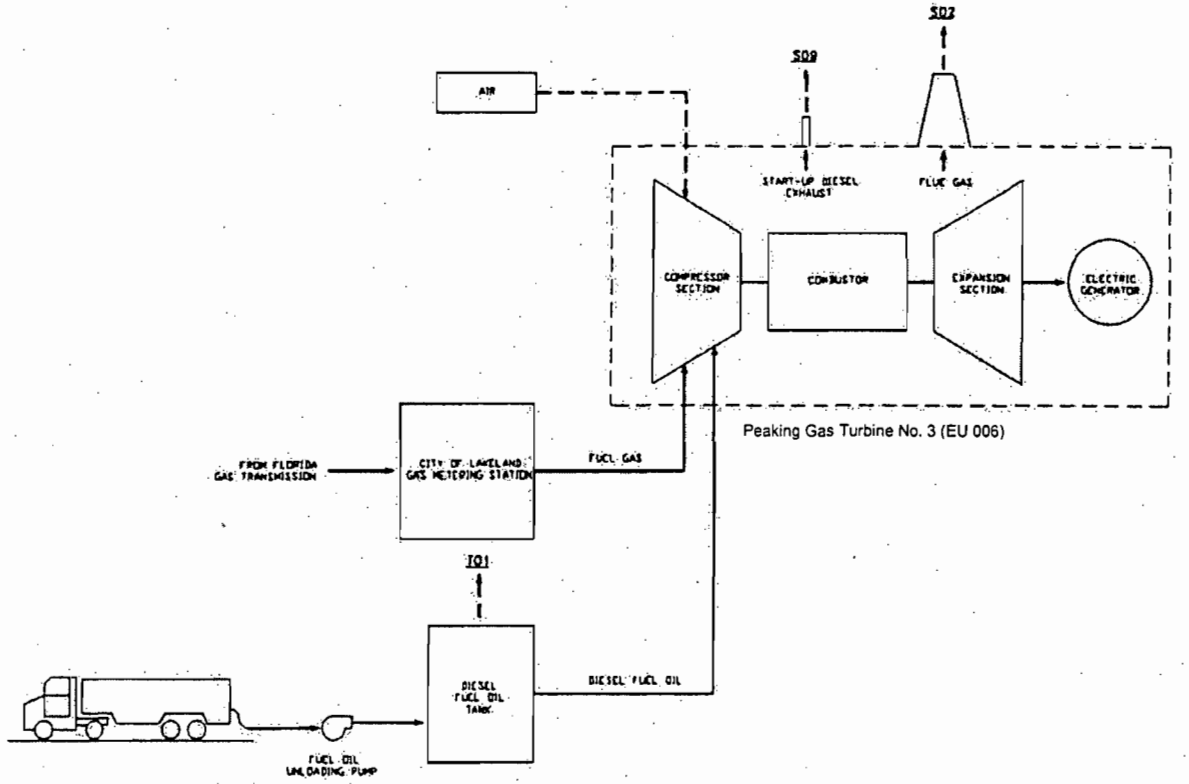
DESCRIPTION
LAKELAND ELECTRIC & WATER UTILITIES
LARSEN POWER PLANT
GAS TURBINE GENERATOR NO. 3
TITLE V PROCESS FLOW DIAGRAM

DIVISION PRODUCTION ENGINEERING
ENGINEER PATTERSON
DRN. BY: MGIEGER
APPR. BY:
DATE 9-19-94

CAD SCALE NONE
PROJ. NO. AIR PERMIT
DWG. NO. Attachment LR-EU2-I1a
REV. 2

SIZE B

ATTACHMENT LR-EU2-I1b



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

LAKELAND ELECTRIC & WATER

DESCRIPTION: LAKELAND ELECTRIC & WATER UTILITIES
LARSEN POWER PLANT
GAS TURBINE GENERATOR NO. 2
TITLE V PROCESS FLOW DIAGRAM

DIVISION: PRODUCTION ENGINEERING
ENGINEER: PATTERSON
DRN. BY: MGIEGER
DATE: 9-19-94
APPR. BY:

CAD | SCALE: NONE
PROJ. NO. AIR PERMIT
DWG. NO. Attachment LR-EU2-I1b
REV. 2

SIZE B

ATTACHMENT LR-EU2-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT LR-EU2-I4
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-EU2-IV3

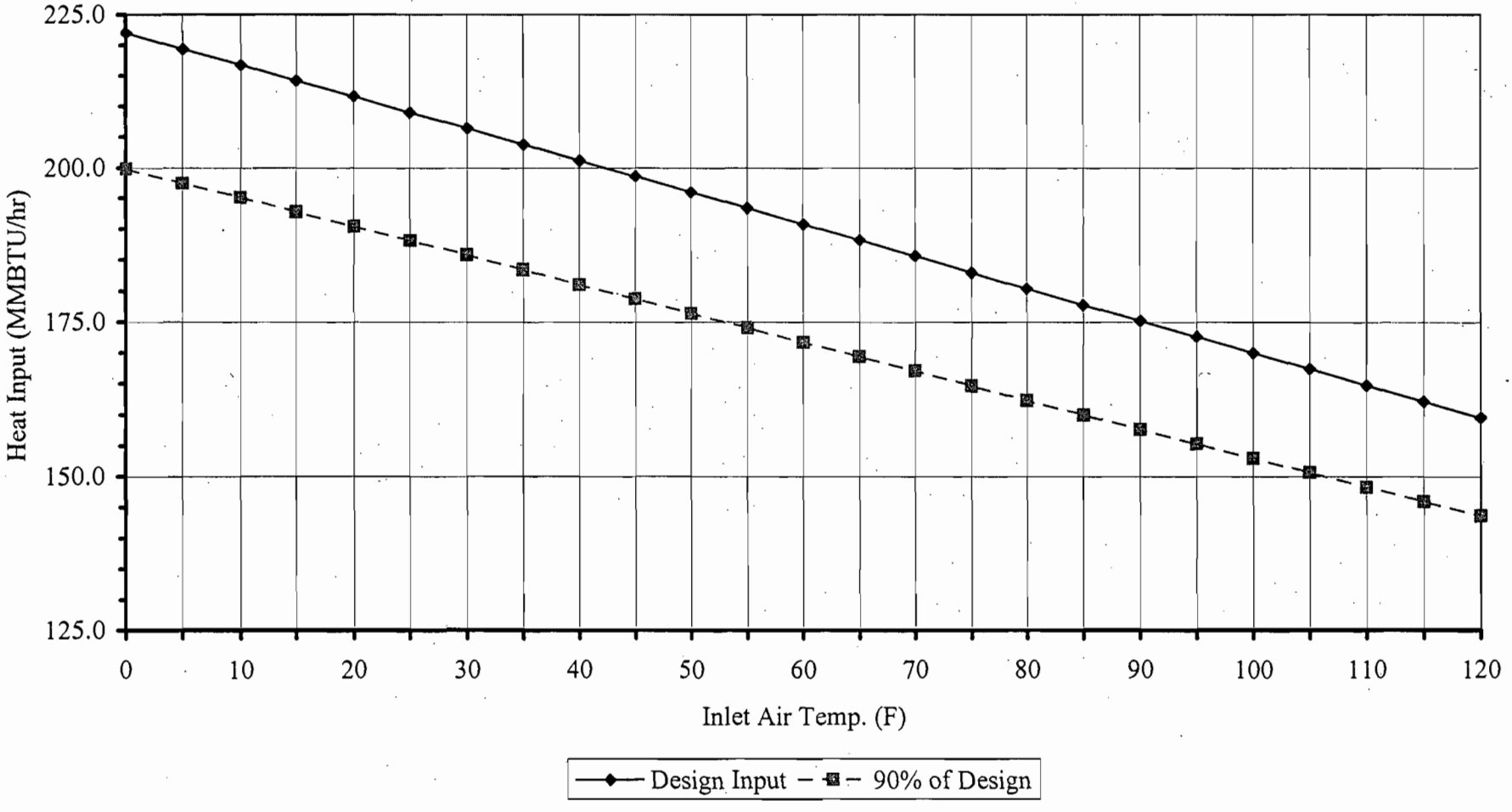
ALTERNATIVE METHODS OF OPERATION

ATTACHMENT LR-EU2-IV3a

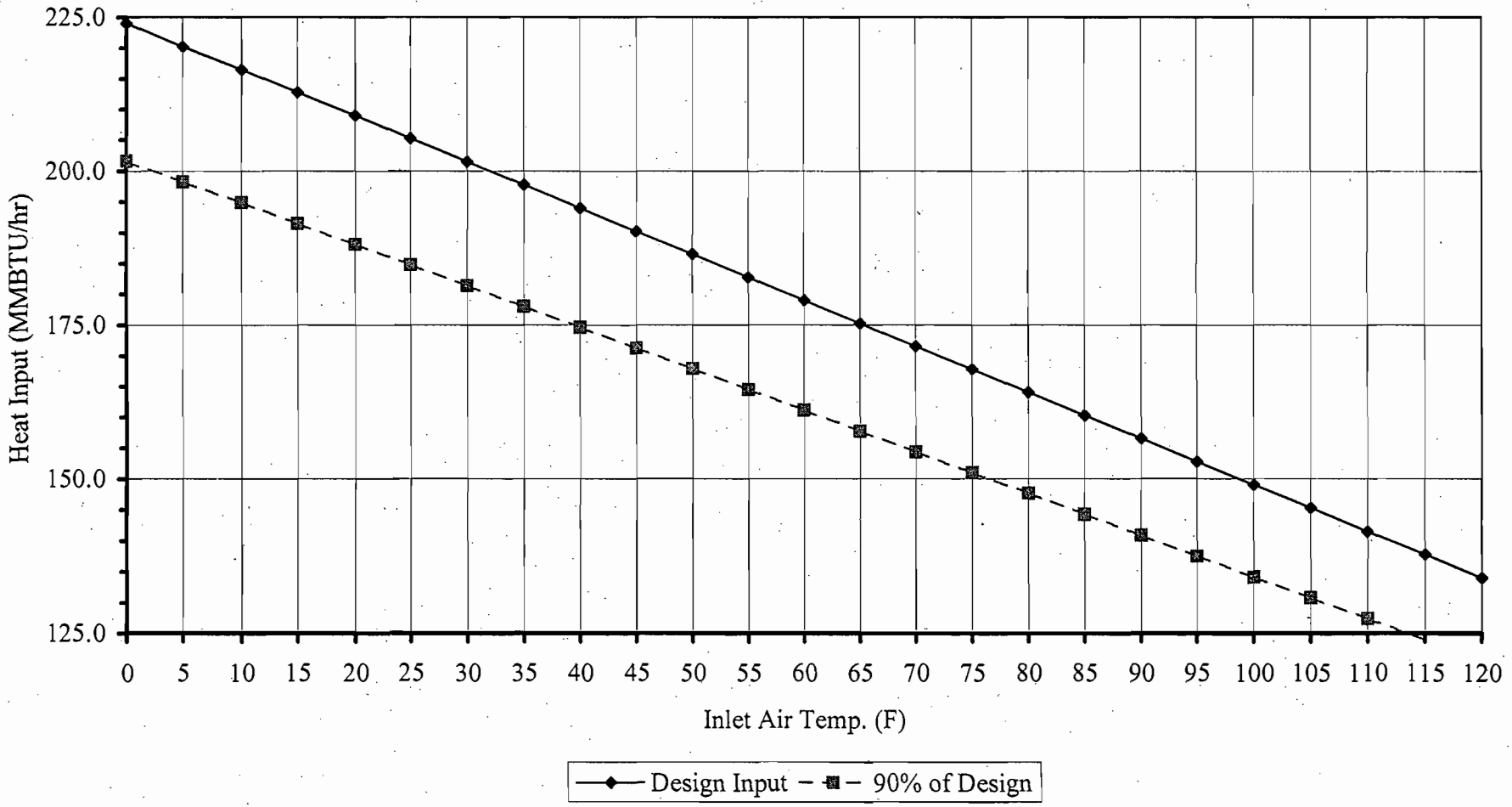
ALTERNATIVE METHODS OF OPERATION

The peaking gas turbine units (No. 2 and No. 3) can be fired with natural gas or No. 2 fuel oil. The maximum heat input rate for each gas turbine is limited to 209 MMBtu/hr for either natural gas or No. 2 fuel oil firing based on 20°F inlet temperature from natural gas firing and 25°F inlet temperature for No. 2 fuel oil firing. The sulfur content of No. 2 fuel oil is limited to 0.5 percent by weight. Graphs of heat input versus inlet temperature for both natural gas and No. 2 fuel firing are attached.

Attachment LR-EU2-IV3c
Larsen Peaking Gas Turbine 2 & 3
Heat Input vs. Compressor Inlet Temperature
Peak Mode Using LHV of #2 Oil



Attachment LR-EU2-IV3b
Larsen Peaking Gas Turbine 2 & 3
Heat Input vs. Compressor Inlet Temperature
Peak Mode Using LHV of Natural Gas



III. EMISSIONS UNIT INFORMATION

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

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

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

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

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Combined Cycle Combustion Turbine 8

3. Emissions Unit Identification Number: **008**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**7/7/92**	**49**	☒ Yes ☐ No

9. Package Unit:
Manufacturer: **GE** Model Number: **PG7111 EA**

10. Generator Nameplate Rating: **120** MW

11. Emissions Unit Comment:

Emission unit is a GE 7EA natural gas or No. 2 fuel oil-fired, combined cycle with an unfired heat recovery steam generator (HRSG) or simple cycle gas turbine. Initial startup date is emission unit's commercial in-service date.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Water Injection
   Direct water spray inlet fogging

2. Control Device or Method Code(s): **28, 153**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **1,161** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input rates: Natural gas firing - 1,075.0 MMBtu/hr** **No. 2 fuel oil firing - 1,060.0 MMBtu/hr** **Heat input rates are based on the lower heating value of the fuels and inlet temperature of 25 F.** **Maximum heat input rates during peak mode operations: Natural gas firing - 1,161 MMBtu/hr** **No. 2 fuel oil firing - 1,149.0 MMBtu/hr** **Peak mode limited to 3,000 hours per year with a maximum of 500 hours per year firing oil.**	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EU 008**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Emission unit can exhaust through either a by-pass stack (simple-cycle mode) or heat recovery steam generator (HRSG) stack (combined-cycle mode).**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **008**		
5. Discharge Type Code: **V**	6. Stack Height: **155** feet	7. Exit Diameter: **16** feet
8. Exit Temperature: **481** °F	9. Actual Volumetric Flow Rate: **1,034,053** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **408.9** North (km): **3,102.9**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) **28/02/56** Longitude (DD/MM/SS) **81/55/25**	
15. Emission Point Comment: **Stack parameters from Title V renewal application dated May 2002.** **Stack parameters for the by-pass stack:** **Height : 100 ft** **Diameter : 17.6 ft (equivalent diameter, stack is rectangular 18.3' x 13.3')** **Temperature : 950 F** **Flow : 1,549,432 acfm**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines; Electric Generation; Natural Gas; Turbine**		
2. Source Classification Code (SCC): **2-01-002-01**	3. SCC Units: **Million cubic feet natural gas burned**	
4. Maximum Hourly Rate: **1.22**	5. Maximum Annual Rate: **9,913**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment: **Maximum hourly rate = 1,161 MMBtu/hr /950 MMBtu/MM ft3 (LHV) = 1.22 MM ft^3/hr Maximum annual rate = 1,075 MMBtu/hr /950 MMBtu/MM ft^3 x 8,760 hr/yr = 9,913 MM ft^3/yr. Based on 25°F turbine inlet and peak (hourly) and base (annual) modes.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines; Electric Generation; Distillate Oil (Diesel); Turbine**		
2. Source Classification Code (SCC): **2-01-001-01**	3. SCC Units: **1,000 Gallons burned**	
4. Maximum Hourly Rate: **8.19**	5. Maximum Annual Rate: **23,914.8**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138**
10. Segment Comment: **Maximum hourly No. 2 oil consumption limited to 8,190 gallons/hr. Maximum annual No. 2 oil consumption limited to 23,914,800 gallons/yr.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM_{10}			EL
CO			EL
VOC			EL
SO_2			EL
NO_x	028		EL
SAM			EL

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **29** lb/hour **36.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.025 lb/MMBtu** Reference: **Permit Nos. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly emissions = 0.025 lb/MMBtu x 1,149 MMBtu/hr = 29 lb/hr (Oil firing, Peaking mode).
Hourly emissions = 0.006 lb/MMBtu x 1,161 MMBtu/hr = 7.0 lb/hr (NG firing, Peaking mode).
Hourly emissions = 0.025 lb/MMBtu x 1,060 MMBtu/hr = 27 lb/hr (Oil firing, Base mode).
Hourly emissions = 0.006 lb/MMBtu x 1,075 MMBtu/hr = 6.5 lb/hr (NG firing, Base mode).
Annual emissions = 22 TPY x 2/3 (gas) + 22 TPY (oil) = 36.7 TPY

11. Potential Fugitive and Actual Emissions Comment:

Hourly emissions based on oil firing during peaking mode.
Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit No. 1050003-013-AV / 1050003-012-AC.

See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **6.5** lb/hour **22** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing during base mode. Permit No. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.025 lb/MMBtu**	4. Equivalent Allowable Emissions: **27** lb/hour **22** tons/year
5. Method of Compliance: **EPA Methods 5, 5B, or 17; or EPA Method 9 if opacity > 10%.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing during base mode. Permit Nos. 1050003-013-AV / 1050003-012-AC. Compliance test required if oil firing >400 hr/yr. VE compliance test using EPA Method 9 if oil firing<400 hr/yr.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **7.0** lb/hour **22** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing during peaking mode. Permit No. 1050003-013-AV / 1050003-012-AC.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **4** of **4**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.025 lb/MMBtu**	4. Equivalent Allowable Emissions: **29** lb/hour **22** tons/year
5. Method of Compliance: **EPA Methods 5, 5B, or 17; or EPA Method 9 if opacity > 10%.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing during peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC. Compliance test required if oil firing >400 hr/yr. VE compliance test using EPA Method 9 if oil firing<400 hr/yr.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **29** lb/hour **36.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.025 lb/MMBtu** Reference: **Permit No. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly emissions = 0.025 lb/MMBtu x 1,149 MMBtu/hr = 29 lb/hr (Oil firing, Peaking mode).
Hourly emissions = 0.006 lb/MMBtu x 1,161 MMBtu/hr = 7.0 lb/hr (NG firing, Peaking mode).
Hourly emissions = 0.025 lb/MMBtu x 1,060 MMBtu/hr = 27 lb/hr (Oil firing, Base mode).
Hourly emissions = 0.006 lb/MMBtu x 1,075 MMBtu/hr = 6.5 lb/hr (NG firing, Base mode).
Annual emissions = 22 TPY x 2/3 (gas) + 22 TPY (oil) = 36.7 TPY

11. Potential Fugitive and Actual Emissions Comment:

Hourly emissions based on oil firing during peaking mode.
Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit No. 1050003-013-AV / 1050003-012-AC.

See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **6.5** lb/hour **22** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing during base mode. Permit No. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.025 lb/MMBtu**	4. Equivalent Allowable Emissions: **27** lb/hour **22** tons/year
5. Method of Compliance: **EPA Methods 5, 5B, or 17; or EPA Method 9 if opacity > 10%.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing during base mode. Permit No. 1050003-013-AV / 1050003-012-AC. Compliance test required if oil firing >400 hr/yr. VE compliance test using EPA Method 9 if oil firing<400 hr/yr.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **7.0** lb/hour **22** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing during peaking mode. Permit No. 1050003-013-AV / 1050003-012-AC..**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 4 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.025 lb/MMBtu**	4. Equivalent Allowable Emissions: **29** lb/hour **22** tons/year
5. Method of Compliance: **EPA Methods 5, 5B, or 17; or EPA Method 9 if opacity > 10%.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing during peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC. Compliance test required if oil firing >400 hr/yr. VE compliance test using EPA Method 9 if oil firing<400 hr/yr.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **234** lb/hour **325.0** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.2% sulfur No. 2 fuel oil** Reference: **Permit Nos. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly emissions = 8,190 gal/hr x 7.132 lb/gal x 0.2 lb S/100 lb fuel x 64 lb SO_2/32 lb S = 234 lb/hr

Annual emissions = 12.9 TPY x 2/3 (gas) + 316 TPY (oil) = 324.6 TPY

11. Potential Fugitive and Actual Emissions Comment:

Hourly emissions based on hourly oil consumption limit of 8,100 gallons/hr. Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit No. 1050003-013-AV / 1050003-012-AC.

See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 gr S/100 scf**	4. Equivalent Allowable Emissions: **3.5** lb/hour **12.9** tons/year
5. Method of Compliance: **Fuel analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in base mode.** **Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 gr S/100 scf**	4. Equivalent Allowable Emissions: **3.5** lb/hour **12.9** tons/year
5. Method of Compliance: **Fuel analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in peaking mode.** **Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.2% sulfur No. 2 fuel oil**	4. Equivalent Allowable Emissions: **215** lb/hour **316** tons/year
5. Method of Compliance: **Fuel oil analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in base mode.** **Permit No. 1050003-013-AV / 1050003-012-AC.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 4 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.2% sulfur No. 2 fuel oil**	4. Equivalent Allowable Emissions: **234** lb/hour **316** tons/year
5. Method of Compliance: **Fuel oil analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in peak mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **192** lb/hour **527.3** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **42 ppmvd at 15 percent O_2** Reference: **Permit Nos. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions = 425 TPY x 2/3 (gas) + 244 TPY (oil) = 527.3 TPY**	
11. Potential Fugitive and Actual Emissions Comment: **Hourly emissions based on oil firing during peaking mode. Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit Nos. 1050003-013-AV / 1050003-012-AC.** **See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **107** lb/hour **425** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20. EPA method 7E may be used if there is no stack stratification.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in base load. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **115** lb/hour **425** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20. EPA method 7E may be used if there is no stack stratification.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in peaking mode. Permit No. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **42 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **180** lb/hour **244** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20. EPA method 7E may be used if there is no stack stratification.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in base mode. Permit No. 1050003-013-AV / 1050003-012-AC.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **4** of **4**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **42 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **192** lb/hour **244** tons/year
5. Method of Compliance: **Annual compliance test using EPA Method 20. EPA method 7E may be used if there is no stack stratification.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **64** lb/hour **254** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **25 ppmvd @ 15% O_2** Reference: **Permit Nos . 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions = 232 TPY x 2/3 (gas) + 79 TPY (oil) = 254 TPY**	
11. Potential Fugitive and Actual Emissions Comment: **Hourly emissions based on oil firing during peaking mode. 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. Permit Nos. 1050003-013-AV / 1050003-012-AC.** **See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @ 15 percent O_2**	4. Equivalent Allowable Emissions: **59** lb/hour **232** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in base load. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **63** lb/hour **232** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **60** lb/hour **79** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in base mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **4** of **4**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **25 ppmvd @15% O2**	4. Equivalent Allowable Emissions: **64** lb/hour **79** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.1** lb/hour **12.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3.5 ppmvd** Reference: **Permit Nos. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
Annual emissions = 9 TPY x 2/3 (gas) + 6.7 TPY (oil) = 12.7 TPY

11. Potential Fugitive and Actual Emissions Comment:
Hourly emissions based on oil firing during peaking mode.
Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit Nos. 1050003-013-AV / 1050003-012-AC.

See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0018 lb/MMBtu**	4. Equivalent Allowable Emissions: **1.9** lb/hour **9** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in base load. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.4 ppmvd**	4. Equivalent Allowable Emissions: **2.1** lb/hour **9** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing in peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 3 of 4

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.0045 lb/MMBtu**	4. Equivalent Allowable Emissions: **4.8** lb/hour **6.7** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in base mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **4** of **4**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **3.5 ppmvd**	4. Equivalent Allowable Emissions: **5.1** lb/hour **6.7** tons/year
5. Method of Compliance: **None**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing in peaking mode. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **6.9** lb/hour **9.66** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.006 lb/MMBtu** Reference: **Permit Nos. 1050003-013-AV / 1050003-012-AC**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly emissions = 0.006 lb/MMBtu x 1,161 MMBtu/hr (No. 2 oil, peak mode) = 6.9 lb/hr.
Annual emissions = 0.8 TPY x 2/3 (gas) + 9.13 TPY (oil) = 9.66 TPY

11. Potential Fugitive and Actual Emissions Comment:

Hourly emissions based on oil firing during peaking mode.
Annual emissions based on 2,920 hrs/yr (1/3 of year) of oil firing and 5,840 hrs/yr (2/3 of year) of natural gas firing. Permit Nos. 1050003-013-AV / 1050003-012-AC.

See Attachment LR-EU3-F1.11 for a summary of emissions limits for Unit 8.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.73 x 10^{-4} lb/MMBtu**	4. Equivalent Allowable Emissions: **0.2** lb/hour **0.8** tons/year
5. Method of Compliance: **Use of natural gas.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on natural gas firing. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.006 lb/MMBtu**	4. Equivalent Allowable Emissions: **6.9** lb/hour **9.13** tons/year
5. Method of Compliance: **Use of 0.2% S No. 2 fuel oil.**	
6. Allowable Emissions Comment (Description of Operating Method): **Allowable emissions based on No. 2 fuel oil firing. Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Allowable Emissions Allowable Emissions _____ of _____

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

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Annual VE test using EPA Method 9**	
5. Visible Emissions Comment: **Permit Nos. 1050003-013-AV / 1050003-012-AC.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE99**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100 %** Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **None**	
5. Visible Emissions Comment: **Excess emissions for startup, shutdown, or malfunction. Excess emissions limited to 2 hrs/24 hrs. Permit No. 1050003-013-AV. Rule 62-210.700(1), F.A.C.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: **EM**	2. Pollutant(s): **NO_x**
3. CMS Requirement:	☒ Rule Other
4. Monitor Information... Manufacturer: **Advanced Pollution Inst.** Model Number: **252** Serial Number: **132**	
5. Installation Date: **28 November 1994**	6. Performance Specification Test Date: **12 December 1995**
7. Continuous Monitor Comment: **CEM required persuant to 40 CFR part 75.**	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: **O_2**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule Other
4. Monitor Information... Manufacturer: **Graseby STI** Model Number: **DP0802** Serial Number: **1511-1-8**	
5. Installation Date: **28 November 1994**	6. Performance Specification Test Date: **12 December 1995**
7. Continuous Monitor Comment: **CEM required persuant to 40 CFR part 75 for dilution with NO_x monitors.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: **WTF**	2. Pollutant(s):
3. CMS Requirement:	☒ Rule Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date: **07 July 1992**	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitoring of water to fuel ratio. 40 CFR 60.334.**	

Continuous Monitoring System: Continuous Monitor _____ of _____

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU3-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU3-I3** ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **LR-EU3-I4** ☐ Previously Submitted, Date _____
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: **Dec 12 & 13, 2006**
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

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

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: **LR-EU1-IV1** ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation
   ☒ Attached, Document ID: **LR-EU3-IV3** ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☒ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☒ Previously Submitted, Date: **August 5, 2002**
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT LR-EU3-F1.11

ALLOWABLE EMISSION RATES

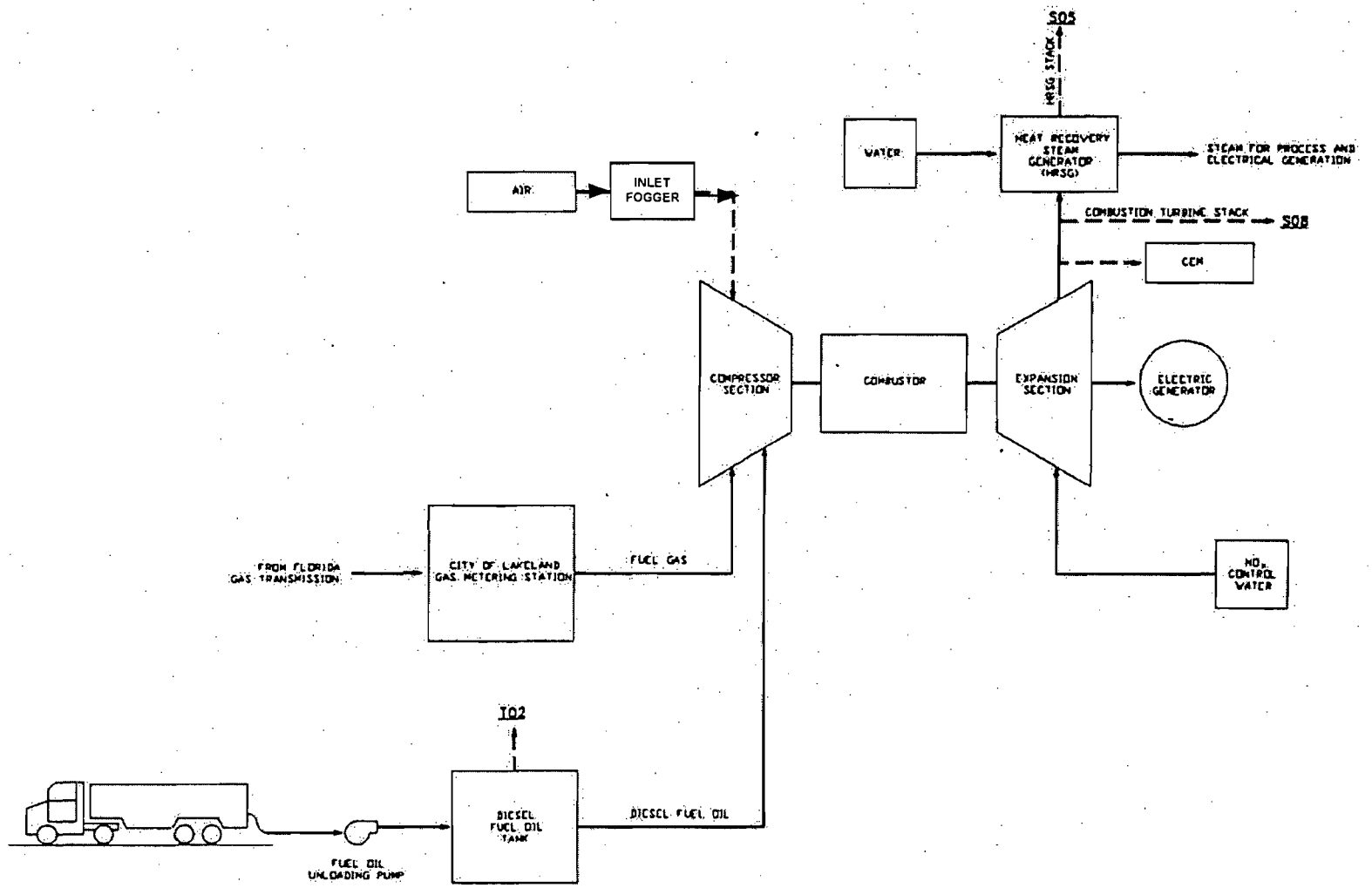
ATTACHMENT LR-EU3-F1.11
ALLOWABLE EMISSION RATES
Charles Larsen Power Plant

Pollutant	Fuel	Operating Mode	Heat Input Rate (MMBtu/hr)	Allowable Emissions *		
				Emission Factor	Hourly (lb/hr)	Annual (TPY)
NO_x	NG	Base	1,075	25 ppmvd@15% O_2	107	425
	NG	Peak	1,161	25 ppmvd@15% O_2	115	425
	Oil	Base	1,060	42 ppmvd@15% O_2	180	244
	Oil	Peak	1,149	42 ppmvd@15% O_2	192	244
SO_2	NG	Base	1,075	2 gr S/100 scf	3.5	12.9
	NG	Peak	1,161	2 gr S/100 scf	3.5	12.9
	Oil	Base	1,060	0.2 %S oil	215	316
	Oil	Peak	1,149	0.2 %S oil	234	316
PM/PM_{10}	NG	Base	1,075	0.006 lb/MMBtu	6.5	22
	NG	Peak	1,161	0.006 lb/MMBtu	7.0	22
	Oil	Base	1,060	0.025 lb/MMBtu	27	22
	Oil	Peak	1,149	0.025 lb/MMBtu	29	22
SAM	NG	All	--	1.73E-04 lb/MMBtu	--	0.8
	Oil	All	--	0.006 lb/MMBtu	--	9.1
VOC	NG	Base	1,075	0.0018 lb/MMBtu	1.9	9
	NG	Peak	1,161	1.4 ppmvd	2.1	9
	Oil	Base	1,060	0.0045 lb/MMBtu	4.8	6.7
	Oil	Peak	1,149	3.5 ppmvd	5.1	6.7
CO	NG	Base	1,075	25 ppmvd@15% O_2	59	232
	NG	Peak	1,161	25 ppmvd@15% O_2	63	232
	Oil	Base	1,060	25 ppmvd	60	79
	Oil	Peak	1,149	25 ppmvd	64	79
Mercury	Oil	All	--	3.00E-06 lb/MMBtu	--	0.003
Lead	Oil	All	--	2.80E-05 lb/MMBtu	--	0.03
Beryllium	Oil	All	--	2.50E-06 lb/MMBtu	--	0.003
VE	All	All	--	10 % Opacity	--	--

* From Permit No. 1050003-013-AV

ATTACHMENT LR-EU3-I1

PROCESS FLOW DIAGRAM

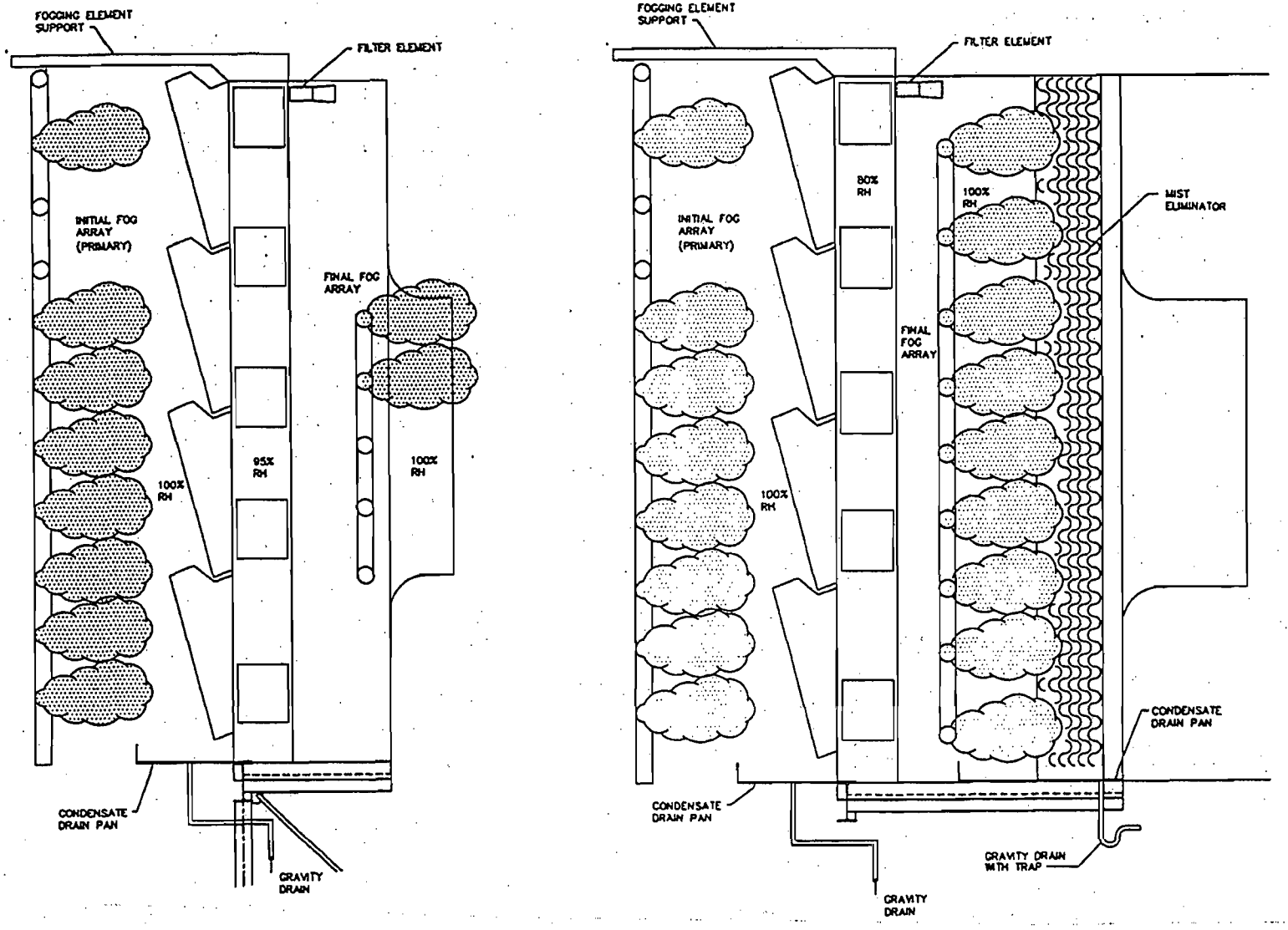


Attachment LR-EU3-I1a
Process Flow Diagram

Source: Golder Associates Inc., 2002.

Process Flow Legend
Solid/Liquid
Gas
Steam

Golder Associates



LR-EU3-I1b
Illustrative Fogging System Schematic

Source: Caldwell Energy and Environmental, Inc. 1999.

Golder Associates

ATTACHMENT LR-EU3-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT LR-EU3-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Water Injection

The GE Mark IV NO_x 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_x 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.

Inlet Fogger

Direct inlet fogging systems achieve adiabatic cooling using water to form fine droplets (fog). The fog is produced by injection grids placed in the turbine inlet duct that use nozzles that produce a fine spray. The small fog particles (about 10 to 20 microns) extract the latent heat of vaporization from the gas stream when the water droplet is converted to gas. Heat is removed at a rate of 1,075 Btu/lb of water. The result of the fogging is a cooler, more moisture-laden air stream.

The effect of decreasing the turbine inlet air temperature through the use of fogging is to increase the mass flow of air that can go through the turbine which allows higher heat input and power output. The combustion turbine is also more efficient since the heat rate decreases with decreasing temperature. For the GE Model PG7111 (Frame 7EA) combustion turbine at the Larsen plant, a 10°F decrease in temperature for gas firing would result in a 3.3 percent increase in power and an associated 0.6 percent decrease in heat rate. Thus, while power increases, the production of power is more efficient with concomitant lower emissions per MW-hr generated. The increase in heat rate as a function of temperature decrease is a linear function and for the Larsen Unit 8 turbine would be 2.5 MMBtu/hr/°F when firing natural gas (based on GE data).

ATTACHMENT LR-EU3-I4

PROCEDURES FOR STARTUP AND SHUTDOWN

ATTACHMENT LR-EU3-I4
PROCEDURES FOR STARTUP/SHUTDOWN

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

The gas turbine utilizes water injection for controlling NO_x emissions. Initiation of water injection occurs when the turbine reaches stabilized load. The amount of water is a function of load based on preset algorithms in the CT digital control system. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective action taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best operating practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

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

ATTACHMENT LR-EU3-IV3

ALTERNATIVE METHODS OF OPERATION

ATTACHMENT LR-EU3-IV3
ALTERNATIVE METHODS OF OPERATION
COMBINED CYCLE UNIT

The gas turbine (Unit No. 8) 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 per 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. The inlet fogger system may be operated any time Unit 8 is in operation.

Unit No. 8 can operate at base load or peak mode. During base load operation and at an inlet temperature of 25°F, maximum heat input is limited to 1,075 MMBtu/hr (LHV) and 1,060 MMBtu/hr (LHV) for natural gas and No. 2 fuel oil, respectively.

During peak load operation and at an inlet temperature of 25°F, maximum heat input is limited to 1,161 MMBtu/hr (LHV) and 1,149 MMBtu/hr (LHV) for natural gas and No. 2 fuel oil, respectively. Peak load operation is limited to 3,000 hr/yr with a maximum of 500 hours of oil firing.