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BUREAU OF AIR REGULATION

TITLE V PERMIT RENEWAL APPLICATION
LAKE WORTH UTILITIES
CITY OF LAKE WORTH, FLORIDA

Prepared For:
Lake Worth Utilities
1900 Second Avenue North
Lake Worth, Florida 33461

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

July 2002
0237548

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Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

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

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Lake Worth Utilities**	
2. Site Name: **Tom G. Smith Power Plant and Lake Worth Water Treatment Plant**	
3. Facility Identification Number: **0990045** [ ] Unknown	
4. Facility Location: Street Address or Other Locator: **117 South College Street** City: **Lake Worth** County: **Palm Beach** Zip Code: **33460**	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **Margaret Johnstone, Environmental Compliance Officer**
2. Application Contact Mailing Address: Organization/Firm: **City of Lake Worth Utilities** Street Address: **1900 2nd Avenue North** City: **Lake Worth** State: **FL** Zip Code: **33461**
3. Application Contact Telephone Numbers: Telephone: (**561**) **586 - 1666** Fax: (**561**) **586 - 1702**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	7/5/02
2. Permit Number:	0990045-003-AV
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

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

Operation permit number to be revised: **0990045-002-AV**

Reason for revision: **Title V Renewal, Current Permit Expires December 31, 2002**

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Air construction permit to construct or modify one or more emissions units.

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

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Patrick D. Miller, Assistant City Manager/Utilities Director
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **City of Lake Worth Utilities**
   Street Address: **1900 2nd Avenue North**
   City: **Lake Worth** State: **FL** Zip Code: **33461**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (**561**) **586 - 1665** Fax: (**561**) **586 - 1702**
4. Owner/Authorized Representative or Responsible Official Statement:

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

   Signature Date 1 July 2002

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Scott A. McCann**
   Registration Number: **54172**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers:
   Telephone: (**352**) **336 - 5600, Ext. 543** Fax: (**352**) **336 - 6603**

4. 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.

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

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

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

Signature

7/3/02
Date

(seal)

SCOTT A. MACCHIA
CERTIFICATE NO. 54172
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/3/02

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001-005	MU-1 through MU-5; five 2,000-kW Diesel Generators		
006	GT-1; Gas Turbine #1		
007	S-1; Fossil Fuel Steam Generating Unit #1		
009	S-3; Fossil Fuel Steam Generating Unit #3		
011	CC1 (GT-2/S-5); Combined Cycle Combustion Turbine 2/Steam Unit 5		
012	T-10, T-11, and T-12 Fuel Oil Storage Tanks		
013	T-3, T-4, T-5, and T-8 Fuel Oil Storage Tanks; 5,000- and 950-gallon Lube Oil Storage Tanks and Fuel Oil Fittings and Pumps		

Application Processing Fee

Check one: [ ] Attached - Amount: $: _____ [X] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:
2. Projected or Actual Date of Commencement of Construction:
3. Projected Date of Completion of Construction:

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **592.8** North (km): **2943.7**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **26/ 36 / 45** Longitude (DD/MM/SS): **80 / 04 / 04**			
3. Governmental Facility Code: **4**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4931**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Margaret Johnstone, Environmental Compliance Officer**
2. Facility Contact Mailing Address: Organization/Firm: **City of Lake Worth Utilities** Street Address: **1900 2nd Avenue North** City: **Lake Worth** State: **FL** Zip Code: **33461**
3. Facility Contact Telephone Numbers: Telephone: **(561) 586 - 1666** Fax: **(561) 586 - 1702**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [X] One or More Emissions Units Subject to NSPS?	
7. [ ] One or More Emission Units Subject to NESHAP?	
8. [ ] Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

Federal:
40 CFR 72 Acid Rain Program
40 CFR 73 SO_2 Allowance System
40 CFR 75 Continuous Emissions Monitoring
State:
Title V Core List (3/1/02), Presumptively Applicable (Federal & State)

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
SO_2	A				
NO_x	A				
PM	A				
CO	A				
VOC	B				
PM_{10}	A				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID: LW-FI-C1 [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: LW-FI-C2 [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: LW-FI-C3 [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [X] Attached, Document ID: LW-FI-C4 [ ] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [X] Attached, Document ID: LW-FI-C5 [ ] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [ ] Attached, Document ID: _____ [X] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [X] Attached, Document ID: LW-FI-C8 [ ] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [X] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [X] Not Applicable

12. Identification of Additional Applicable Requirements:
    [X] Attached, Document ID: LW-FI-C12 [ ] Not Applicable

13. Risk Management Plan Verification:
    [X] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: LW-FI-C13) or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [ ] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [X] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [X] Not Applicable

ATTACHMENT LW-FI-A

APPLICABLE REGULATIONS

Title V Core List

Effective: 03/01/02

[**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 06-01-01

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 06-21-01

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

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

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.
62-210.400, 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 08-17-00

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 04-16-01

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

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

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 03-02-99

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 03-02-99

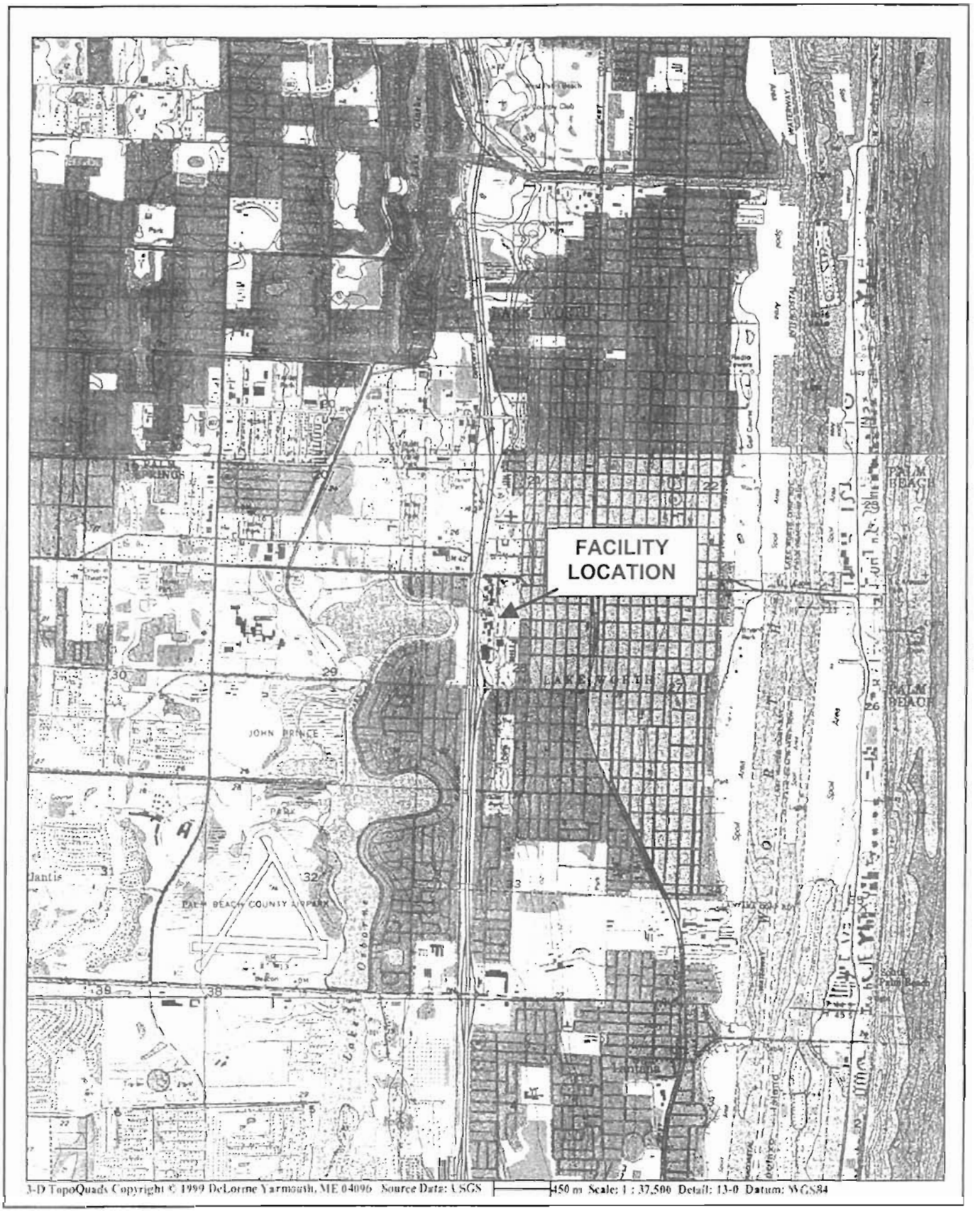
62-297.310, F.A.C.: General Test Requirements.
62-297.330, F.A.C.: Applicable Test Procedures.
62-297.340, F.A.C.: Frequency of Compliance Tests.
62-297.345, F.A.C.: Stack Sampling Facilities Provided by the Owner of an Emissions Unit.
62-297.350, F.A.C.: Determination of Process Variables.
62-297.570, 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 LW-FI-C1

AREA MAP



Attachment LW-FI-C1. Area Map
Lake Worth Utilities, City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-FI-C2

FACILITY PLOT PLAN

ATTACHMENT LW-FI-C3

PROCESS FLOW DIAGRAM

(Process flow diagrams for each emission unit are presented in the emission unit information section of the application.)

ATTACHMENT LW-FI-C4

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

ATTACHMENT LW-FI-C4

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 LW-FI-C5

FUGITIVE EMISSIONS IDENTIFICATION

ATTACHMENT LW-FI-C5

FUGITIVE EMISSIONS IDENTIFICATION

CALCULATION OF FUGITIVE EMISSIONS FROM PIPING

Fugitive vapor emissions that result from the leaking of connections and seals in the fuel oil and lubrication oil piping systems throughout the plant were quantified. The components at the Tom G. Smith Power Plant contributing to these emissions are the following:

Pump Seals Valves
Flange Joints
Open-Ended Lines

CALCULATIONAL METHODS

The first step in quantifying the fugitive emissions from piping is to obtain a count of the above items. Rather than attempt to physically count these numerous components, their quantities can be estimated using estimating factors based on pump count. Equipment counts are estimated by multiplying the number of pumps in service by the appropriate factor. The factors are from "Improving Air Quality: Guidance for Estimating Fugitive Emissions from Equipment," published by the Chemical Manufacturers Association, 1989. The factors were based on counts obtained in the chemical processing industry, where piping configurations are often more complicated than in a typical power plant. It therefore is justifiable to use component count estimating factors from the "low" column. These factors are as follows:

Equipment Item	Components Per Liquid Pump
Pump	1
Valves	20
Flanges	59
Open Ended Lines	0.25

The pump count was obtained by examining process diagrams, conducting the plant walkdown and interviewing plant personnel. Spared pumps were not included in the count. Piping fugitive emissions are based on pump running times. Due to the difficulties associated with obtaining precise pump run times, the operating periods of the units is used instead. Therefore, the pump count is intended to reflect those pumps that continuously run while the various units run. This count was overstated somewhat to reflect the reduced run times of forwarding pumps that periodically cycle.

Fugitive emissions from piping are calculated using emissions factors found in Table 9.1-10 of AP-42. The factors depend on the designation of the fluid as "heavy" or "light". This classification is based on the vapor pressure of the liquid. Diesel, No. 6 fuel oil, and lube oil all qualify as heavy liquids. Along with component counts, pump run times are required for the calculation. As noted above, unit run times will be used as a surrogate for pump run times. Unit run times were taken from the 1994 and 1995 Annual Operating Reports. The resulting emissions for these two years were averaged to obtain actual emissions. The calculations and results are displayed in Table F-1.

TABLE 4-8.
CITY OF LAKE WORTH TOM G. SMITH POWER PLANT
TITLE V AIR PERMIT APPLICATION
ESTIMATION OF FUGITIVE VAPOR EMISSIONS FROM FUEL OIL PIPING

RAYTHEON ENGINEERS AND CONSTRUCTORS

UNIT	FUEL	PUMP COUNT	PUMP EMISSIONS (lb/hr)	VALVE COUNT	VALVE EMISSIONS (lb/hr)	FLANGE COUNT	FLANGE EMISSIONS (lb/hr)	OPEN ENDED LINE COUNT	OPEN ENDED LINE EMISSIONS (lb/hr)	TOTAL PIPING FUGITIVE EMISSIONS (lb/hr)	1994 OPERATING HOURS (hrs)	TOTAL 1994 PIPING FUGITIVE EMISSIONS (lb/yr)	1995 OPERATING HOURS (hrs)	TOTAL 1995 PIPING FUGITIVE EMISSIONS (lb/yr)	AVERAGE 1994-95 PIPING FUGITIVE EMISSIONS (lb/yr)	AVERAGE 1994-95 PIPING FUGITIVE EMISSIONS (tons/yr)
		A	C	D	F	G	I	J	K	L	M	N	O	P	Q	Q
			.046*A	20*A	.0005*D	59*A	.00056*G	.25*A	.005*J	(C + F + I + K)		L*M		L*O	AVG(N,P)	AVG(N,P)/2000
S-1	NO. 6	3	0.138	60	0.03	177	0.09912	0.75	0.00375	0.27087	34	9.21	59	15.98	12.60	0.01
	LUBE	1	0.046	20	0.01	59	0.03304	0.25	0.00125	0.09029	34	3.07	59	5.33	4.20	0.00
S-3	NO. 6	3	0.138	60	0.03	177	0.09912	0.75	0.00375	0.27087	1497	405.48	2817	763.04	584.27	0.29
	LUBE	1	0.046	20	0.01	59	0.03304	0.25	0.00125	0.09029	1497	135.16	2817	254.35	194.76	0.10
GT-1	NO. 2	2	0.092	40	0.02	118	0.06608	0.5	0.0025	0.18058	13	2.35	20	3.61	2.98	0.00
	LUBE	1	0.046	20	0.01	59	0.03304	0.25	0.00125	0.09029	13	1.17	20	1.81	1.49	0.00
GT-2/S-5	NO. 2	1	0.046	20	0.01	59	0.03304	0.25	0.00125	0.09029	7448	672.48	6276	566.57	619.52	0.31
	LUBE	1	0.046	20	0.01	59	0.03304	0.25	0.00125	0.09029	7448	672.48	6276	566.57	619.52	0.31
MU 1-5	NO. 2	2	0.092	40	0.02	118	0.06608	0.5	0.0025	0.18058	60	9.03	579	104.66	56.79	0.03
TOTAL												1910.45		2281.81	2098.13	1.05

NOTES:
1. COMPONENT COUNT ESTIMATION IS PER "IMPROVING AIR QUALITY: GUIDANCE FOR ESTIMATING FUGITIVE EMISSIONS FORM EQUIPMENT", CHEMICAL MANUFACTURERS ASSICIATION, 1989. THE ABOVE ARE TAKEN FROM THE LOW COLUMN IN THE TABLE OF COMPONENTS PER LIQUID PUMP.

2. THE EMISSION FACTORS ARE TAKEN FROM THE TABLE OF AVERAGE SOCMI EMISSION FACTORS IN THE ABOVE REFERENCE. NO. 2 AND NO. 6 FUEL OILS ANO THE LUBE OILS ARE TAKEN TO BE HEAVY LIQUIDS.

3. OPERATING HOURS ARE TAKEN FROM THE 1994 AND 1995 ANNUAL OPERATING REPORTS.

ATTACHMENT LW-FI-C8

LIST OF PROPOSED INSIGNIFICANT ACTIVITIES

UNREGULATED EMISSION UNITS AND EXEMPT ACTIVITIES (REVISED 7/97)

1. Dust Collector Hopper Discharge Valve

Exemption Basis: This unit should be exempt based on the minimal amount of material passing through the valve, the small frequency of usage, and work practices that precludes the generation of fugitive emissions.

This valve is used to remove ash from Unit S-3 following the use of oil. Oil has historically been used very sparingly in the S-3 unit (i.e. <1% oil use annually), therefore, very little ash is generated. The hopper is emptied on an as needed basis. Historically, when emptied, the ash fills on average, four 55 gallon drums/year. To minimize fugitive emissions generation, prior to opening the valve, the outlet is connected to a hose which is inserted into a fabricated hood connected to the 55 gallon drum. This design precludes the generation of fugitive emissions.

2. Liquid Propane Gas Emergency Generator 120 gal. tank

Exemption Basis Rule 62-210.300(3)(a)(20) F.A.C. This unit has historically burned much less than 4.4 million scf/yr and will continue to do so in the future.

ATTACHMENT A

LIST OF ACTIVITIES THAT MAY BE TREATED AS "TRIVIAL"

The following types of activities and emissions units may be presumptively omitted from part 70 permit applications. Certain of these listed activities include qualifying statements intended to exclude many similar activities.

Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.

Air-conditioning units used for human comfort that do not have applicable requirements under title VI of the Act.

Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.

Non-commercial food preparation.

Consumer use of office equipment and products, not including printers or businesses primarily involved in photographic reproduction.

Janitorial services and consumer use of janitorial products.

Internal combustion engines used for landscaping purposes.

Laundry activities, except for dry-cleaning and steam boilers.

Bathroom/toilet vent emissions.

Emergency (backup) electrical generators at residential locations.

Tobacco smoking rooms and areas.

Blacksmith forges.

Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not

otherwise triggering a permit modification.[1]

Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.

Portable electrical generators that can be moved by hand from one location to another[2].

Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.

Brazing, soldering and welding equipment, and cutting torches related to manufacturing and construction activities that do not result in emission of HAP metals.[3]

Air compressors and pneumatically operated equipment, including hand tools.

Batteries and battery charging stations, except at battery manufacturing plants.

Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP.[4]

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[1]Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise required.

[2]"Moved by hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.

[3]Brazing, soldering and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are more appropriate for treatment as insignificant activities based on size or production level thresholds. Brazing, soldering, welding and cutting torches directly related to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately in this appendix.

[4]Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.

Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.

Equipment used to mix and package, soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.

Drop hammers or hydraulic presses for forging or metalworking.

Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.

Vents from continuous emissions monitors and other analyzers.

Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.

Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.

Equipment used for surface coating, painting, dipping or spraying operations, except those that will emit VOC or HAP.

CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.

Consumer use of paper trimmers/binders.

Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.

Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants.

Laser trimmers using dust collection to prevent fugitive emissions.

Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents.[5]

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[5]Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.

Routine calibration and maintenance of laboratory equipment or other analytical instruments.

Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.

Hydraulic and hydrostatic testing equipment.

Environmental chambers not using hazardous air pollutant (HAP) gasses.

Shock chambers.

Humidity chambers.

Solar simulators.

Fugitive emission related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.

Process water filtration systems and demineralizes.

Demineralized water tanks and demineralizer vents.

Boiler water treatment operations, not including cooling towers.

Oxygen scavenging (de-aeration) of water.

Ozone generators.

Fire suppression systems.

Emergency road flares.

Steam vents and safety relief valves.

Steam leaks.

Steam cleaning operations.

Steam sterilizers.

ATTACHMENT LW-FI-C12

IDENTIFICATION OF ADDITIONAL APPLICABLE REQUIREMENTS

City of Lake Worth Utilities
Tom G. Smith Power Plant and Lake Worth Water Treatment Plant
Facility ID No.: 0990045
Palm Beach County

Initial Title V Air Operation Permit
FINAL Permit No.: 0990045-002-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: 850/488-1344
Fax: 850/922-6979

Initial Title V Air Operation Permit
FINAL Permit No.: 0990045-002-AV

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Permittee:
City of Lake Worth Utilities

FINAL Permit No.: 0990045-002-AV
Facility ID No.: 0990045
SIC Nos.: 49, 4931
Project: Initial Title V Air Operation Permit

This permit is for the operation of the Tom G. Smith Power Plant and Lake Worth Water Treatment Plant. This facility is located at 117 College Street, Lake Worth, FL 33461; UTM Coordinates: Zone 17, 592.8 km East and 2943.7 km North; Latitude: 26° 36' 45" North and Longitude: 80° 04' 04" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the 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-1, Title V Conditions (version dated 12/02/97)
Appendix SS-1, Stack Sampling Facilities (version dated 10/07/96)
Table 297.310-1, Calibration Schedule (version dated 10/07/96)
Phase II Acid Rain Application/Compliance Plan received 07/01/95
Alternate Sampling Procedure: ASP Number 97-B-01
Scrivener's Order dated July 9, 1997 correcting ASP 97-B-01
Order Extending Permit Expiration Date (dated 11/04/97)

Effective Date: January 1, 1998
Renewal Application Due Date: July 5, 2002
Expiration Date: December 31, 2002

Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/sms/jk

Section I. Facility Information.

Subsection A. Facility Description.

This facility is an electric power generating plant and an adjacent potable water treatment facility and consists of:

Five 2000 kW diesel engine generators; Fossil Fuel Steam Generating Units 1 (S-1), 3 (S-3) and 4 (S-4); Gas Turbine # 1, (GT-1); and a Combined Cycle Unit, (GT-2/S-5).

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

No activities at the water treatment plant were required to be included in this permit as emissions units.

Based on the initial Title V permit application received June 13, 1996, 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).

E.U. ID No.	Brief Description
001 - 005	Five 2000 kW diesel engine generators, an MP 36 Power Pack; each diesel generator is a model 567D4 manufactured by GM Electro Motive Division.
007	Fossil Fuel Steam Generating Unit 1 (S-1), nominally rated at 7.5 MW, 111 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 60 ft. stack
009	Fossil Fuel Steam Generating Unit 3 (S-3), nominally rated at 26.5 MW, 325.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 113 ft. stack
010	Fossil Fuel Steam Generating Unit 4, (S-4), nominally rated at 33 MW, 419.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 115 ft. stack
006	Gas Turbine # 1, (GT-1), nominally rated at 30 MW, 435 mmBtu/hr, capable of burning number 2 fuel oil, with emissions exhausted through a 46 ft. stack
011	Combined Cycle Unit, (GT-2/S-5), nominally rated at 29.5 MW, consists of a gas turbine (GT-2) nominally rated at 20 MW and a heat recovery steam generator (S5) nominally rated at 10 MW. GT-2 has a maximum heat input of 317.6 mmBtu/hr, capable of burning any combination of natural gas and number 2 fuel oil, with emissions exhausted through a 75 ft. stack

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

These documents are on file with the permitting authority:
Initial Title V Permit Application received June 13, 1996
Additional Information Request dated May 5, 1997
Additional Information Response received July 31, 1997

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-1, TITLE V CONDITIONS, is a part of this permit.
{Permitting note: APPENDIX TV-1, 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. The permittee shall not 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.
[Rule 62-296.320(4)(b)1. & 4, F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA). If required by 40 CFR 68, the permittee shall submit to the implementing agency:
a. a risk management plan (RMP) when, and if, such requirement becomes applicable; and
b. certification forms and/or RMPs according to the promulgated rule schedule.
[40 CFR 68]

5. 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.]

6. Not Federally Enforceable. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. The owner or operator shall:
a. Tightly cover or close all VOC or OS containers when they are not in use.
b. Immediately clean up VOC or OS spills and make sure wastes are placed in closed containers for reuse, recycling or proper disposal.
[Rule 62-296.320(1)(a), F.A.C.]

7. Not Federally Enforceable. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. When performing sandblasting on fixed plant equipment, the facility shall construct temporary enclosures when practical and necessary, in order to prevent unconfined particulate emissions.
b. Maintenance of paved areas as needed.
c. Regular care of vegetation.
d. Limiting access to plant property by unnecessary vehicles.
e. Bagged chemical products shall be stored in buildings until they are used.
f. Spills of powdered chemical products are cleaned up as soon as practicable.
g. Sweeping paved roads with a wet vacuum truck.
h. Watering, if necessary, the lime backwash residue holding area.

[Rule 62-296.320(4)(c)2., F.A.C.; Items 7.g. & h. proposed by applicant in the Additional Information Response received July 31, 1997]
{Note: This condition implements the requirements of Rules 62-296.320(4)(c)1., 3., & 4. F.A.C. (condition 58 of Appendix TV-1, dated 12/02/97).}

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

9. Submittals. All reports, tests, notifications or other submittals required by this permit shall be submitted to the Palm Beach County Health Department's Air Section, and copies of those submittals shall be sent to the Department of Environmental Protection, Southeast District Office, Air Section. Addresses and telephone numbers are:

Palm Beach County Health Department
Air Section
PO Box 29
West Palm Beach, FL 33402-0029
Phone: 561/355-3070

Department of Environmental Protection
Southeast District Office, Air Section
PO Box 15425
West Palm Beach, FL 33416
Phone: 561/681-6600

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
Operating Permits Section
61 Forsyth Street
Atlanta, GA 30303
Phone: 404/562-9099
Fax: 404/562-9095

For Acid Rain submittals, submittals should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Acid Rain Section
61 Forsyth Street
Atlanta, GA 30303

10. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted within 60 (sixty) days after the end of the calendar year. {See condition No. 52., Appendix TV-1, Title V Conditions}
[Rule 62-214.420(11), F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions units.

E.U. ID No.	Brief Description
001 - 005	Five 2000 kW diesel engine generators, an MP 36 Power Pack; each diesel generator is a model 567D4 manufactured by GM Electro Motive Division.

{Permitting note(s): These emissions units are regulated under Rule 62-296.570, F.A.C., NOx RACT.}

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

Essential Potential to Emit (PTE) Parameters

A.1. Methods of Operation - (i.e., Fuels). These emissions units shall burn only diesel fuel.
[Rule 62-213.410, F.A.C.]

Emission Limitations and Standards

{Note: Emissions units 001 through 005 are also subject to the visible emissions standard of specific condition 3 of this permit.}

A.2. NOx RACT. Emissions of nitrogen oxides (NOx) from these emissions units shall not exceed 4.75 pounds per million Btu.
[Rule 62-296.570, F.A.C.]

Test Methods and Procedures

A.3. NOx Testing. Compliance with the NOx emission limitation shall be demonstrated by annual emission testing in accordance with EPA Test Method 7E.
[Rule 62-296.570, F.A.C.]

Monitoring of Operations

A.4. Annual Tests Required - NOx and VE. Except as provided in specific conditions **E.6** through **E.8** of this permit, emission testing for nitrogen oxide emissions and visible emissions shall be performed annually, no later than the end of each federal fiscal year (September 30), except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Annual compliance testing while firing oil is not required for units that operated on oil for less than 400 hours in the previous federal fiscal year (ending September 30th).
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Record Keeping and Reporting Requirements

A.5. The owner or operator shall make and keep records of:

a. The number of hours each emissions unit operates every calendar month; and
b. The total fuel consumption of all five units combined each calendar month.

Such monthly records shall be prepared no later than fifteen days after the end of each month. [Rule 62-4.070(3), F.A.C.]

Common Conditions

A.6. This emissions unit is also subject to conditions **E.1** through **E.19, except for E.3, E.10, E.11 and E.18,** contained in **Subsection E. Common Conditions.**

Subsection B. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
007	Fossil Fuel Steam Generating Unit 1 (S-1), nominally rated at 7.5 MW, 111 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 60 ft. stack

{Permitting note(s): The emissions unit is regulated under Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less than 250 million Btu per Hour Heat Input, and Rule 62-296.570, F.A.C., NOx RACT. Fossil fuel fired steam generator Unit 1 (S-1) began commercial operation in 1961.}

The following specific conditions apply to the emissions unit(s) 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
007	111	Natural Gas
	111	No. 6 Fuel Oil

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.406, F.A.C.]

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **E.14.**
[Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation. Fuels.
a. Startup: The only fuel(s) allowed to be burned are any combination of natural gas and/or number 6 fuel oil.
b. Normal: The only fuel(s) allowed to be burned are any combination of natural gas and/or number 6 fuel oil.
[Rule 62-213.410, F.A.C.]

Emission Limitations and Standards

B.4. 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.
[Rule 62-296.406(1), F.A.C.]

B.5. 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.6. Particulate Matter. Particulate matter emissions shall be controlled by the firing of natural gas and/or low sulfur content liquid fuel. See specific condition **B.7.**
[Rules 62-4.070(3) and 62-296.406(2), F.A.C.]

B.7. Sulfur Dioxide - Sulfur Content. The No. 6 fuel oil sulfur content shall not exceed 2.25 percent, by weight. See specific condition **B.10.**
[Rules 62-4.070(3) and 62-296.406(3), F.A.C.; BACT for this unit assumed to equal the sulfur limit established by PPSC No. PA 74-05 for units S-3 and S-4]

B.8. NOx RACT. Emissions of nitrogen oxides (NOx) from these emissions units shall not exceed 0.50 pounds per million Btu while firing natural gas or number 6 fuel oil.
[Rule 62-296.570, F.A.C.]

Test Methods and Procedures

B.9. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by fuel sampling and analysis. See specific conditions **B.7. and B.10.**
[Rules 62-213.440 and 62-296.406(3), F.A.C.]

B.10. Fuel Sampling & Analysis - Sulfur. For this emissions unit, the following fuel sampling and analysis protocol shall be used to demonstrate compliance with the fuel sulfur limitation of specific condition B.7 of this permit:

a. Sample the as-fired fuel oil each day fuel oil is fired.

b. Composite the daily samples and each month determine and record the as-fired fuel sulfur content, percent by weight, for liquid fuels using either ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the composited as-fired fuel oil.

[Rules 62-4.070(3) and 62-213.440, F.A.C.]

B.11. NOx Testing. Compliance with the NOx emission limitation shall be demonstrated by annual emission testing in accordance with EPA Test Method 7E.
[Rule 62-296.570, F.A.C.]

Monitoring of Operations

B.12. Annual Tests Required - NOx and VE. Except as provided in specific conditions **E.6** through **E.8** of this permit, emission testing for nitrogen oxide emissions and visible emissions shall be performed annually, no later than the end of each federal fiscal year (September 30), except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Annual compliance testing while firing oil is not required for units that operated on oil for less than 400 hours in the previous federal fiscal year (ending September 30th).
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

Common Conditions

B.13. This emissions unit is also subject to conditions **E.1** through **E.19, except for E.2, E.9 and E.18,** contained in **Subsection E. Common Conditions.**

Subsection C. This section addresses the following emissions units.

009	Fossil Fuel Steam Generating Unit 3 (S-3), nominally rated at 26.5 MW, 325.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 113 ft. stack
010	Fossil Fuel Steam Generating Unit 4, (S-4), nominally rated at 33 MW, 419.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil, with emissions exhausted through a 115 ft. stack

{Permitting note(s): The emissions units are regulated under Acid Rain, Phase II, Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input, and Rule 62-296.570, F.A.C., NOx RACT, Power Plant Siting Certification No. PA 74-05, and the modified conditions of PA 74-05 ordered September 28, 1987. Fossil fuel fired steam generator Unit 3 (S-3) began commercial operation in 1966; and, fossil fuel fired steam generator Unit 4 (S-4) began commercial operation in 1970. The permittee reported it operates the following continuous monitors for Unit S-3: SO_2, NOx, CO_2, flow, visible emissions, and temperature.}

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 are as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
009	325.1	Natural Gas
	325.1	No. 6 Fuel Oil
010	419.1	Natural Gas
	419.1	No. 6 Fuel Oil

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

C.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **E.14.**
[Rule 62-297.310(2), F.A.C.]

C.3. Methods of Operation. Fuels.

a. Startup: The only fuel(s) allowed to be burned are any combination of natural gas and/or number 6 fuel oil.

b. Normal: The only fuel(s) allowed to be burned are any combination of natural gas and/or number 6 fuel oil.

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

Emission Limitations and Standards

C.4. 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.]

C.5. 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.

(The following paragraph is applicable to emissions unit 009 (Unit S-3) and will become applicable to emissions unit 010 (Unit S-4) only upon installation of an operational continuous opacity monitor at Unit S-4.) Visible emissions above 60 percent opacity shall be allowed for not more than 4, six (6)-minute periods, during the 3-hour period of excess emissions allowed by this condition.
[Rule 62-210.700(3), F.A.C., Note: Unit S-3 has an operational continuous opacity monitor. Unit S-4 may install an operational continuous opacity monitor in the future, and at that time be allowed visible emissions greater than 60% opacity pursuant to Rule 62-210.700(3), F.A.C., and specific condition C.5 of this permit.]

C.6. 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.]

C.7. 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.]

C.8. Sulfur Dioxide - Sulfur Content. The No. 6 fuel oil sulfur content shall not exceed 2.25 percent, by weight. See specific condition **C.11**.
[Rules 62-4.070(3) and 62-213.440, F.A.C., and Power Plant Siting Certification No. PA 74-05]

C.9. NOx RACT. Emissions of nitrogen oxides (NOx) from these emissions units shall not exceed 0.50 pounds per million Btu while firing natural gas or number 6 fuel oil.
[Rule 62-296.570, F.A.C.]

Test Methods and Procedures

C.10. 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 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

C.11. Sulfur Dioxide - Sulfur Content. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by fuel sampling and analysis. See specific conditions **C.8. and C.12.** [Rules 62-213.440 and 62-296.406(3), F.A.C.]

C.12. Fuel Sampling & Analysis - Sulfur. For each emissions unit, the following fuel sampling and analysis protocol shall be used to demonstrate compliance with the the fuel sulfur limitation of specific condition **C.8** of this permit:

a. Sample the as-fired fuel oil each day fuel oil is fired.

b. Composite the daily samples and each month determine and record the as-fired fuel sulfur content, percent by weight, for liquid fuels using either ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the composited as-fired fuel oil. Each composite sample shall also be analyzed for heating value.

c. Record monthly the amount of each fuel fired, and maintain records of the monthly analyses of the heating value of each fuel, and the percent sulfur content by weight of each fuel, to enable calculations of sulfur dioxide emissions.

[Rules 62-4.070(3) and 62-213.440, F.A.C., and PPSC PA 74-05]

C.13. NOx Testing. Compliance with the NOx emission limitation shall be demonstrated by annual emission testing in accordance with EPA Test Method 7E, for emissions unit 010. If a continuous emission monitoring system (CEMS) for NOx is installed at emissions unit 010, compliance shall then be demonstrated by the CEMS. Compliance with the NOx emission limitation shall be demonstrated by a CEMS for emissions unit 009. See specific conditions **C.15** and **C.16**.
[Rule 62-296.570, F.A.C.]

Monitoring of Operations

C.14. Annual Tests Required - PM and VE. Except as provided in specific conditions **E.6** through **E.8** of this permit, emission testing for particulate matter emissions and visible emissions shall be performed annually, no later than the end of each federal fiscal year (September 30), except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service.
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

C.15. Annual NOx Tests Required - Unit 4 (S-4, Emissions Unit 010). For emissions unit 010, emission testing for NOx shall be performed annually, no later than the end of each federal fiscal year (September 30), except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Annual compliance testing while firing oil is not required for units that operated on oil for less than 400 hours in the previous federal fiscal year (ending September 30th).

Should the owner or operator install a continuous emission monitoring system (CEMS) for NOx emissions at emission unit 010, compliance with the NOx limitation shall be demonstrated with the CEMS. Compliance shall be based on a 30-day rolling average. The CEMS shall be properly maintained and operated and shall meet the performance specifications of 40 CFR 60, Appendix B, or 40 CFR 75. The CEMS data shall be maintained on site for inspection by the Department.
[Rules 62-4.070(3), 62-213.410, F.A.C. and 62-296.570(4)(a)3. & 4.]

C.16. NOx CEMS Required - Unit 3 (S-3, Emissions Unit 009). For emissions unit 009, compliance with the NOx limitation shall be demonstrated with a continuous emission monitoring system (CEMS). Compliance shall be based on a 30-day rolling average, excluding periods of startup, shutdown or malfunction as provided by Rule 62-210.700, F.A.C. The CEMS shall be properly maintained and operated and shall meet the performance specifications of 40 CFR 60, Appendix B, or 40 CFR 75. The CEMS data shall be maintained on site for inspection by the Department and need not be submitted to the Department unless specifically requested. [Rules 62-4.070(3), 62-213.440, F.A.C. and 62-296.570(4)(a)4., and request of applicant]

Common Conditions

C.17. This emissions unit is also subject to conditions **E.1** through **E.19, except for E.2 and E.9,** contained in **Subsection E. Common Conditions.**

Subsection D. This section addresses the following emissions units.

006	Gas Turbine # 1, (GT-1), manufactured by Westinghouse, nominally rated at 30 MW, 435 mmBtu/hr, capable of burning number 2 fuel oil, with emissions exhausted through a 46 ft. stack
011	Combined Cycle Unit, (GT-2/S-5), nominally rated at 29.5 MW, consists of a gas turbine (GT-2) nominally rated at 20 MW and a heat recovery steam generator (S5) nominally rated at 10 MW. GT-2 has a maximum heat input of 317.6 mmBtu/hr, capable of burning any combination of natural gas and number 2 fuel oil, with emissions exhausted through a 75 ft. stack

{Permitting notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required and Rule 62-296.570, F.A.C., NOx RACT. Emissions unit 011 is also regulated under Power Plant Siting Certification No. PA 74-05, and the modified conditions of PA 74-05 ordered September 28, 1987. Based on information submitted by the applicant in the Title V application, these emissions 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.. Emissions unit 006 (Unit GT-1) began commercial operation in 1976; and, emissions unit 011 (Unit GT-2/S-5) began commercial operation in 1978.}

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

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	mmBtu/hr Heat Input	Fuel Type
006	435	No. 2 Fuel Oil
011	317.6	Natural Gas
	317.6	No. 2 Fuel Oil

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

D.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition **E.14.**
[Rule 62-297.310(2), F.A.C.]

D.3. Methods of Operation - Fuels.

a. Emissions unit 006: Only number 2 fuel oil shall be fired in the combustion turbine.
b. Emissions unit 011: Only any combination of natural gas and/or number 2 fuel oil shall be fired in the combustion turbine.

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

Emission Limitations and Standards

{Note: Emissions unit 006 is also subject to the visible emissions standard of specific condition 3 of this permit.}

D.4. Sulfur Dioxide - Sulfur Content - Emissions Unit 011. For emissions unit 011 (Unit GT-2/S-5), the No. 2 fuel oil sulfur content shall not exceed 0.35 percent, by weight. See specific condition **D.6.**
[Rules 62-4.070(3) and 62-213.440, F.A.C., and Power Plant Siting Certification No. PA 74-05]

D.5. NOx RACT. Emissions of nitrogen oxides (NOx) from these emissions units shall not exceed 0.50 pounds per million Btu while firing natural gas and 0.90 pounds per million Btu while firing number 2 fuel oil.
[Rule 62-296.570, F.A.C.]

Test Methods and Procedures

D.6. Sulfur Dioxide - Sulfur Content - Emissions Unit 011. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by fuel sampling and analysis. See specific conditions **D.4. and D.7.**
[Rules 62-213.440 and 62-296.406(3), F.A.C.]

D.7. Fuel Sampling & Analysis - Sulfur - Emissions Unit 011. For each emissions unit, the following fuel sampling and analysis protocol shall be used to demonstrate compliance with the fuel sulfur limitation of specific condition **D.4** of this permit:

a. Sample the as-fired fuel oil each day fuel oil is fired.

b. Composite the daily samples and each month determine and record the as-fired fuel sulfur content, percent by weight, for liquid fuels using either ASTM D2622-94, ASTM D4294-90(95), ASTM D1552-95, ASTM D1266-91, or both ASTM D4057-88 and ASTM D129-95 (or latest editions) to analyze a representative sample of the composited as-fired fuel oil. Each composite sample shall also be analyzed for heating value.

c. Record monthly the amount of each fuel fired, and maintain records of the monthly analyses of the heating value of each fuel, and the percent sulfur content by weight of each fuel, to enable calculations of sulfur dioxide emissions.

[Rules 62-4.070(3) and 62-213.440, F.A.C., and PPSC PA 74-05]

D.8. NOx Testing. Compliance with the NOx emission limitation shall be demonstrated by annual emission testing in accordance with EPA Test Method 7E.
[Rule 62-296.570, F.A.C.]

Monitoring of Operations

D.9. Annual Tests Required - NOx and VE. Except as provided in specific conditions **E.6** through **E.8** of this permit, emission testing for nitrogen oxide emissions and visible emissions shall be performed annually, no later than the end of each federal fiscal year (September 30), except for units that are not operating because of scheduled maintenance outages and emergency repairs, which will be tested within thirty days of returning to service. Annual compliance testing while firing oil is not required for units that operated on oil for less than 400 hours in the previous federal fiscal year (ending September 30th).
[Rules 62-4.070(3) and 62-213.440, F.A.C.]

D.10. These emissions units are also subject to conditions **E.1** through **E.19, except for E.3, E.10, E.11 and E.18,** contained in **Subsection E. Common Conditions.**

Subsection E. Common Conditions.

E.U. ID No.	Brief Description
001 - 005	Five 2000 kW diesel engine generators
007	Fossil Fuel Steam Generating Unit 1 (S-1)
009	Fossil Fuel Steam Generating Unit 3 (S-3)
010	Fossil Fuel Steam Generating Unit 4, (S-4)
006	Gas Turbine # 1, (GT-1)
011	Combined Cycle Unit, (GT-2/S-5)

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

Essential Potential to Emit (PTE) Parameters

E.1. Hours of Operation. The emissions units may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

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

Excess Emissions

E.2. (This condition is applicable only to emissions units 001 - 005, 006 and 011.) Excess emissions resulting from startup, shutdown or malfunction shall be permitted provided (1) that best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

E.3. (This condition is applicable only to emissions units 007, 009 and 010.) 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.

Excess emissions resulting from malfunction shall be permitted provided (1) that best operational practices to minimize emissions are adhered to and (2) 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) & (2), F.A.C.]

E.4. 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

E.5. 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.
(c) Heat input rate shall be determined by average fuel use during testing (to be determined by fuel flow meters or fuel tank measurements) and the latest fuel analysis available from the vendor or operator (for Btu content of the fuel used).
{Permitting Note: The permittee and the Department agree that the CEMS used for the federal Acid Rain Program conservatively overestimates the heat input rate for Unit S-3 (emissions unit 009). The monitoring data for heat input is therefore not appropriate for purposes of compliance, including annual compliance certifications.}
[Rules 62-297.310(5) and 62-213.440, F.A.C., and request of applicant]

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.
2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
a. Did not operate; or
b. In the case of a fuel burning emissions unit, burned liquid 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
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
8. Any combustion turbine that does not operate for more than 400 hours per year shall 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.]

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

E.8. When VE Tests Not Required. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:
   a. only gaseous fuel(s); or
   b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or

c. only liquid fuel(s) for less than 400 hours per year.
[Rule 62-4.070(3), 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.}

E.9. (This condition is applicable only to emissions units 001 - 005, 006 and 011.) Visible Emissions - Turbines, Diesel Engine Generators. The test method for visible emissions for emissions units 006 (GT-1), 011 (GT-2/S-5), and 001 through 005 (diesel engine generators) 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., and modified conditions of PA 74-05 ordered September 28, 1987]

E.10. (This condition is applicable only to emissions units 007, 009 and 010.) Visible Emissions - Boilers. The test method for visible emissions for emissions units 007 (S-1), 009 (S-3) and 010 (S-4) 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 **E.11**.
[Rule 62-296.405(1)(e)1., F.A.C.]

E.11. (This condition is applicable only to emissions units 007, 009 and 010.) 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.]

E.12. 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.13. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

E.14. Operating Rate During Testing. Testing of emissions shall be conducted with each emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

E.15. 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.16. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit. Temporary stack sampling facilities under Rule 62-297.310(6)(b), F.A.C. may be used in lieu of permanent facilities.
[Rule 62-297.310(6), F.A.C.]

Record Keeping and Reporting Requirements

E.17. Malfunctions - Notification. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Palm Beach County Health Department's Air Section 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 Palm Beach County Health Department's Air Section.
[Rule 62-210.700(6), F.A.C.]

E.18. (This condition is applicable only to emissions units 009 and 010.) Excess Emissions - Report. Submit to the Palm Beach County Health Department's Air Section 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.]

E.19. Test Reports.
(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Palm Beach County Health Department's Air Section on the results of each such test.
(b) The required test report shall be filed with the Palm Beach County Health Department's Air Section 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 Palm Beach County Health Department's Air Section 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: City of Lake Worth **ORIS code:** 0673

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

The emissions unit(s) listed below are regulated under Acid Rain, Phase II.

E.U. ID No.	Brief Description
009	Fossil Fuel Steam Generator, Unit 3, (S-3)
010	Fossil Fuel Steam Generator, Unit 4, (S-4)

A.1. The Phase II permit application(s) 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: DEP Form No. 62-210.900(1)(a), dated 07/01/95.
[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

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

E.U. ID No.	EPA ID	Year	2000	2001	2002
009	S-3	**SO2 allowances, under Table 2 or 3 of 40 CFR Part 73**	9*	9*	9*
010	S-4	**SO2 allowances, under Table 2 or 3 of 40 CFR Part 73**	80*	80*	80*

* 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 increase 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, Fast-Track Revisions of Acid Rain Parts.
[Rule 62-213.413, F.A.C.]

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

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers (version dated 02/05/97)

Abbreviations and Acronyms:

°F: Degrees Fahrenheit
BACT: Best Available Control Technology
CFR: Code of Federal Regulations
DEP: State of Florida, Department of Environmental Protection
DARM: Division of Air Resource Management
EPA: United States Environmental Protection Agency
F.A.C.: Florida Administrative Code
F.S.: Florida Statute
ISO: International Standards Organization
LAT: Latitude
LONG: Longitude
MMBtu: million British thermal units
MW: Megawatt
ORIS: Office of Regulatory Information Systems
SOA: Specific Operating Agreement
UTM: Universal Transverse Mercator

Citations:

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, guidance memorandums, permit numbers, and ID numbers.

Code of Federal Regulations:

Example: **[40 CFR 60.334]**

Where:	40	reference to	Title 40
	CFR	reference to	Code of Federal Regulations
	60	reference to	Part 60
	60.334	reference to	Regulation 60.334

Florida Administrative Code (F.A.C.) Rules:

Example: **[Rule 62-213, F.A.C.]**

Where:	62	reference to	Title 62
	62-213	reference to	Chapter 62-213
	62-213.205	reference to	Rule 62-213.205, F.A.C.

ISO: International Standards Organization refers to those conditions at 288 degrees K, 60 percent relative humidity, and 101.3 kilopascals pressure.

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers (continued)

Identification Numbers:

Facility Identification (ID) Number:

Example: Facility ID No.: 1050221

Where:

105 = 3-digit number code identifying the facility is located in Polk County
0221 = 4-digit number assigned by state database.

Permit Numbers:

Example: 1050221-002-AV, or
1050221-001-AC

Where:
AC = Air Construction Permit
AV = Air Operation Permit (Title V Source)
105 = 3-digit number code identifying the facility is located in Polk County
0221 = 4-digit number assigned by permit tracking database
001 or 002 = 3-digit sequential project number assigned by permit tracking database

Example: PSD-FL-185
PA95-01
AC53-208321

Where:
PSD= Prevention of Significant Deterioration Permit
PA = Power Plant Siting Act Permit
AC = old Air Construction Permit numbering

Appendix I-1, List of Insignificant Emissions Units and/or Activities

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Units and/or Activities
1. Dust collector hopper discharge valve for Unit S-3
2. Liquid propane gas emergency generator

Appendix H-1, Permit History/ID Number Changes

Permit History (for tracking purposes):

E.U. ID No.	Description	Permit No.	Issue Date	Expiration Date	Extended Date[1, 2]	Revised Date(s)
001	Diesel Generator #1 Peaking Unit	AO 50-172357	01/18/90	07/17/94		
002	Diesel Generator #2 Peaking Unit	AO 50-172357	01/18/90	07/17/94		
003	Diesel Generator #3 Peaking Unit	AO 50-172357	01/18/90	07/17/94		
004	Diesel Generator #4 Peaking Unit	AO 50-172357	01/18/90	07/17/94		
005	Diesel Generator #5 Peaking Unit	AO 50-172357	01/18/90	07/17/94		
006	Combustion Gas Turbine #1 (GT-1)	AO 50-219177 AC 50-2168A AC 50-2168	11/06/92 09/10/76 09/28/73	10/30/97 09/01/77 03/01/75		
007	Fossil Fuel Steam Generator Unit #1 (S-1)	AO 50-169444	01/31/96	09/15/96		
008	Fossil Fuel Steam Generator Unit #2 (S-2)*					
009	Fossil Fuel Steam Generator Unit #3 (S-3)	AO 50-169444 PA - 74-05	01/31/96 05/18/76	09/15/96		 09/28/87 03/27/96
010	Fossil Fuel Steam Generator Unit #4 (S-4)	AO 50-169444 PA - 74-05	01/31/96 05/18/76	09/15/96		 09/28/87 03/27/96
011	Combined Cycle Gas Turbine (GT-2/S-5)	PA - 74-05	05/18/76			09/28/87 03/27/96
001 - 005, 006, 007, 009, 010	Diesel engine generators #1 - 5 GT-1 S-1 S-3 S-4	0990045-001-AO (amendment of AO 50-169444, AO 50-172357, AO 50-219177, for NOx RACT)	01/31/96			

ID Number Changes (for tracking purposes):

From: **Facility ID No.:** 50PMB500045

To: **Facility ID No.:** 0990045

Notes:
1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.
2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.
{Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate under existing valid permits}
* Unit S-2 is not in service. Operation of this unit is not permitted by this permit.

Appendix U-1, List of Unregulated Emissions Units and/or Activities

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'insignificant emissions units'.

E.U. ID No.	Brief Description of Emissions Units and/or Activity
012	Fuel oil storage tanks (tanks 10 & 11, both 20,134 gallons capacity, and tank 12, 140,785 gallons capacity) subject to NSPS, Subpart Kb.*
013	Fuel oil storage tanks (tanks 3, 4, 5, 6, and 8), lube oil tanks, fittings and pumps.

* The owner or operator shall keep readily accessible records showing the dimension of each storage vessel (tank) and an analysis showing the capacity of each storage vessel (tank), and shall retain the records as long as each tank remains at the facility.

Appendix S
Permit Summary Tables

Table 1-1, Summary of Air Pollutant Emission Standards

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emissions Unit	Brief Description
001 - 005	Five 2000 kW diesel engine generators

			Allowable Emissions			Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
VE	Diesel Fuel	8760	20% opacity					Rule 62-296.320(4)(b), F.A.C.	Section II, Condition 3
NOx	Diesel Fuel	8760	4.75 lb/mmBtu			99.8	436.91	Rules 62-296.570., F.A.C.	A.2

Note for EU 001 - 005: Equivalent emissions are listed for each diesel generator.

Appendix S
Permit Summary Tables

Table 1-1, Continued

Emissions Unit	Brief Description
007	Fossil Fuel Steam Generating Unit 1 (S-1), nominally rated at 7.5 MW, 111 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil

			Allowable Emissions			Equivalent Emissions			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
VE Steady State	Oil, Natural Gas	8760	20% opacity, except for 40% for 2 min. each hour					Rule 62-296.406(1), F.A.C.	B.4
VE Soot Blowing or Load Change	Oil, Natural Gas	8760	60% opacity					Rule 62-210.700(3), F.A.C.	B.5
SO_2 (& PM)	Oil, Natural Gas	8760	2.25% S by weight, fuel oil			267* (oil)	1,170* (oil)	Rules 62-4.070(3) & 296.406(3)., F.A.C.	B.7
NOx	Oil, Natural Gas	8760	0.5 lb/mmBtu			56	243	Rules 62-296.570, F.A.C.	B.8

* Equivalent emissions are for SO_2 emissions firing fuel oil.

Appendix S
Permit Summary Tables

Table 1-1, Continued

Emissions Unit	Brief Description
009	Fossil Fuel Steam Generating Unit 3 (S-3), nominally rated at 26.5 MW, 325.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil
010	Fossil Fuel Steam Generating Unit 4, (S-4), nominally rated at 33 MW, 419.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil

			Allowable Emissions			Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
VE Steady State	Oil, Natural Gas	8760	20% opacity, except for 40% for 2 min. each hour					Rule 62-296.405(1)(a), F.A.C.	C.4
VE Soot Blowing or Load Change	Oil, Natural Gas	8760	60 % opacity (>60% opacity for not more than 4, six-minute periods)					Rule 62-210.700(3), F.A.C.	C.5
PM Steady State	Oil, Natural Gas	8760	0.1 lb/mmBtu			33 (EU 009) 42 (EU 010)	142 (EU 009) 184 (EU 010)	Rule 62-296.405(1)(b), F.A.C.	C.6
PM Soot Blowing or Load Change	Oil, Natural Gas	8760	0.3 lb/mmBtu			99 (EU 009) 126 (EU 010)	426 (EU 009) 552 (EU 010)	Rule 62-210.700(3), F.A.C.	C.7

Appendix S
Permit Summary Tables

Table 1-1, Continued, Emissions Units 009 & 010

			Allowable Emissions			Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
SO_2	Oil, Natural Gas	8760	2.25% S by weight, fuel oil			832 (EU 009) (oil) 1072 (EU 010) (oil)	1072 (EU 009) (oil) 4695 (EU 010) (oil)	Rule 62-213.440, F.A.C. & PPSC No. PA 74-05	C.8
NOx	Oil, Natural Gas	8760	0.5 lb/mmBtu			163 (EU 009) 210 (EU 010)	712 (EU 009) 918 (EU 010)	Rules 62-296.570, F.A.C.	C.9

Appendix S
Permit Summary Tables

Table 1-1, Continued

Emissions Unit	Brief Description
006	Gas Turbine # 1, (GT-1), nominally rated at 30 MW, 435 mmBtu/hr, capable of burning number 2 fuel oil
011	Combined Cycle Unit, (GT-2/S-5), nominally rated at 29.5 MW, consists of a gas turbine (GT-2) nominally rated at 20 MW and a heat recovery steam generator (S5) nominally rated at 10 MW. GT-2 has a maximum heat input of 317.6 mmBtu/hr, capable of burning any combination of natural gas and number 2 fuel oil

			Allowable Emissions			Equivalent Emissions[1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
VE	Oil[a], Natural Gas[b]	8760	20% Opacity					Rule 62-296.320(4)(b), F.A.C.	Section II, Condition 3
SO_2 (EU 011 only)	Oil, Natural Gas	8760	0.35% S by weight, fuel oil			109 (oil)	478 (oil)	Rule 62-213.440, F.A.C. & PPSC No. PA 74-05	D.4
NOx (EU 006)	Oil[a], Natural Gas[b]	8760	0.90 lb/mmBtu (fuel oil) 0.50 lb/mmBtu (natural gas)			392 218	1715 953	Rules 62-570, F.A.C.	D.5
NOx (EU 011)	Oil[a], Natural Gas[b]	8760	0.90 lb/mmBtu (fuel oil) 0.50 lb/mmBtu (natural gas)			286 159	1252 696	Rules 62-570, F.A.C.	D.5

a Number 2 fuel oil may be fired in emissions unit 006 or 011.
b Natural gas may be fired in emissions unit 011.

Appendix S
Permit Summary Tables

Table 1-1, Continued

Emissions Unit	Brief Description
012	Fuel oil storage tanks (tanks 10 & 11, both 20,134 gallons capacity, and tank 12, 140,785 gallons capacity) subject to NSPS, Subpart Kb

			Allowable Emissions			Equivalent Emissions [1]			
Pollutant	Fuel(s)	Hours per Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citations	See Permit Condition(s)
None		8760	No emission limits - record keeping only						F.2, F.3

Notes for all tables:

[1] The "Equivalent Emissions" listed are for informational purposes only.

Appendix S
Permit Summary Tables

Table 2-1, Summary of Compliance Requirements

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

Emissions Unit	Brief Description
001 - 005	Five 2000 kW diesel engine generators

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
NOx	Diesel Fuel	EPA Test Method 7E	Annual	February 28th	3 hours	No	A.3 & A.4
VE	Diesel Fuel	EPA Method 9	Annual	February 28th	30 min.	No	A.4 & E.9

Emissions Unit	Brief Description
007	Fossil Fuel Steam Generating Unit 1 (S-1), nominally rated at 7.5 MW, 111 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
SO_2	Oil, Natural Gas	Fuel sampling & analysis	Sampling daily, analysis of monthly composite			No	B.7, B9 & B.10
NOx	Oil, Natural Gas	EPA Test Method 7E	Annual	February 28th	3 hours	No	B.11 & B.12
VE	Oil, Natural Gas	DEP Method 9	Annual	February 28th	1 hour	No	B.12 & E.10

Appendix S
Permit Summary Tables

Table 2-1, Continued

Emissions Unit	Brief Description
009	Fossil Fuel Steam Generating Unit 3 (S-3), nominally rated at 26.5 MW, 325.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil
010	Fossil Fuel Steam Generating Unit 4, (S-4), nominally rated at 33 MW, 419.1 mmBtu/hr, capable of burning any combination of natural gas and number 6 fuel oil

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
SO_2	Oil, Natural Gas	Fuel sampling & analysis	Sampling daily, analysis of monthly composite			No[a]	C.8, C.11 & C.12
NOx (EU 009)	Oil, Natural Gas	CEMS	Continuous			Yes	C.13 & C.16
NOx (EU 010)	Oil, Natural Gas	EPA Test Method 7E (If CEMS installed see next row)	Annual	February 28th	3 hours	No	C.13 & C.15
NOx (EU 010)	Oil, Natural Gas	CEMS (If installed)	Continuous			Yes, if installed for Acid Rain	C.13 & C.15
PM	Oil, Natural Gas	EPA Test Methods 17,5,5B or 5F	Annual	Februrary	3 hours	No	C.10 & C.14
VE	Oil, Natural Gas	DEP Method 9	Annual	February 28th	1 hour	Yes	C.14 & E.10

Note for EU 009 & 010:
a A continuous monitor for SO2 is operated by the City for emissions unit 009. Compliance with the fuel sulfur limitation is not via the continuous monitor.

Appendix S
Permit Summary Tables

Table 2-1, Continued

Emissions Unit	Brief Description
006	Gas Turbine # 1, (GT-1), nominally rated at 30 MW, 435 mmBtu/hr, capable of burning number 2 fuel oil
011	Combined Cycle Unit, (GT-2/S-5), nominally rated at 29.5 MW, consists of a gas turbine (GT-2) nominally rated at 20 MW and a heat recovery steam generator (S5) nominally rated at 10 MW. GT-2 has a maximum heat input of 317.6 mmBtu/hr, capable of burning any combination of natural gas and number 2 fuel oil

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
SO_2 (Emissions Unit 011 only)	Oil, Natural Gas	Fuel sampling & analysis	Sampling daily, analysis of monthly composite			No	D.4, D.6 & D.7
NOx	Oil, Natural Gas	EPA Test Method 7E	Annual	February 28th	3 hours	No	D.8 & D.9
VE	Oil, Natural Gas	EPA Method 9	Annual	February 28th	1 hour	No	D.9 & E.9

Appendix S
Permit Summary Tables

Table 2-1, Continued

Emissions Unit	Brief Description
012	Fuel oil storage tanks (tanks 10 & 11, both 20,134 gallons capacity, and tank 12, 140,785 gallons capacity) subject to NSPS, Subpart Kb

Pollutant or Parameter	Fuel(s)	Compliance Method	Testing Frequency	Frequency Base Date[1]	Minimum Compliance Test Duration	CMS[2]	See Permit Condition(s)
Capacity		Record keeping					F.2 & F.3

Notes for all tables:

[1] Frequency base date established for planning purposes only; see Rule 62-297.310, F.A.C.
[2] CMS = continuous monitoring system

Appendix TV-1, the Title V Core Conditions, has been provided only to the applicant. The most recent version of these conditions may be obtained from the Department's Internet Web site at:

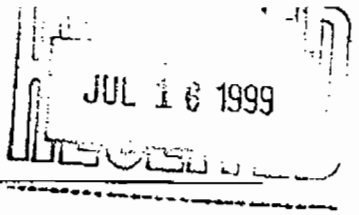
http://www.dep.state.fl.us/air/

If you do not have access to the Internet and would like a copy of Appendix TV, please contact Joseph Kahn, P.E., Department of Environmental Protection, Division of Air Resources Management, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, 850/488-1344.

An electronic version of this permit is also available from the Department's Internet Web site above.

ATTACHMENT LW-FI-C13

RISK MANAGEMENT PLAN VERIFICATION LETTER



EPA United States Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

Harvey F. Wildschuetz
Lake Worth Utilities
1900 Second Avenue, North
Lake Worth, FL 33461

July 07, 1999

EPA Facility ID#:	**1000 0009 5853**
Postmark Date:	**06/17/1999**
Anniversary Date:	**06/17/2004**

NOTIFICATION LETTER: COMPLETE RMP

The U.S. Environmental Protection Agency (EPA) received your Risk Management Plan (RMP) dated with the above postmark date. **This letter notifies you that your RMP is "complete" according to EPA's completion check.** The completion check is a program implemented by EPA to determine whether a submitted RMP includes the minimum amount of information every RMP must provide. The completion check does not assess whether a submitted RMP should have provided additional information or whether the information it provides is accurate or appropriate. In other words, it does not indicate that the RMP meets the requirements of 40 CFR Part 68.

Please note the anniversary date indicated above. Your RMP must be revised and updated by this date or earlier as required by 40 CFR §68.190. Please also note your EPA Facility ID number as identified at the top of this letter; all future Risk Management Plan submissions, corrections and other correspondence must include this number.

Your RMP (excluding the Offsite Consequence Analysis data) can be viewed on RMP*Info™, a national database on the Internet at http://www.epa.gov/enviro.

If you have any questions, please call one of the following numbers:

(1) For RMP rule interpretation questions, call the EPCRA Hotline at (800) 424-9346 or (703) 412-9810 (in the D.C. Metro area).

(2) For RMP*Submit installation and software questions, or information on the status of your RMP, contact the RMP Reporting Center at (703) 816-4434, or write to the:

RMP Reporting Center
P.O. Box 3346
Merrifield, VA 22116-3346

(3) For more information on the Risk Management Program, you can contact your Implementing Agency. Your Implementing Agency is **Florida Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, FL, 32399, Phone: 850-413-9970.**

Thank you for your cooperation in this matter.

Sincerely,

RMP Reporting Center

Enclosure:
Risk Management Plan (if submitted on paper)

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

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).

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Diesel Generator Units 1 through 5, each 2,000 kW

4. Emissions Unit Identification Number:
ID: **001, 002, 003, 004, and 005**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**1965**	**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Photos of the Diesel Generators are presented in Attachment LW-EU1-A9.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit:
   Manufacturer: **GM EMD** Model Number: **567D4**
2. Generator Nameplate Rating: **2** MW Each
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**105**	mmBtu/hr **Total**
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	**8,760**	hours/year **Each**
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: None
State: **62-4, F.A.C. Gen. Permitting Requirements** **62-210, F.A.C. Stationary Sources – Gen. Requirements** **62-213, F.A.C. Title V Permitting Requirements** **62-296.310(2)(a), F.A.C. Stationary Sources – Visible Emissions Standards** **62-296.570(4)(b)(7), F.A.C. NO_x RACT Limitations** **62-297.410(9), F.A.C. Stationary Sources – EPA Method 9 for Visible Emissions** **Title V Core List (3/1/02), Presumptively Applicable (Federal & State)**
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **MU-1, MU-2, MU-3, MU-4, MU-5**		2. Emission Point Type Code: **3**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **MU-1 Diesel Generating Unit 1** **MU-2 Diesel Generating Unit 2** **MU-3 Diesel Generating Unit 3** **MU-4 Diesel Generating Unit 4** **MU-5 Diesel Generating Unit 5**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **16.5** feet	7. Exit Diameter: **1.83** feet
8. Exit Temperature: **667** °F	9. Actual Volumetric Flow Rate: **19,208** 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): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters): **The operation parameters for all five diesel units are identical.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Internal Combustion Engines - Electric Generation-Distillate Oil (Diesel)**		
2. Source Classification Code (SCC): **2-01-001-02**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **0.15**	5. Maximum Annual Rate: **1,320.603**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.23**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **139.30**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:

3. Potential Emissions: **99.8** lb/hour **436.91** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **4.75 lb NO_x per mmBtu** Reference: **NO_x RACT Rule**	7. Emissions Method Code: **1**

8. Calculation of Emissions (limit to 600 characters):

Potential emissions based on oil firing. (4.75 lb NO_x per mmBtu x 1,320.603 BTU per 1,000 gal Oil/yr x 139.3 mmBtu/1,000 gal Oil) / 2,000 lb/ton

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Potential emissions are based on maximum heat input, 8,760 hr/yr, and the minimum heating value of oil reported from 1992 through 1995.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4.75 lb NO_x per mmBtu**	4. Equivalent Allowable Emissions: **499** lb/hour **2,185** tons/year

5. Method of Compliance (limit to 60 characters):

EPA Test Method 7E conducted annually, when burning liquid fuels for 400 or more hours per year.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year. Testing conducted using the fuel and/or process input which are expected to result in the highest emissions and within 10 percent of the rated capacity of the source.**	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units 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 (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: LW-EU1-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: LW-EU1-J2 [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [X] Attached, Document ID: LW-EU1-J4 [ ] Not Applicable
5. Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously submitted, Date: LW-EU1-J5 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: _____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID: _____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[X] Attached, Document ID: **LW-FI-C12** [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID: _____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID: _____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID: _____

[X] Not Applicable

ATTACHMENT LW-EU1-A9

EMISSIONS UNIT COMMENT

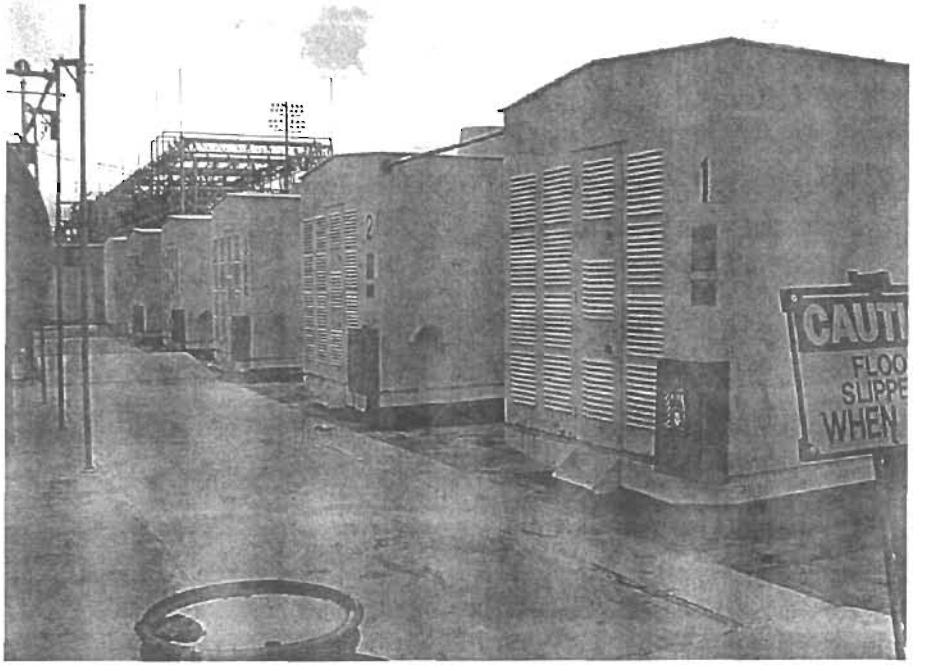


Photo 1. Front View - Diesel Generator Units 1-5

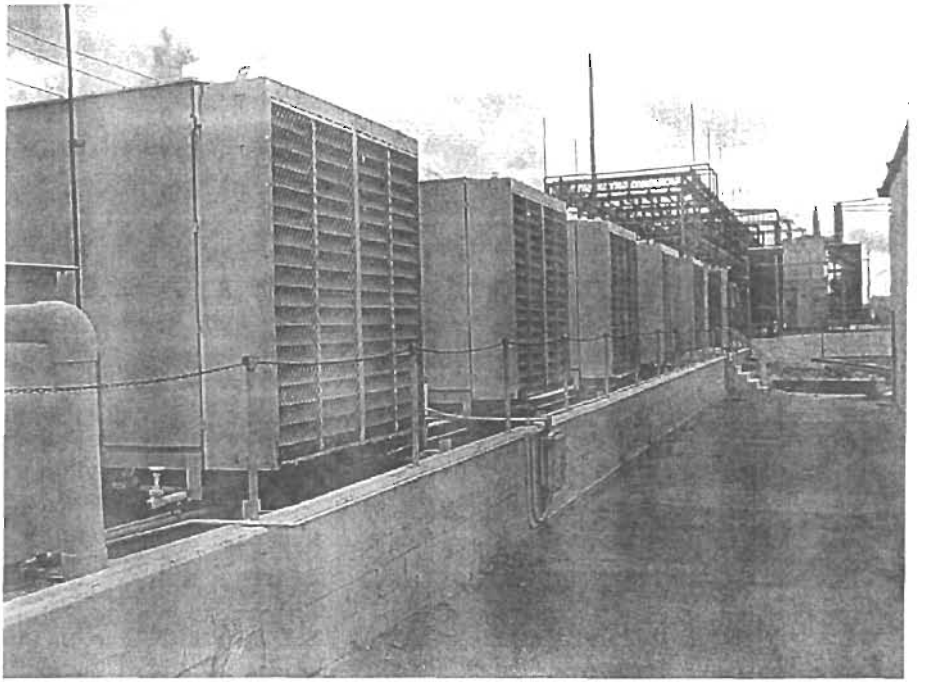


Photo 2. Rear View - Diesel Generator Units 1-5

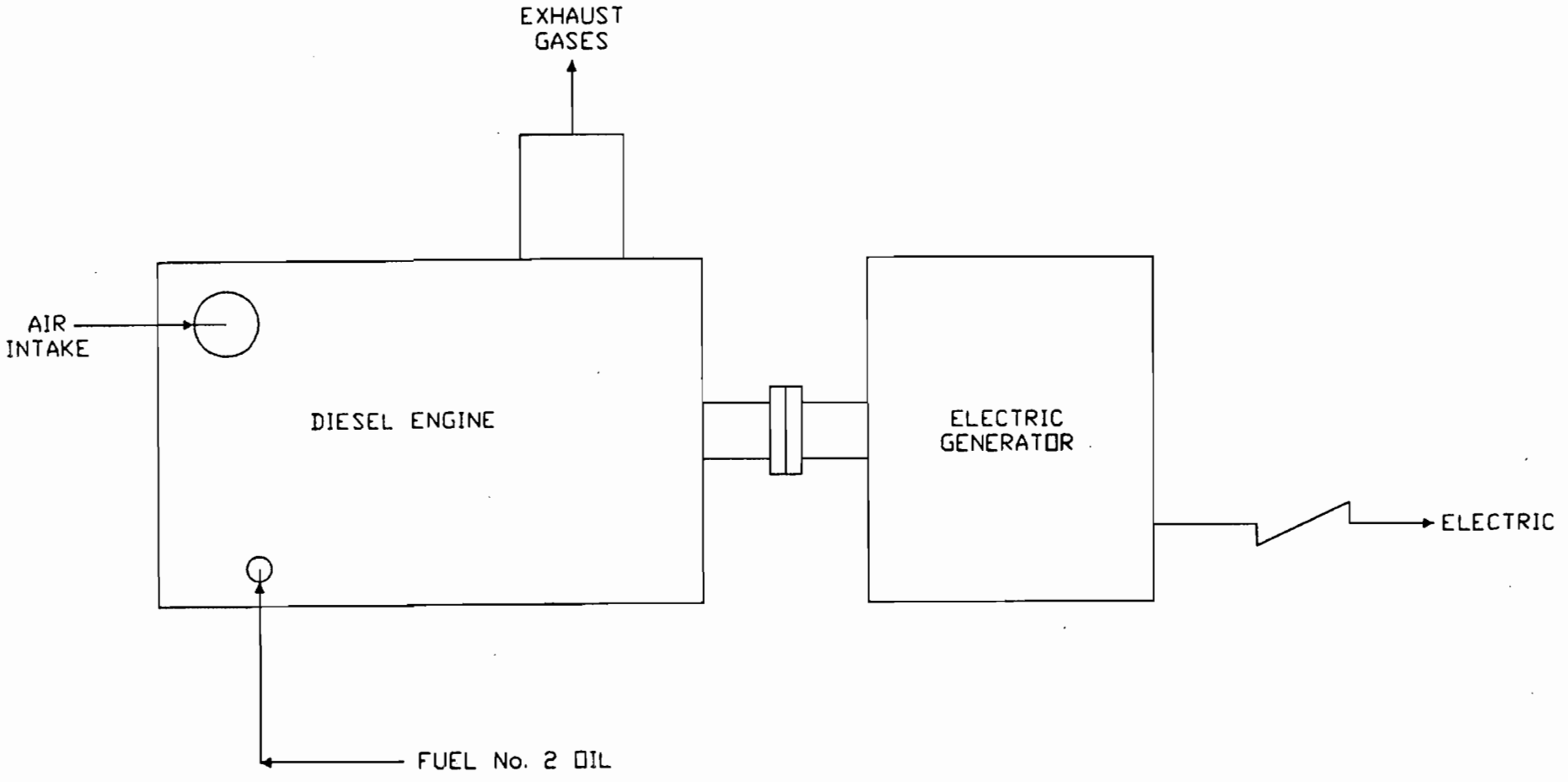
Attachment LW-EU1-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU1-J1

PROCESS FLOW DIAGRAM



Tom G. Smith Power Plant Title V Emissions - MU-1 through MU-5 Diesel Units 1 through 5

Attachment LW-EU1-J1
Process Flow Diagram
Lake Worth Utilities - City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU1-J2

FUEL ANALYSIS OR SPECIFICATION

CITY OF LAKE WORTH

1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

UTILITIES DEPARTMENT
POWER RESOURCES

(561) 586-1703
FAX (561) 586-1759

April 29, 2002

Mr. Laxmana Tallam
Supervisor of Permitting, Compliance & Enforcement
Florida Department of Environmental Protection
Post Office Box 15425
400 North Congress Avenue
West Palm Beach, Florida 33416

Subject: **City of Lake Worth Utilities**
Quarterly Fuel Oil Analysis Reports
First Quarter 2002 (Jan- Feb - Mar)

Dear Mr. Tallam:

Please find attached our quarterly fuel oil analysis as required by our operating permit. Samples reported below have been collected from a composite sample from the on site oil storage facility.

On site quarterly sample:

Type	Date	%S	Note
No.6	04/01/02	1.97	On site quarterly sample
No.2	04/01/02	0.0390	On site quarterly sample

The results indicate the oil is within our permit limits of 0.35% sulfur for No. 2 oil and 2.25% sulfur for No. 6 oil. If you need more information, please do hesitate to call me at 561.533.7379 or email at mridge@lakeworth.net.

Sincerely,
CITY OF LAKE WORTH UTILITIES

Mike Ridge
Environmental/ Performance Specialist

Attachments

cc: A.J. Satyal, Environmental Manager, Palm Beach County Health Unit
Larry Baker, Power Resources Superintendent
Margaret Johnstone, Environmental Compliance Officer
Joe Brockway, Results Supervisor

SAYBOLT LP.
2610 So. Federal Highway
Fort Lauderdale, FL. 33316

Saybolt
A CORE LABORATORIES COMPANY

LABORATORY NO.: 0483

CUSTOMER
REF. NO(S): #129018/

LABORATORY ANALYSIS REPORT

DATE: 04/08/02
INVOICE NO:

DESCRIPTION

- **Sample designated as:**
  #2 FUEL OIL
- **Identifying Marks:**
  SUBMITTED QUARTERLY
  SAMPLE (04/01/02)
  CITY POWER PLANT
  LAKE WORTH, FLORDA
- **Submitted by:**
  CITY OF LAKE WORTH
- **Client:**
  CITY OF LAKE WORTH

SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR FORTY-FIVE (45) DAYS UNLESS OTHERWISE REQUESTED IN WRITING.

NOTES

- This laboratory report may not be published or used except in full. It shall not be used in connection with any form of advertising unless written consent is received from an officer of Saybolt Inc.
- Results were based on analysis made at the time samples were received at the laboratory.
- Sample nomenclature is designated by the customer.

ANALYSIS

TEST	METHOD	RESULT
GRAVITY, API AT 60 F	D-1298	34.7
GRAVITY, SPECIFIC	D-1298	0.8514
SULFUR, X-RAY, WT PCT	D-4294	0.0390
ASH, WT PCT	D-482	0.0036
HEAT OF COMBUSTION, BTU/LB	D-4868	19576
HEAT OF COMBUSTION, BTU/GAL		139011
HEAT OF COMBUSTION, BTU/BBL		5838462

MEMBERS ASTM-API-SAE

SAYBOLT

ATTACHMENT LW-EU1-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

ATTACHMENT LW-EU1-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

DIESEL GENERAL UNITS 1 THROUGH 5 (MU-1 THROUGH MU-5)

Emission testing can be performed on all of the major emission units. However, on MU-1 to MU-5, permanent platform structures do not exist. In order to perform emission tests on these units, a bucket truck is used to hoist personnel and equipment to the stack test port elevations. For the diesel engines, MU-1 to MU-5, temporary stack extensions are installed with sample ports to perform the emission tests. Access to the diesel engine stack is via a temporary ladder installed during the testing. The stack sampling locations are identified for MU-1 through MU-5 on the attached figure.

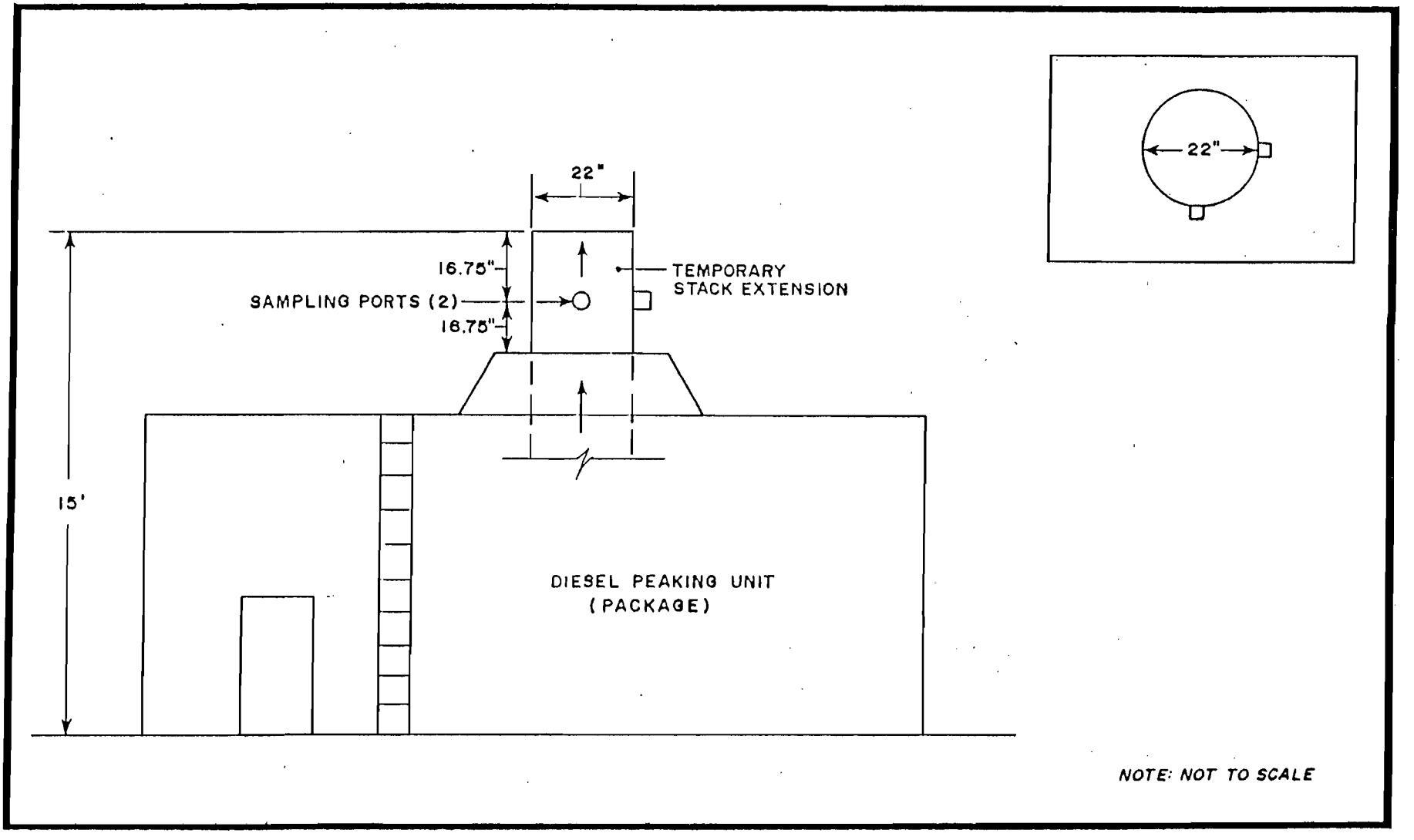


FIGURE 11
SAMPLING POINT LOCATION
M-UNIT MU-1 to MU-5
LAKE WORTH UTILITIES
LAKE WORTH, FLORIDA

AIR CONSULTING
and
ENGINEERING

ATTACHMENT LW-EU1-J5

COMPLIANCE TEST REPORT

ATTACHMENT LW-EU1-J5

COMPLIANCE TEST REPORT

The Compliance Tests and dates submitted for Diesel Generator Units 1-5 (M1-5) are as listed below.

M-Units			
M-1(EU001)	Tested 9/27/2000	Submitted 12/01/2000	NO_x, VE
M-2(EU002)	Tested 9/11/2001	Submitted 10/17/2001	NO_x
M-3(EU003)	Tested 9/27/2000	Submitted 12/01/2000	NO_x, VE
M-4(EU004)	Tested 2/13/1997	Submitted 3/19/1997	NO_x
M-5(EU005)	Tested 2/13/1997	Submitted 3/19/1997	NO_x

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

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

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Fossil Fuel Steam Generating Unit 1 (S-1)

4. Emissions Unit Identification Number:
ID: **007**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**1961**	**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)
Lake Worth Utilities requests a permit condition prohibiting operation of this emission unit effective on the date Lake Worth Generation LLC commences commercial operation to routinely supply steam to Emission Unit 009 (S-3; Fossil Fuel Steam Generation Unit No. 3). See Specific Permit Condition Nos. 18 and 19 of Permit No. 0990568-001-AC. A photo of Unit S-1 is presented in Attachment LW-EU2-A9.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:
2. Generator Nameplate Rating: **7.5** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		111	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	8,760	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: None
State: 62-4, F.A.C Permitting Requirements 62-210, F.A.C. Stationary Sources – General Requirements 62-213, F.A.C. Title V Permitting Requirements 62-296.406(1), F.A.C. Stationary Sources – Visible Emissions Standards (Steam Generating Unit with Max. Heat Input < 250 mmBtu/hr) 62-296.570(4)(b)(9), F.A.C. NO_x RACT Emission Limitations 62-297.410(9), F.A.C. Stationary Sources – EPA Method 9 for Visible Emissions Testing Title V Core List (3/1/02) Presumptively Applicable (Federal and State)
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **Fossil Fuel Steam Generating Unit #1 (S-1)**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **60** feet	7. Exit Diameter: **5** feet
8. Exit Temperature: **311** °F	9. Actual Volumetric Flow Rate: **40,659** 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): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters): **Stack parameters listed for natural gas operation.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Natural Gas Used in Boiler**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **mmcf**	
4. Maximum Hourly Rate: **0.11**	5. Maximum Annual Rate: **946.8**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,027**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **No. 6 Fuel Oil Used in Boiler**		
2. Source Classification Code (SCC): **1-01-004-05**	3. SCC Units: **1,000 gallons Burned**	
4. Maximum Hourly Rate: **0.76**	5. Maximum Annual Rate: **6,623.71**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.25**	8. Maximum % Ash: **0.067**	9. Million Btu per SCC Unit: **146.8**
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **268** lb/hour **1,170** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **157 lb SO_2 per 1,000 gal Oil** Reference: **EPA AP-42 Table 1.3-2 Criteria Pollutant Emission Factors for Uncontrolled Fuel Oil Combustion**	7. Emissions Method Code: **3**
8. Calculation of Emissions (limit to 600 characters): **(157 lb SO_2/1,000 gal Oil x 2.25%S x 6,623.71 x 1,000 gal Oil per year) / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum firing rate, 8,760 hr/yr and the minimum oil heating value from 1992 through 1995.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.25% S**	4. Equivalent Allowable Emissions: **268** lb/hour **1,170** tons/year
5. Method of Compliance (limit to 60 characters): **As-fired fuel oil will be sampled each day oil is fired. Composite fuel analysis reports submitted quarterly. SO_2 emissions will be calculated stoichiometrically.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Permit No. 0990045-002-AV specific conditions III.B.7 through III.B.10.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **56** lb/hour **243.09** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.5 lb NO_x per mmBtu** Reference: **NO_x RACT Rule** **Will be met as demonstrated by stack test at Tom G. Smith Power Plant (7/93).**	7. Emissions Method Code: **1**
8. Calculation of Emissions (limit to 600 characters): **Potential emissions based on oil firing. (0.5 lb NO_x per mmBtu x 6623.71 1,000 gal Oil x 146.8 mmBtu / 1,000 gal Oil) / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum heat input, 8,760 hr/yr, and the minimum heating value of oil reported from 1992 through 1995.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.5 lb NO_x per mmBtu**	4. Equivalent Allowable Emissions: **56** lb/hour **243.09** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 7E conducted annually, when burning liquid fuels for 400 or more hours per year.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE**	2. Basis for Allowable Opacity: [**X**] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year. Testing conducted using the fuel and/or process input which are expected to result in the highest emissions and within 10 percent of the rated capacity of the source.**	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units 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 (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: LW-EU2-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: LW-EU2-J2 [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [X] Attached, Document ID: LW-EU2-J4 [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [X] Previously submitted, Date: 19 Mar 1997 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: ____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[X] Attached, Document ID: LW-FI-C12 [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

ATTACHMENT LW-EU2-A9

EMISSIONS UNIT COMMENT

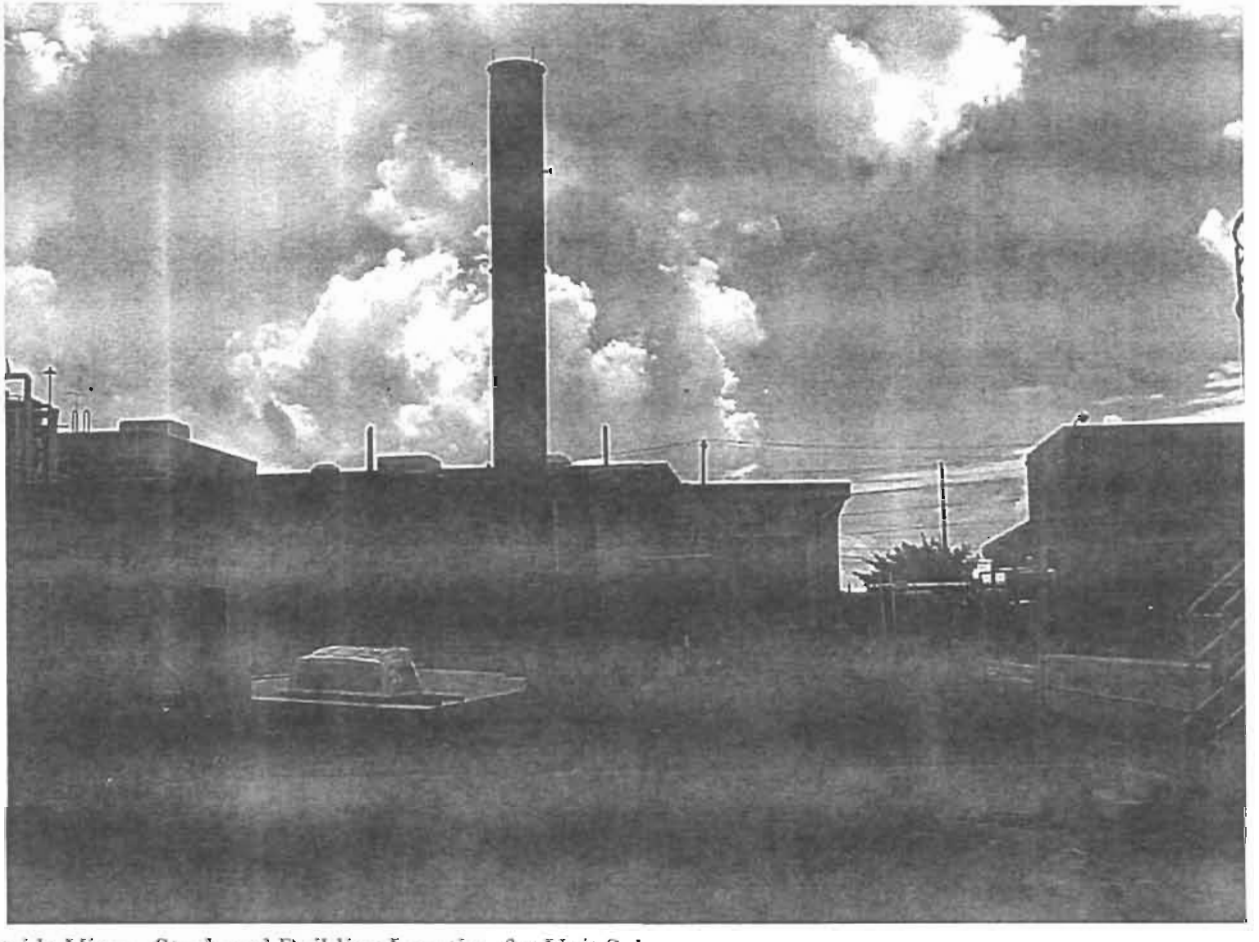


Photo 1. Outside View - Stack and Building Location for Unit S-1

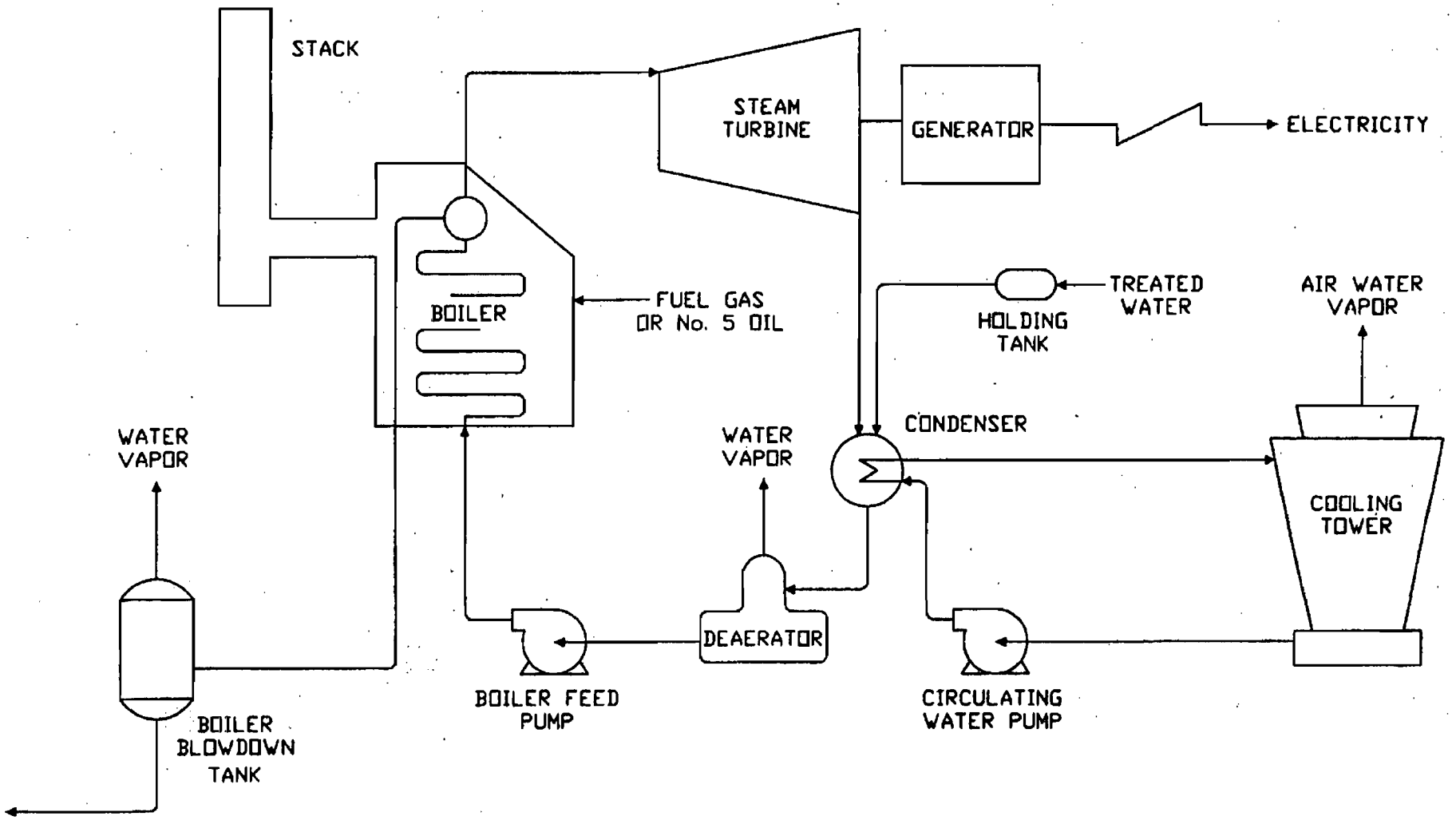
Attachment LW-EU2-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU2-J1

PROCESS FLOW DIAGRAM



Tom G. Smith Power Plant Title V Emissions - S-1 Unit 1

Attachment LW-EU2-J1
Process Flow Diagram
Lake Worth Utilities - City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU2-J2

FUEL ANALYSIS OR SPECIFICATION

CITY OF LAKE WORTH

1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

UTILITIES DEPARTMENT
POWER RESOURCES

(561) 586-1703
FAX (561) 586-1759

April 29, 2002

Mr. Laxmana Tallam
Supervisor of Permitting, Compliance & Enforcement
Florida Department of Environmental Protection
Post Office Box 15425
400 North Congress Avenue
West Palm Beach, Florida 33416

Subject: **City of Lake Worth Utilities**
Quarterly Fuel Oil Analysis Reports
First Quarter 2002 (Jan- Feb - Mar)

Dear Mr. Tallam:

Please find attached our quarterly fuel oil analysis as required by our operating permit. Samples reported below have been collected from a composite sample from the on site oil storage facility.

On site quarterly sample:

Type	Date	%S	Note
No.6	04/01/02	1.97	On site quarterly sample
No.2	04/01/02	0.0390	On site quarterly sample

The results indicate the oil is within our permit limits of 0.35% sulfur for No. 2 oil and 2.25% sulfur for No. 6 oil. If you need more information, please do hesitate to call me at 561.533.7379 or email at mridge@lakeworth.net.

Sincerely,
CITY OF LAKE WORTH UTILITIES

Mike Ridge
Environmental/ Performance Specialist

Attachments

cc: A.J. Satyal, Environmental Manager, Palm Beach County Health Unit
Larry Baker, Power Resources Superintendent
Margaret Johnstone, Environmental Compliance Officer
Joe Brockway, Results Supervisor

SAYBOLT LP.
2610 So. Federal Highway
Fort Lauderdale, FL. 33316

LABORATORY ANALYSIS REPORT

LABORATORY NO.: 0484

CUSTOMER
REF. NO(S): #129018/

DATE: 04/08/02
INVOICE NO:

DESCRIPTION

- **Sample designated as:**
  #6 FUEL OIL
- **Identifying Marks:**
  SUBMITTED QUARTERLY
  SAMPLE (04/01/02)
  CITY POWER PLANT
  LAKE WORTH, FLORDA
- **Submitted by:**
  CITY OF LAKE WORTH
- **Client:**
  CITY OF LAKE WORTH

SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR FORTY-FIVE (45) DAYS UNLESS OTHERWISE REQUESTED IN WRITING.

NOTES

- This laboratory report may not be published or used except in full. It shall not be used in connection with any form of advertising unless written consent is received from an officer of Saybolt Inc.
- Results were based on analysis made at the time samples were received at the laboratory.
- Sample nomenclature is designated by the customer.

ANALYSIS

TEST	METHOD	RESULT
GRAVITY, API AT 60 F	D-1298	21.3
GRAVITY, SPECIFIC	D-1298	0.9260
SULFUR, X-RAY, WT PCT	D-4294	1.97
ASH, WT PCT	D-482	0.032
HEAT OF COMBUSTION, BTU/LB	D-4868	18761
HEAT OF COMBUSTION, BTU/GAL		144904
HEAT OF COMBUSTION, BTU/BBL		6085968

MEMBERS ASTM-API-SAE

SAYBOLT

ATTACHMENT LW-EU2-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

ATTACHMENT LW-EU2-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

FOSSIL FUEL STEAM GENERATING UNIT (S-1)

Emission testing can be performed on all of the major emission units. However, on S-1, permanent platform structures do not exist. In order to perform emission tests on these units, a bucket truck is used to hoist personnel and equipment to the stack test port elevations. The stack sampling locations are identified for S-1 on the attached figure.

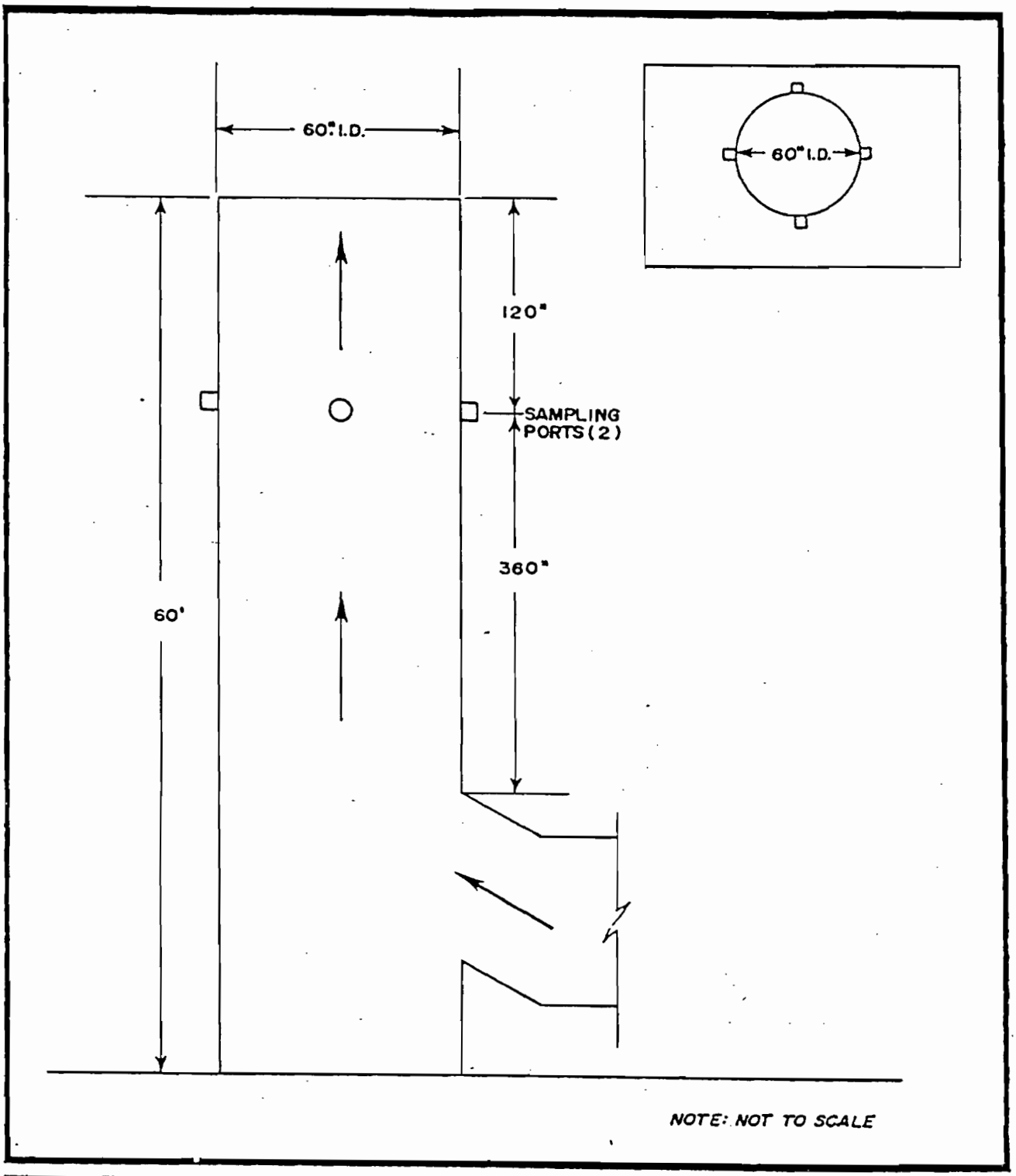


FIGURE 3
SAMPLING POINT LOCATION
UNIT S-1
LAKE WORTH UTILITIES
LAKE WORTH, FLORIDA

AIR CONSULTING
and
ENGINEERING

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

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

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Fossil Fuel Steam Generating Unit 3 (S-3)

4. Emissions Unit Identification Number:
ID: **009**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**1966**	**49**	[X]

9. Emissions Unit Comment: (Limit to 500 Characters)

The steam boiler portion of S-3 will only be operated when Lake Worth Generation LLC does not provide steam to operate the generation portion of S-3. See Specific Permit Condition Nos. 18 and 19 of Permit No. 0990568-001-AC. A photo of Unit S-3 is presented in Attachment LW-EU3-A9.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:

2. Generator Nameplate Rating: **26.5** MW

3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**325.1**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: 40 CFR 72 Acid Rain Program 40 CFR 73 SO_2 Allowance 40 CFR 75 Continuous Emissions Monitoring
State: 62-4, F.A.C. Permitting Requirements 62-210, F.A.C. Stationary Sources – General Requirements 62-210.700(3) Visible Emissions Soot Blowing Opacity Limit (60%) 62-213, F.A.C. Title V Permitting Requirements 62-296.405(1)(a), F.A.C. Stationary Sources – Visible Emissions Standards (Steam Generating Unit with Max. Heat Input > 250 mmBtu/hr) 62-296.405(1)(b), F.A.C. 0.1 lb PM/mmBtu Particulate Emission Limit 62-296.570(4)(b)(9), F.A.C. NO_x RACT Emission Limitations 62-297.401(5), F.A.C. EPA Test Method 5 for PM (Stack Temperature >375°F) 62-297.410(9), F.A.C. Stationary Sources – EPA Method 9 for Visible Emissions Testing 62-297.410(17), F.A.C. EPA Test Method 17 for PM (Stack Temperature < 375°F) Section 403.502, Florida Statutes [PPSA Certification #PA 74-05(I.1)] Compliance with %S limit by sampling and analysis of as-fired fuel oil. Sample on used fuel. Analyze composite monthly. Section 403.501, Florida Statutes [PPSA Certification #PA 74-05 (I.1)] 2.25%S in Fuel Oil Limit Title V Core List (3/1/02) Presumptively Applicable (Federal and State)
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **Fossil Fuel Steam Generating Unit #3 (S-3)**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **113** feet	7. Exit Diameter: **7** feet
8. Exit Temperature: **Gas: 293** °F **Oil: 289** °F	9. Actual Volumetric Flow Rate: **Gas: 118,719** acfm **Oil: 121,338** 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): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Natural Gas Used in Boiler**		
2. Source Classification Code (SCC): **1-01-006-01**	3. SCC Units: **mmcf**	
4. Maximum Hourly Rate: **0.317**	5. Maximum Annual Rate: **2,773**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,027**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **No. 6 Fuel Oil Used in Boiler**		
2. Source Classification Code (SCC): **1-01-004-05**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **2.22**	5. Maximum Annual Rate: **19,432.13**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.25**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **146.6**
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:

3. Potential Emissions: **784** lb/hour **3,432** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **157 lb SO_2 per 1,000 gal Oil** Reference: **EPA AP-42 Table 1.3-2 Criteria Pollutant Emission Factors for Uncontrolled Fuel Oil Combustion**	7. Emissions Method Code: **3**

8. Calculation of Emissions (limit to 600 characters):

(157 lb SO_2/1,000 gal Oil x 2.25% S x 19,432.13 x 1,000 gal Oil per year) / 2,000 lb/ton

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Potential emissions based on maximum firing rate, 8,760 hr/yr and the minimum oil heating value from 1992 through 1995.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.475 lb SO_2 per mmBtu**	4. Equivalent Allowable Emissions: **804.6** lb/hour **3,524.25** tons/year

5. Method of Compliance (limit to 60 characters):
As-fired fuel oil will be sampled each day oil is fired.
Composite fuel analysis reports submitted quarterly.
SO_2 emissions will be calculated stoichiometrically. See below.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

SO_2 emissions obtained from CEMs may be used in lieu of stoichiometrically calculating emissions.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **162.6** lb/hour **711.97** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.5 lb NO_x per mmBtu** Reference: **NO_x RACT Rule**	7. Emissions Method Code: **1**
8. Calculation of Emissions (limit to 600 characters): **Potential emissions based on oil firing. (0.5 lb NO_x per mmBtu Oil x 2847,876 mmBtu/yr) / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum firing rate and 8,760 hr/yr.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.5 lb NO_x per mmBtu**	4. Equivalent Allowable Emissions: **162.6** lb/hour **711.97** tons/year
5. Method of Compliance (limit to 60 characters): **CEMS 30-day rolling average.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **53** lb/hour **232** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **9.19 x % S + 3.22 lb PM/1,000 gal Oil** Reference: **EPA AP-42 Table 1.3-2**	7. Emissions Method Code: **3**
8. Calculation of Emissions (limit to 600 characters): **Potential emissions based on oil firing. [(9.19 x 2.25% S + 3.22 lb PM/1,000 gal Oil) x 19,432.13 x 1,000 gal Oil/yr] / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum firing rate, 8,760 hr/yr and the minimum heating value of oil from 1992 through 1995.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.1 lb PM per mmBtu**	4. Equivalent Allowable Emissions: **32.5** lb/hour **142.35** tons/year
5. Method of Compliance (limit to 60 characters): **Test required only if unit operation on oil, exclusive of startup, exceeds 400 hr/yr.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Rule 62-296.405(1)(b)**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year. Testing conducted using the fuel and/or process input which are expected to result in the highest emissions and within 10 percent of the rated capacity of the source.**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.405(1)(a)**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 6

1. Parameter Code: **SO_2**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **TECO/Spectrum Systems** Model Number: **43B** Serial Number: **43B-48835-282**	
5. Installation Date: **12 DEC 1994**	6. Performance Specification Test Date: **20 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VES**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **60** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: **4 six-min periods per 3 hours** min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year.**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-210.700(3)**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 6

1. Parameter Code: **NO_x**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **TECO/Spectrum Systems** Model Number: **42D** Serial Number: **42D-48739-281**	
5. Installation Date: **12 DEC 1994**	6. Performance Specification Test Date: **20 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 3 of 6

1. Parameter Code: CO_2	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **TECO/Spectrum Systems** Model Number: **42D** Serial Number: **42D-48739-281**	
5. Installation Date: **12 DEC 1994**	6. Performance Specification Test Date: **20 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 4 of 6

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **United Sciences/Spectrum Systems** Model Number: **Ultra Flow 100** Serial Number: **9401746**	
5. Installation Date: **Scheduled**	6. Performance Specification Test Date: **12 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 5 of 6

1. Parameter Code: **VE**	2. Pollutant(s):
3. CMS Requirement:	[**X**] Rule [ ] Other
4. Monitor Information: Manufacturer: **United Sciences/Spectrum Systems** Model Number: **500C** Serial Number: **0394853**	
5. Installation Date: **12 DEC 1994**	6. Performance Specification Test Date: **20 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 6 of 6

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **United Sciences/Spectrum Systems** Model Number: **Ultra Flow 100** Serial Number: **9401746**	
5. Installation Date: **12 DEC 1994**	6. Performance Specification Test Date: **20 DEC 1994**
7. Continuous Monitor Comment (limit to 200 characters): **Rule 62-214, F.A.C. Temperature calculated using Ultrasonic Flow Monitor.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: LW-EU3-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: LW-EU3-J2 [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [X] Attached, Document ID: LW-EU3-J4 [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously submitted, Date: 7 Dec 2001 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: _____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID: _____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[X] Attached, Document ID: **LW-FI-C12** [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID: _____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[X] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: **LW-EU3-J15**

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Phase II NO_x Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID: _____

[ ] Phase NO_x Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID: _____

[ ] Not Applicable

ATTACHMENT LW-EU3-A9

EMISSIONS UNIT COMMENT

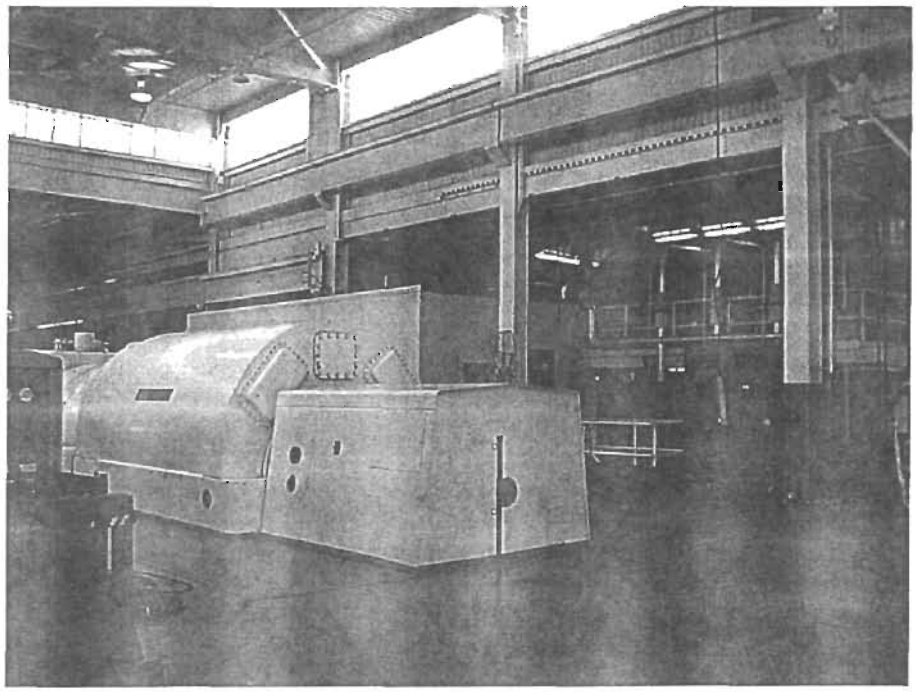


Photo 1. Inside View - Turbine and Generator for Unit S-3

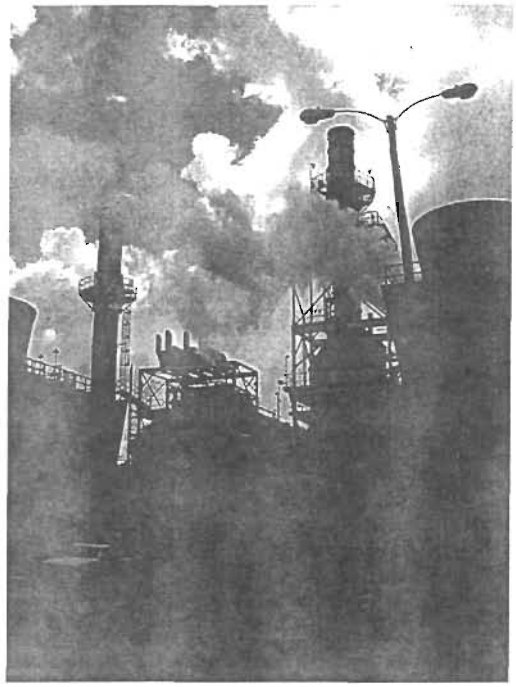


Photo 2. Outside View - Right Stack is for Unit S-3

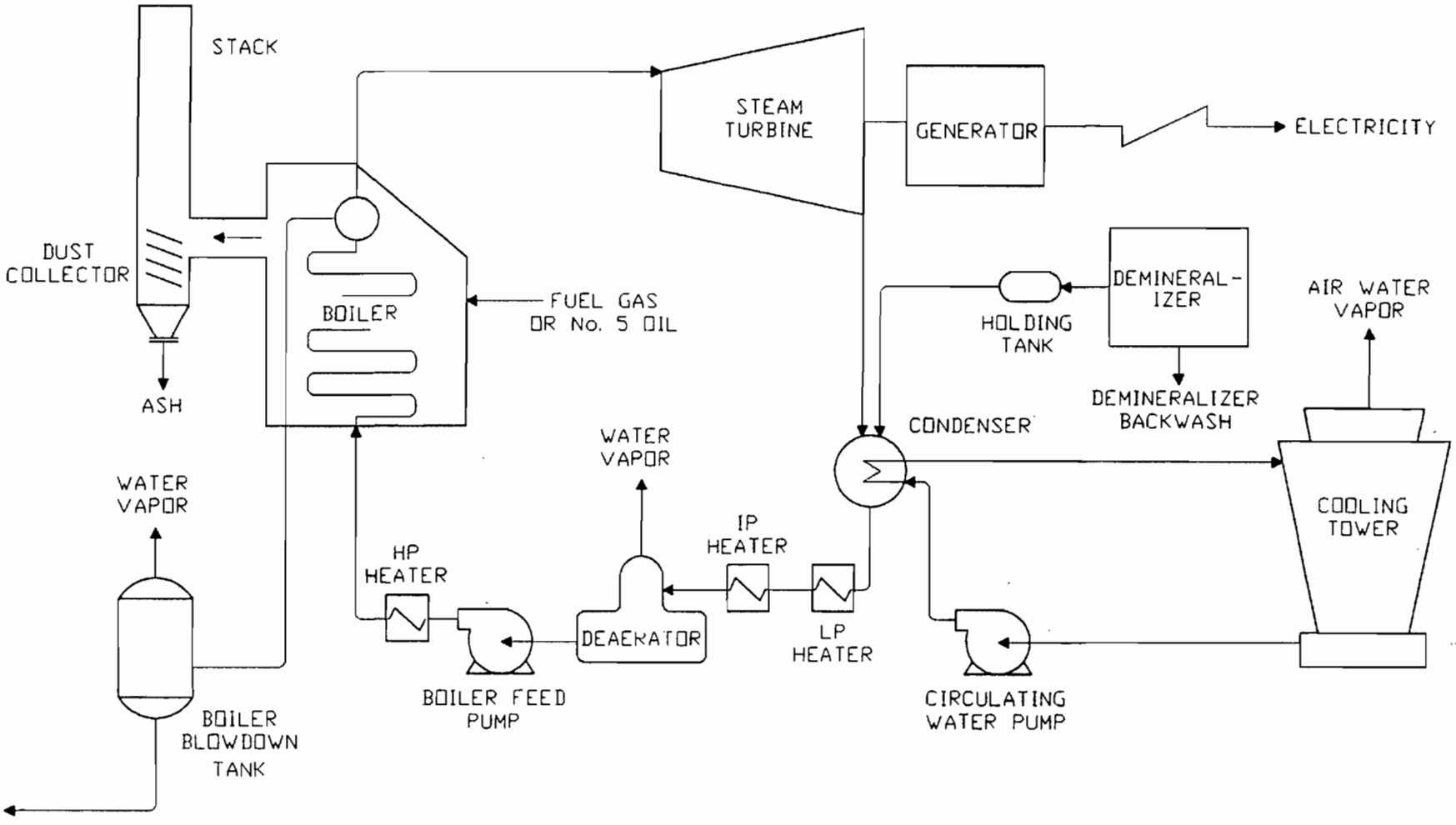
Attachment LW-EU3-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU3-J1

PROCESS FLOW DIAGRAM



Tom G. Smith Power Plant Title V Emissions - S-3 Unit 3

Attachment LW-EU3-J1
Process Flow Diagram
Lake Worth Utilities - City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU3-J2

FUEL ANALYSIS OR SPECIFICATION

CITY OF LAKE WORTH

1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

UTILITIES DEPARTMENT
POWER RESOURCES

(561) 586-1703
FAX (561) 586-1759

April 29, 2002

Mr. Laxmana Tallam
Supervisor of Permitting, Compliance & Enforcement
Florida Department of Environmental Protection
Post Office Box 15425
400 North Congress Avenue
West Palm Beach, Florida 33416

Subject: **City of Lake Worth Utilities**
Quarterly Fuel Oil Analysis Reports
First Quarter 2002 (Jan- Feb - Mar)

Dear Mr. Tallam:

Please find attached our quarterly fuel oil analysis as required by our operating permit. Samples reported below have been collected from a composite sample from the on site oil storage facility.

On site quarterly sample:

Type	Date	%S	Note
No.6	04/01/02	1.97	On site quarterly sample
No.2	04/01/02	0.0390	On site quarterly sample

The results indicate the oil is within our permit limits of 0.35% sulfur for No. 2 oil and 2.25% sulfur for No. 6 oil. If you need more information, please do hesitate to call me at 561.533.7379 or email at mridge@lakeworth.net.

Sincerely,
CITY OF LAKE WORTH UTILITIES

Mike Ridge
Environmental/ Performance Specialist

Attachments

cc: A.J. Satyal, Environmental Manager, Palm Beach County Health Unit
Larry Baker, Power Resources Superintendent
Margaret Johnstone, Environmental Compliance Officer
Joe Brockway, Results Supervisor

SAYBOLT LP.
2610 So. Federal Highway
Fort Lauderdale, FL. 33316

LABORATORY ANALYSIS REPORT

LABORATORY NO.: 0484

CUSTOMER
REF. NO(S): #129018/

DATE: 04/08/02
INVOICE NO:

DESCRIPTION

- **Sample designated as:**
  #6 FUEL OIL
- **Identifying Marks:**
  SUBMITTED QUARTERLY
  SAMPLE (04/01/02)
  CITY POWER PLANT
  LAKE WORTH, FLORDA
- **Submitted by:**
  CITY OF LAKE WORTH
- **Client:**
  CITY OF LAKE WORTH

SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR FORTY-FIVE (45) DAYS UNLESS OTHERWISE REQUESTED IN WRITING.

NOTES

- This laboratory report may not be published or used except in full. It shall not be used in connection with any form of advertising unless written consent is received from an officer of Saybolt Inc.
- Results were based on analysis made at the time samples were received at the laboratory.
- Sample nomenclature is designated by the customer.

ANALYSIS

TEST	METHOD	RESULT
GRAVITY, API AT 60 F	D-1298	21.3
GRAVITY, SPECIFIC	D-1298	0.9260
SULFUR, X-RAY, WT PCT	D-4294	1.97
ASH, WT PCT	D-482	0.032
HEAT OF COMBUSTION, BTU/LB	D-4868	18761
HEAT OF COMBUSTION, BTU/GAL		144904
HEAT OF COMBUSTION, BTU/BBL		6085968

MEMBERS ASTM-API-SAE

SAYBOLT

ATTACHMENT LW-EU3-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

ATTACHMENT LW-EU3-J4

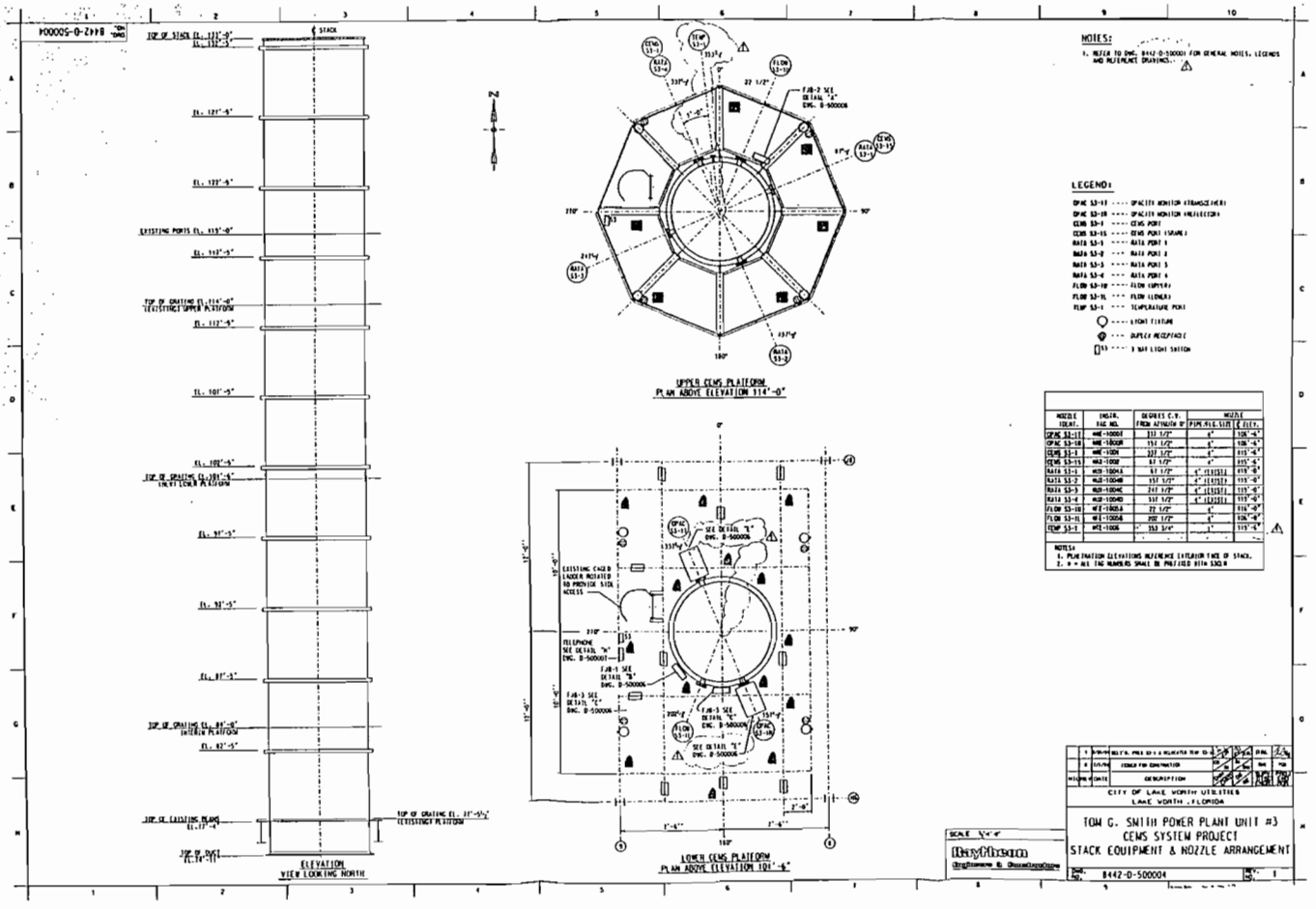
DESCRIPTION OF STACK SAMPLING FACILITIES

FOSSIL FUEL STEAM GENERATING UNIT 3 (S-3)

On S-3, a continuous emission monitoring system is installed. The continuous emission monitoring system equipment is serviced and tested from two permanently installed stack platforms, one at elevation 114'-0" and one at elevation 101'-6". Both platforms are accessed by a caged ladder.

The stack configuration of the continuous emission monitoring system equipment and test ports on S-3 is presented in the attached figure.

Best Available Copy



ATTACHMENT LW-EU3-J15

ACID RAIN PERMIT APPLICATION

CITY OF LAKE WORTH
1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

(407) 586-1668
FAX (407) 586-1702

UTILITIES
DEPARTMENT

December 13, 1995

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

Subject: Acid Rain Permit Application
Tom G. Smith Electric Power Plant
Lake Worth, Florida

Dear Mr. Brown:

Enclosed please find the original and three copies of the Phase II Acid Rain Permit Application for the Tom G. Smith Electric Power Plant.

Please note that Unit S-4 has not been available for service since June 1989. The unit experienced extensive damage in a forced outage and is in extended shutdown for repair. Unit S-4 is an affected Phase II unit currently permitted, thus included on this application with Unit S-3. Upon Unit S-4's return to service, Continuous Emission Monitors will be installed.

If you have any questions or require any additional information to process this application, please notify us.

Sincerely,
CITY OF LAKE WORTH UTILITIES

H. F. Wildschuetz

Harvey F. Wildschuetz, Utilities Director
Designated Representative

Enclosure

c: AJ Satyal, Palm Beach County Health Department, w/enclosure
Al Magley, Jr., Raytheon Engineers and Constructors, w/enclosure
Anatole Bezugly, Assistant Utilities Director
Lloyd Gibb, Power Resources Superintendent (ADR)
Margaret Johnstone, Environmental Compliance Officer
Bill Michael, Mechanical Systems Engineer

Phase II Permit Application

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

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Tom G. Smith	FL	673
Plant Name	State	ORIS Code

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

a	b	c	d	e
	Compliance Plan			
Boiler ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units Commence Operation Date	New Units Monitor Certification Deadline
S-3	Yes	NO		
S-4	Yes	NO		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

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

Plant Name (from Step 1)

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

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

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

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

Certification

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

Name Harvey F. Wildschuetz, Utilities Director, Designated Rep.	
Signature Harvey F. Wildschuetz	Date 12/13/95

Plant Name (from Step 1)

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

Standard Requirements

Permit Requirements.

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

Monitoring Requirements.

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

Sulfur Dioxide Requirements.

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

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

Excess Emissions Requirements.

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

Recordkeeping and Reporting Requirements.

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

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

AIRS
FINDS

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

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

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Gas Turbine #1 (GT-1)

4. Emissions Unit Identification Number:
ID: **006**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**1976**	**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)
A photograph of this emission unit is presented in Attachment LW-EU4-A9.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit: Manufacturer: **Westinghouse**	Model Number:	
2. Generator Nameplate Rating: **30**	MW	
3. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**435**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: None
State: **62-4, F.A.C. Permitting Requirements** **62-210, F.A.C. Stationary Sources – General Requirements** **62-213, F.A.C. Title V Permitting Requirements** **62-296.310(2), F.A.C. Stationary Sources – Visible Emissions** **62-296.570(4)(b)(5), F.A.C. NO_x RACT Emission Limitations** **62-297.410(9), F.A.C. Stationary Sources – EPA Method 9 for Visible Emissions Testing** **Title V Core List (3/1/02) Presumptively Applicable (Federal and State)**
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **GT-1 Gas Turbine #1**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **46** feet	7. Exit Diameter: **16** feet
8. Exit Temperature: **837°F**	9. Actual Volumetric Flow Rate: **983,593** 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): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Internal Combustion Engines - Electric Generation-Distillate Oil-Turbine**		
2. Source Classification Code (SCC): **2-01-001-01**	3. SCC Units: **1,000 gallons**	
4. Maximum Hourly Rate: **3.1**	5. Maximum Annual Rate: **27,230**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.23**	8. Maximum % Ash: **0.0033**	9. Million Btu per SCC Unit: **139.3**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **390** lb/hour **1,707** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.9 lb NO_x per mmBtu** Reference: **NO_x RACT Rule**	7. Emissions Method Code: **1**

9. Calculation of Emissions (limit to 600 characters):

Potential emissions based on oil firing.
(0.9 lb NO_x per mmBtu Oil x 27,230 1,000 gal/yr x 139.3 mmBtu Oil/1,000 gal) / 2,000 lb/ton

10. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Potential emissions based on maximum heat input rate, 8,760 hr/yr, and the minimum heating value of oil reported from 1992 through 1995.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.9 lb NO_x per mmBtu**	4. Equivalent Allowable Emissions: **389.7** lb/hour **1,706.89** tons/year

5. Method of Compliance (limit to 60 characters):

EPA Test Method 7E conducted annually, when burning liquid fuels for 400 or more hours per year.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year. Testing conducted using the fuel and/or process input which are expected to result in the highest emissions and within 10 percent of the rated capacity of the source.**	
4. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.310(2)**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units 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 (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: LW-EU4-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: LW-EU4-J2 [ ] Not Applicable[ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [X] Attached, Document ID: LW-EU4-J4 [ ] Not Applicable[ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously submitted, Date: 1 Dec 2000 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[X] Attached, Document ID: **LW-FI-C12** [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NO_x Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NO_x Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

ATTACHMENT LW-EU4-A9

EMISSIONS UNIT COMMENT

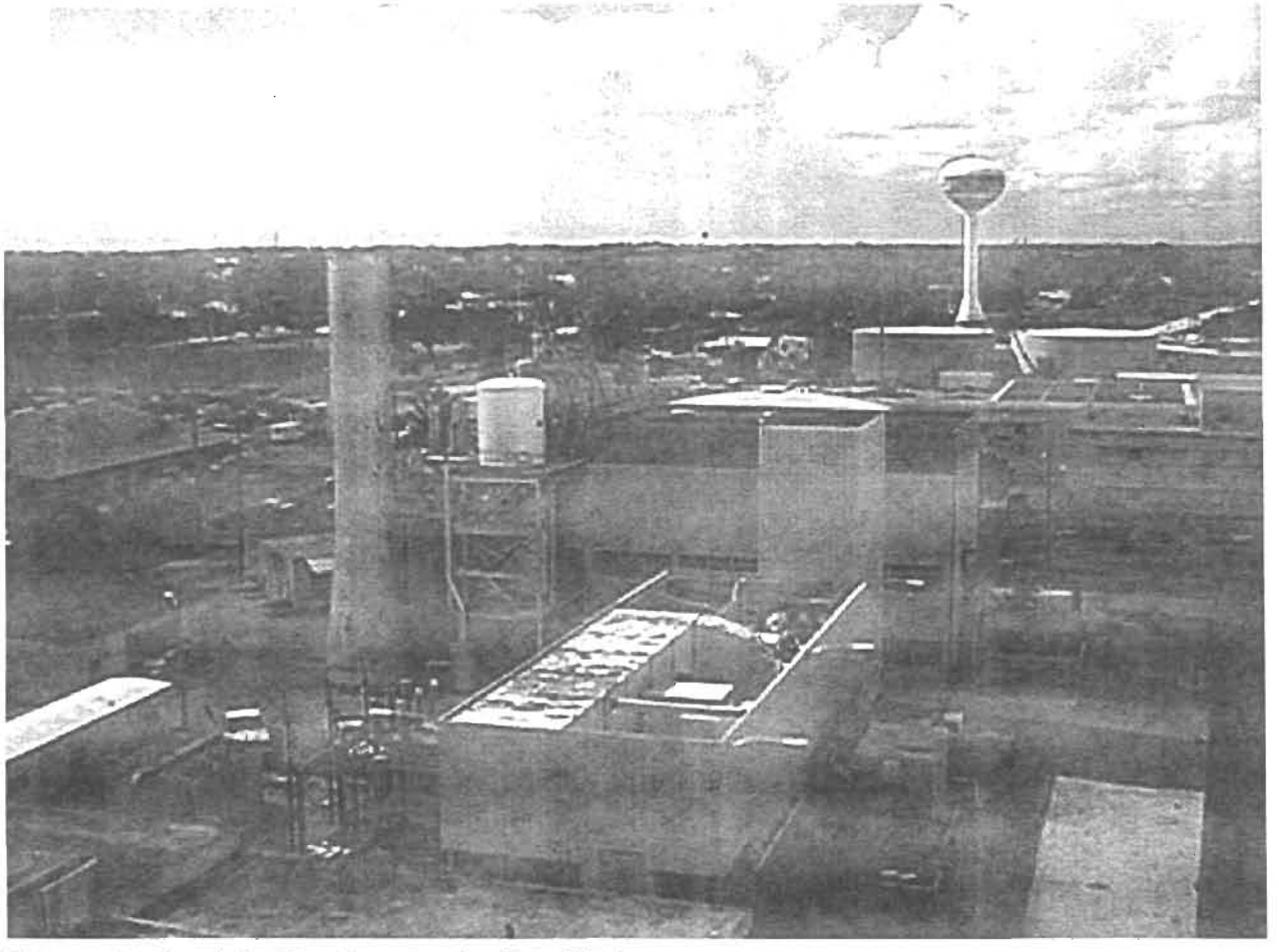


Photo 1. Aerial View - Stack and Building Location for Unit GT-1

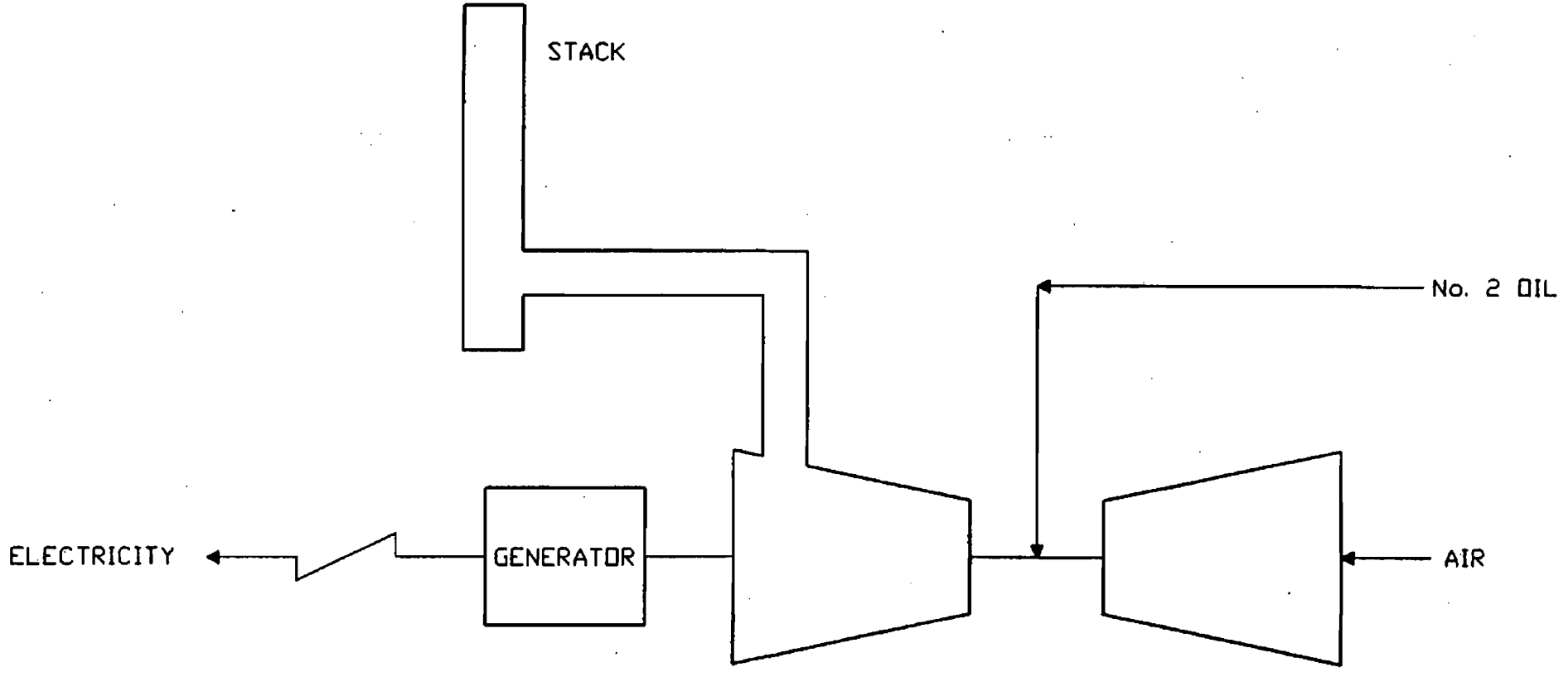
Attachment LW-EU4-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU4-J1

PROCESS FLOW DIAGRAM



Tom G. Smith Power Plant Title V Emissions - GT-1

Attachment LW-EU4-J1
Process Flow Diagram
Lake Worth Utilities - City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU4-J2

FUEL ANALYSIS OR SPECIFICATION

CITY OF LAKE WORTH

1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

UTILITIES DEPARTMENT
POWER RESOURCES

(561) 586-1703
FAX (561) 586-1759

April 29, 2002

Mr. Laxmana Tallam
Supervisor of Permitting, Compliance & Enforcement
Florida Department of Environmental Protection
Post Office Box 15425
400 North Congress Avenue
West Palm Beach, Florida 33416

Subject: **City of Lake Worth Utilities**
Quarterly Fuel Oil Analysis Reports
First Quarter 2002 (Jan- Feb - Mar)

Dear Mr. Tallam:

Please find attached our quarterly fuel oil analysis as required by our operating permit. Samples reported below have been collected from a composite sample from the on site oil storage facility.

On site quarterly sample:

Type	Date	%S	Note
No.6	04/01/02	1.97	On site quarterly sample
No.2	04/01/02	0.0390	On site quarterly sample

The results indicate the oil is within our permit limits of 0.35% sulfur for No. 2 oil and 2.25% sulfur for No. 6 oil. If you need more information, please do hesitate to call me at 561.533.7379 or email at mridge@lakeworth.net.

Sincerely,
CITY OF LAKE WORTH UTILITIES

Mike Ridge
Environmental/ Performance Specialist

Attachments

cc: A.J. Satyal, Environmental Manager, Palm Beach County Health Unit
Larry Baker, Power Resources Superintendent
Margaret Johnstone, Environmental Compliance Officer
Joe Brockway, Results Supervisor

SAYBOLT LP.
2610 So. Federal Highway
Fort Lauderdale, FL. 33316

Saybolt
A CORE LABORATORIES COMPANY

LABORATORY ANALYSIS REPORT

LABORATORY NO.: 0483

CUSTOMER
REF. NO(S): #129018/

DATE: 04/08/02
INVOICE NO:

DESCRIPTION

- **Sample designated as:**
  #2 FUEL OIL
- **Identifying Marks:**
  SUBMITTED QUARTERLY
  SAMPLE (04/01/02)
  CITY POWER PLANT
  LAKE WORTH, FLORDA
- **Submitted by:**
  CITY OF LAKE WORTH
- **Client:**
  CITY OF LAKE WORTH

SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR FORTY-FIVE (45) DAYS UNLESS OTHERWISE REQUESTED IN WRITING.

NOTES

- This laboratory report may not be published or used except in full. It shall not be used in connection with any form of advertising unless written consent is received from an officer of Saybolt Inc.
- Results were based on analysis made at the time samples were received at the laboratory.
- Sample nomenclature is designated by the customer.

ANALYSIS

TEST	METHOD	RESULT
GRAVITY, API AT 60 F	D-1298	34.7
GRAVITY, SPECIFIC	D-1298	0.8514
SULFUR, X-RAY, WT PCT	D-4294	0.0390
ASH, WT PCT	D-482	0.0036
HEAT OF COMBUSTION, BTU/LB	D-4868	19576
HEAT OF COMBUSTION, BTU/GAL		139011
HEAT OF COMBUSTION, BTU/BBL		5838462

MEMBERS ASTM-API-SAE

SAYBOLT

ATTACHMENT LW-EU4-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

ATTACHMENT LW-EU4-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

GAS TURBINE NO. 1 (GT-1)

Emission testing can be performed on all of the major emission units. However, on GT-1, permanent platform structures do not exist. In order to perform emission tests on this unit, a bucket truck is used to hoist personnel and equipment to the stack test port elevations. The stack sampling locations are identified for GT-1 on the attached figure.

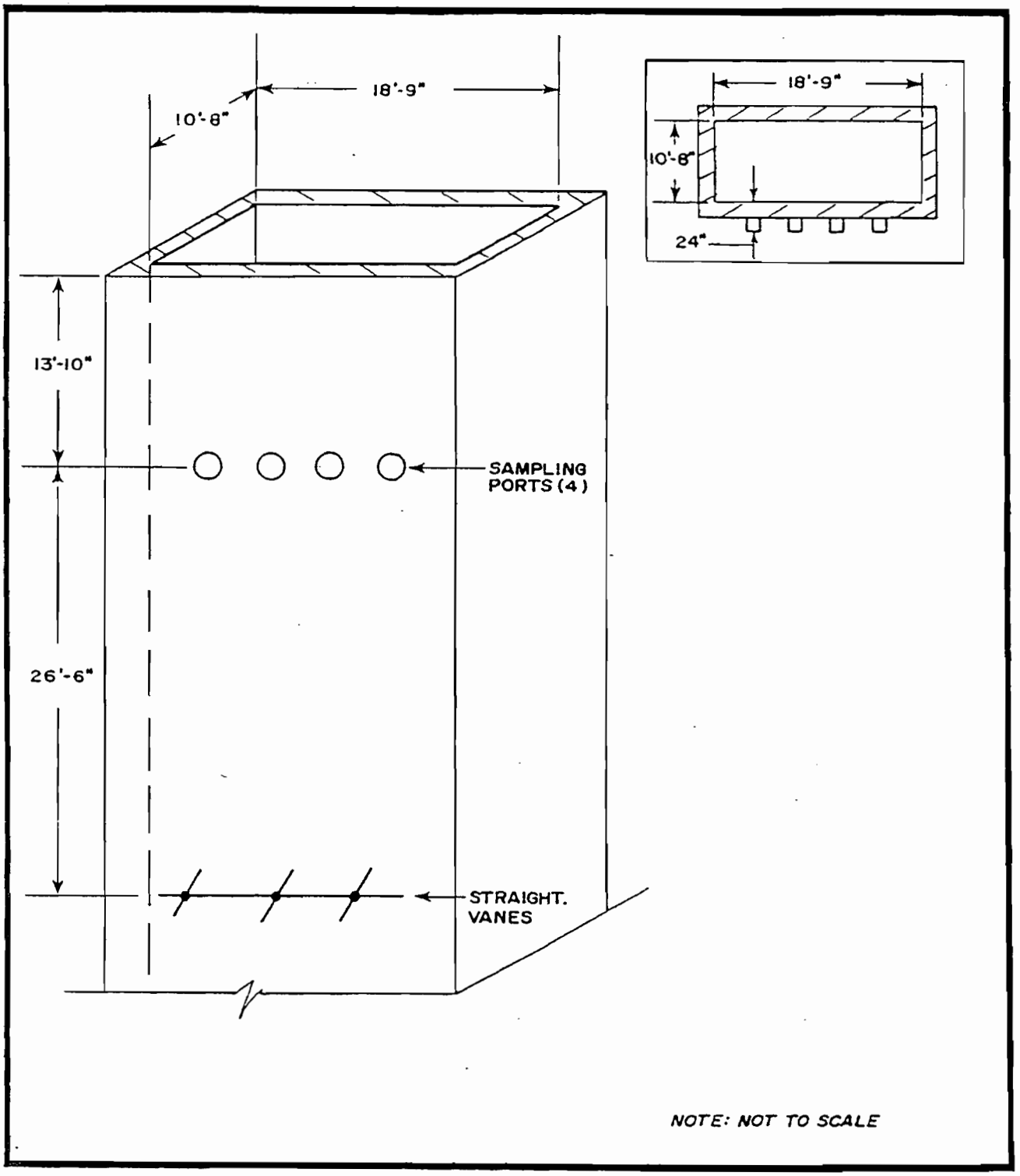


FIGURE 9
SAMPLING POINT LOCATION
GAS TURBINE-UNIT 1 GT-1
LAKE WORTH UTILITIES
LAKE WORTH, FLORIDA

AIR CONSULTING
and
ENGINEERING

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

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

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
CC1 Combined Cycle Unit Combustion Turbine #2/Steam Unit #5 (GT-2/S-5)

4. Emissions Unit Identification Number:
ID: **011**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**1978**	**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)
A photograph of this Emission Unit is present in Attachment LW-EU5-A9.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:
2. Generator Nameplate Rating: **29.5** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**317.6**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

GT-2/S-5 is nominally rated at 29.5 MW consisting of a gas turbine (GT-2) nominally rated at 20 MW and a Heat Recovery Steam Generator (S-5) nominally rated at 10 MW.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: None
State: 62-4, F.A.C. Permitting Requirements 62-210, F.A.C. Stationary Sources – General Requirements 62-213, F.A.C. Title V Permitting Requirements 62-296.570(4)(b)(5), F.A.C. NO_x RACT Emission Limitations 62-297.410(9), F.A.C. Stationary Sources – EPA Method 9 for Visible Emissions Testing Section 403.501 Florida Statutes Power Plant Siting Act (PPSA) Title V Core List (3/1/02) Presumptively Applicable (Federal and State)
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION

(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **CC1 Combined Cycle Unit (GT-2/S-5)**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **75** feet	7. Exit Diameter: **10** feet
8. Exit Temperature: **Oil: 404°F** **Gas: 406°F**	9. Actual Volumetric Flow Rate: **Oil: 412,466** acfm **Gas: 429,223** 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): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters): **By-pass stack parameters:** **Stack Height = 49 feet** **Exit Dimensions = 12 feet 7 inches x 10 feet 6.5 inches** **Maximum Exit Temperature = 1,020 °F** **Maximum Actual Volumetric Flow rate = 733,562 (gas) acfm** **Discharge Type = Vertical**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Internal Combustion Engines-Electric Generation-Distillate Oil-Turbines**		
2. Source Classification Code (SCC): **2-01-001-01**	3. SCC Units: **1,000 gallons**	
4. Maximum Hourly Rate: **2.28**	5. Maximum Annual Rate: **19,973**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.35**	8. Maximum % Ash:	8. Million Btu per SCC Unit: **139.3**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Internal Combustion Engines-Electric Generation-Natural Gas-Turbine**		
2. Source Classification Code (SCC): **2-01-002-01**	3. SCC Units: **mmcf**	
3. Maximum Hourly Rate: **0.31**	4. Maximum Annual Rate: **2,709**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,027**
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **115** lb/hour **503** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **7.2 % S x 2 lb SO_2 per 1,000 gal Oil** Reference: **Stoicheometric Calculation**	7. Emissions Method Code: **3**
8. Calculation of Emissions (limit to 600 characters): **Potential emissions based on oil firing. (7.2 lb Oil/Gas x 19,972,548 gal Oil/yr x 0.0035 S/lb Oil x 2 lb SO_2/1 lb S) / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum firing rate, 8,760 hr/yr and the minimum oil heating value from 1992 through 1995.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.475 lb SO_2 per mmBtu**	4. Equivalent Allowable Emissions: **786.1** lb/hour **3,442.94** tons/year
5. Method of Compliance (limit to 60 characters): **As-fired fuel oil will be sampled each day oil is fired. Composite fuel analysis reports submitted quarterly. SO_2 emissions will be calculated stoichiometrically.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Power Plant Citing Act Specific Condition I.1.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **286** lb/hour **1,252** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.9 lb NO_x per mmBtu (Oil)** Reference: **NO_x RACT Rule**	7. Emissions Method Code: **1**
8. Calculation of Emissions (limit to 600 characters): **Potential emissions based on oil firing. (0.9 lb NO_x per mmBtu Oil x 19,973 1,000 gal/yr x 139.3 mmBtu Oil/1,000 gal) / 2,000 lb/ton**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Potential emissions based on maximum heat input rate, 8,760 hr/yr, and minimum heating value of oil reported from 1992 through 1995.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.9 lb NO_x per mmBtu**	4. Equivalent Allowable Emissions: **285.8** lb/hour **1,251.98** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 7E conducted annually, when burning liquid fuels for 400 or more hours per year.**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Compliance Test Method 9 conducted annually when burning liquid fuels for 400 or more hours per year. Testing conducted using the fuel and/or process input, which are expected to result in the highest emissions and within 10 percent of the rated capacity of the source.**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.310(2)**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units 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 (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: LW-EU5-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: LW-EU5-J2 [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [X] Attached, Document ID: LW-EU5-J4 [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously submitted, Date: 17 Oct 2001 [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: ———— [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID: ———— [X] Not Applicable

13. Identification of Additional Applicable Requirements
[X] Attached, Document ID: LW-FI-C12 [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID: _____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NO_x Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NO_x Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

ATTACHMENT LW-EU5-A9

EMISSION UNIT COMMENT

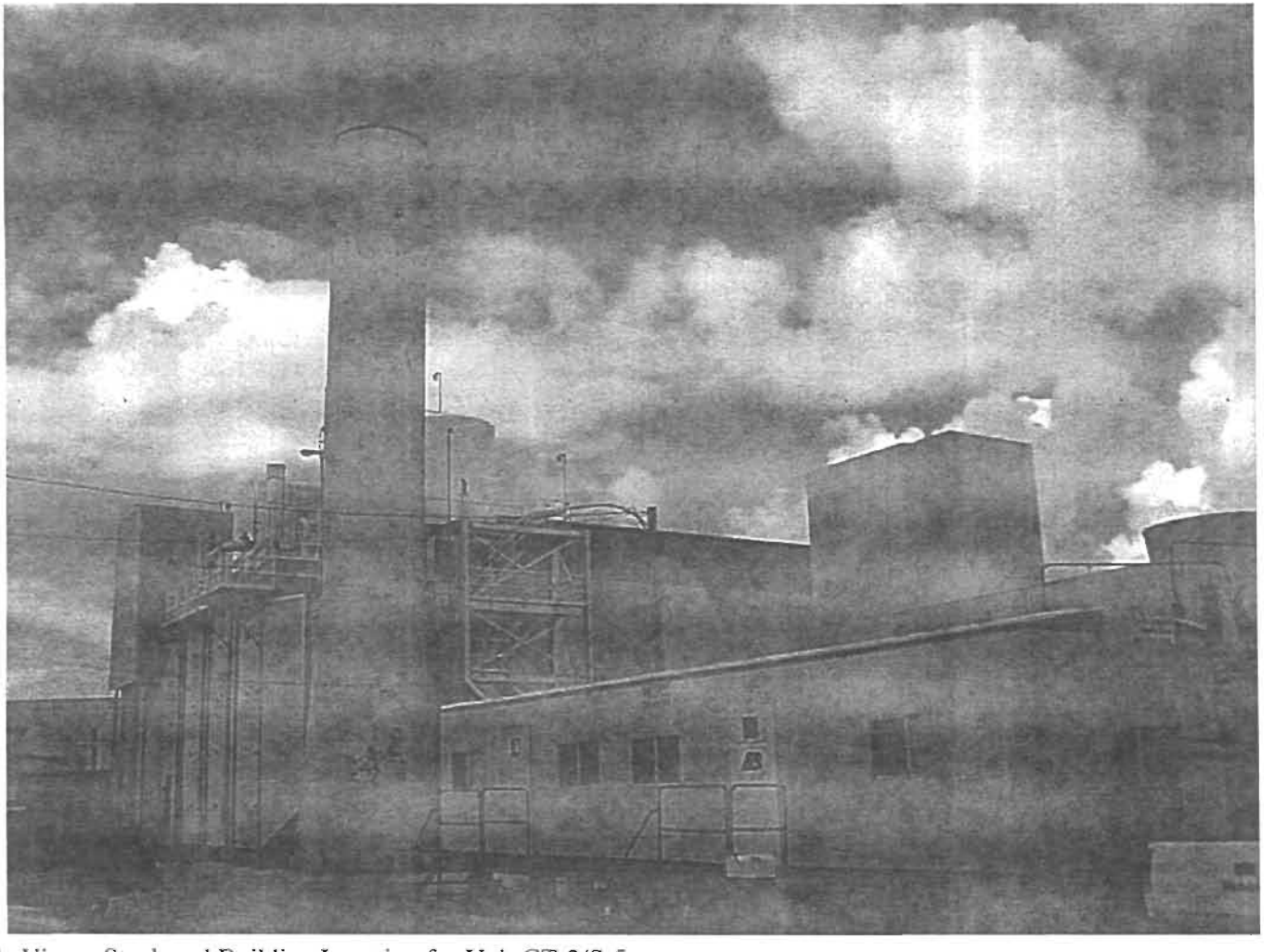


Photo 1. Outside View - Stack and Building Location for Unit GT-2/S-5

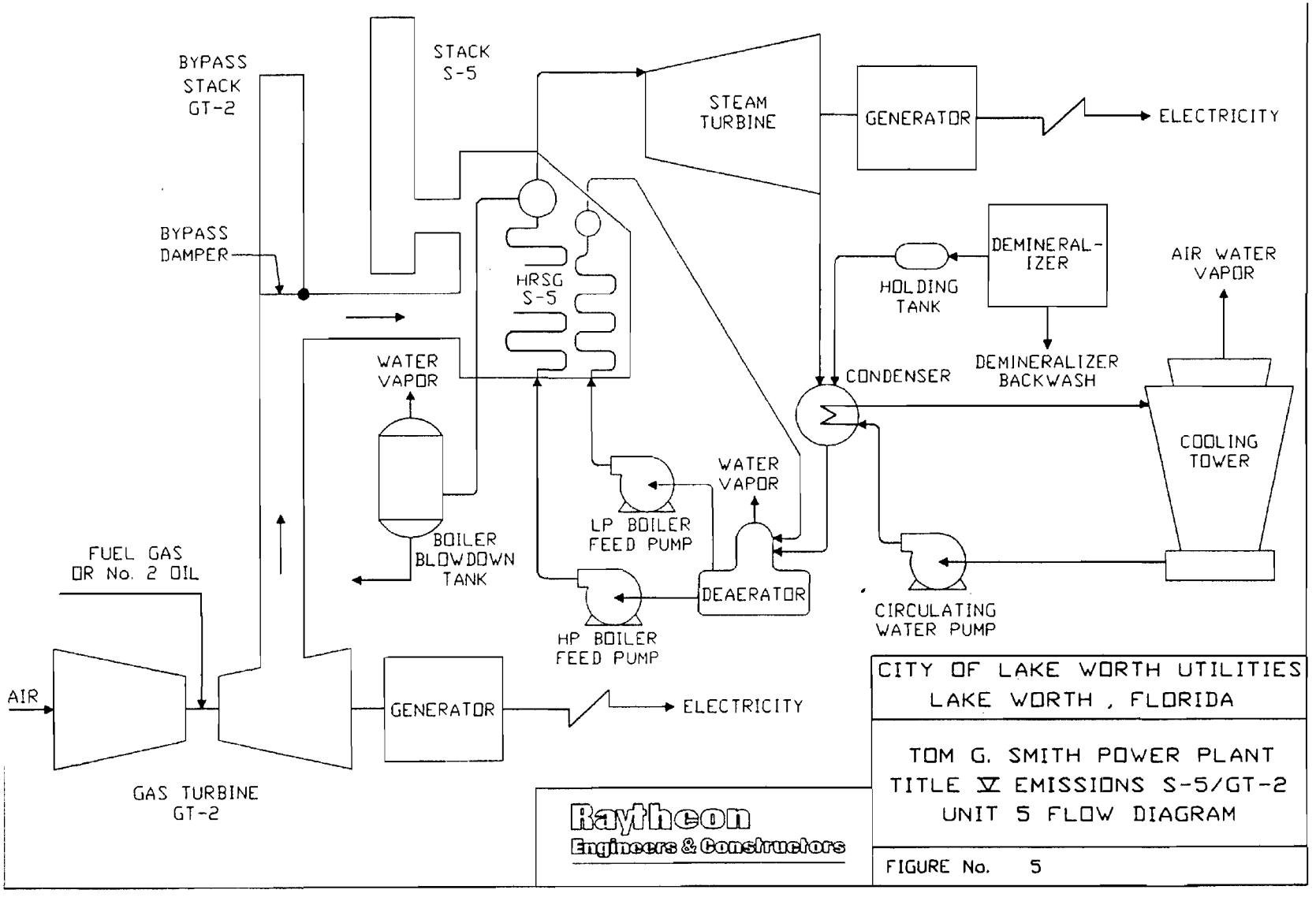
Attachment LW-EU5-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU5-J1

PROCESS FLOW DIAGRAM



Attachment LW-EU5-J1
Process Flow Diagram
Lake Worth Utilities - City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

ATTACHMENT LW-EU5-J2

FUEL ANALYSIS OR SPECIFICATION

CITY OF LAKE WORTH

1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA 33461-4298

UTILITIES DEPARTMENT
POWER RESOURCES

(561) 586-1703
FAX (561) 586-1759

April 29, 2002

Mr. Laxmana Tallam
Supervisor of Permitting, Compliance & Enforcement
Florida Department of Environmental Protection
Post Office Box 15425
400 North Congress Avenue
West Palm Beach, Florida 33416

Subject: **City of Lake Worth Utilities**
Quarterly Fuel Oil Analysis Reports
First Quarter 2002 (Jan- Feb - Mar)

Dear Mr. Tallam:

Please find attached our quarterly fuel oil analysis as required by our operating permit. Samples reported below have been collected from a composite sample from the on site oil storage facility.

On site quarterly sample:

Type	Date	%S	Note
No.6	04/01/02	1.97	On site quarterly sample
No.2	04/01/02	0.0390	On site quarterly sample

The results indicate the oil is within our permit limits of 0.35% sulfur for No. 2 oil and 2.25% sulfur for No. 6 oil. If you need more information, please do hesitate to call me at 561.533.7379 or email at mridge@lakeworth.net.

Sincerely,
CITY OF LAKE WORTH UTILITIES

Mike Ridge
Environmental/ Performance Specialist

Attachments

cc: A.J. Satyal, Environmental Manager, Palm Beach County Health Unit
Larry Baker, Power Resources Superintendent
Margaret Johnstone, Environmental Compliance Officer
Joe Brockway, Results Supervisor

SAYBOLT LP.
2610 So. Federal Highway
Fort Lauderdale, FL. 33316

LABORATORY ANALYSIS REPORT

LABORATORY NO.: 0483

CUSTOMER
REF. NO(S): #129018/

DATE: 04/08/02
INVOICE NO:

DESCRIPTION

- **Sample designated as:**
  #2 FUEL OIL
- **Identifying Marks:**
  SUBMITTED QUARTERLY
  SAMPLE (04/01/02)
  CITY POWER PLANT
  LAKE WORTH, FLORDA
- **Submitted by:**
  CITY OF LAKE WORTH
- **Client:**
  CITY OF LAKE WORTH

SAMPLES SHALL BE RETAINED BY SAYBOLT INC. FOR FORTY-FIVE (45) DAYS UNLESS OTHERWISE REQUESTED IN WRITING.

NOTES

- This laboratory report may not be published or used except in full. It shall not be used in connection with any form of advertising unless written consent is received from an officer of Saybolt Inc.
- Results were based on analysis made at the time samples were received at the laboratory.
- Sample nomenclature is designated by the customer.

ANALYSIS

TEST	METHOD	RESULT
GRAVITY, API AT 60 F	D-1298	34.7
GRAVITY, SPECIFIC	D-1298	0.8514
SULFUR, X-RAY, WT PCT	D-4294	0.0390
ASH, WT PCT	D-482	0.0036
HEAT OF COMBUSTION, BTU/LB	D-4868	19576
HEAT OF COMBUSTION, BTU/GAL		139011
HEAT OF COMBUSTION, BTU/BBL		5838462

MEMBERS ASTM-API-SAE

SAYBOLT

ATTACHMENT LW-EU5-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

ATTACHMENT LW-EU5-J4

DESCRIPTION OF STACK SAMPLING FACILITIES

COMBINED CYCLE UNIT NO. 1 (CC-1)

Emission testing can be performed on all of the major emission units. However, on CC-1, permanent platform structures do not exist. In order to perform emission tests on this unit, a bucket truck is used to hoist personnel and equipment to the stack test port elevations. The stack sampling locations are identified for CC-1 on the attached figure.

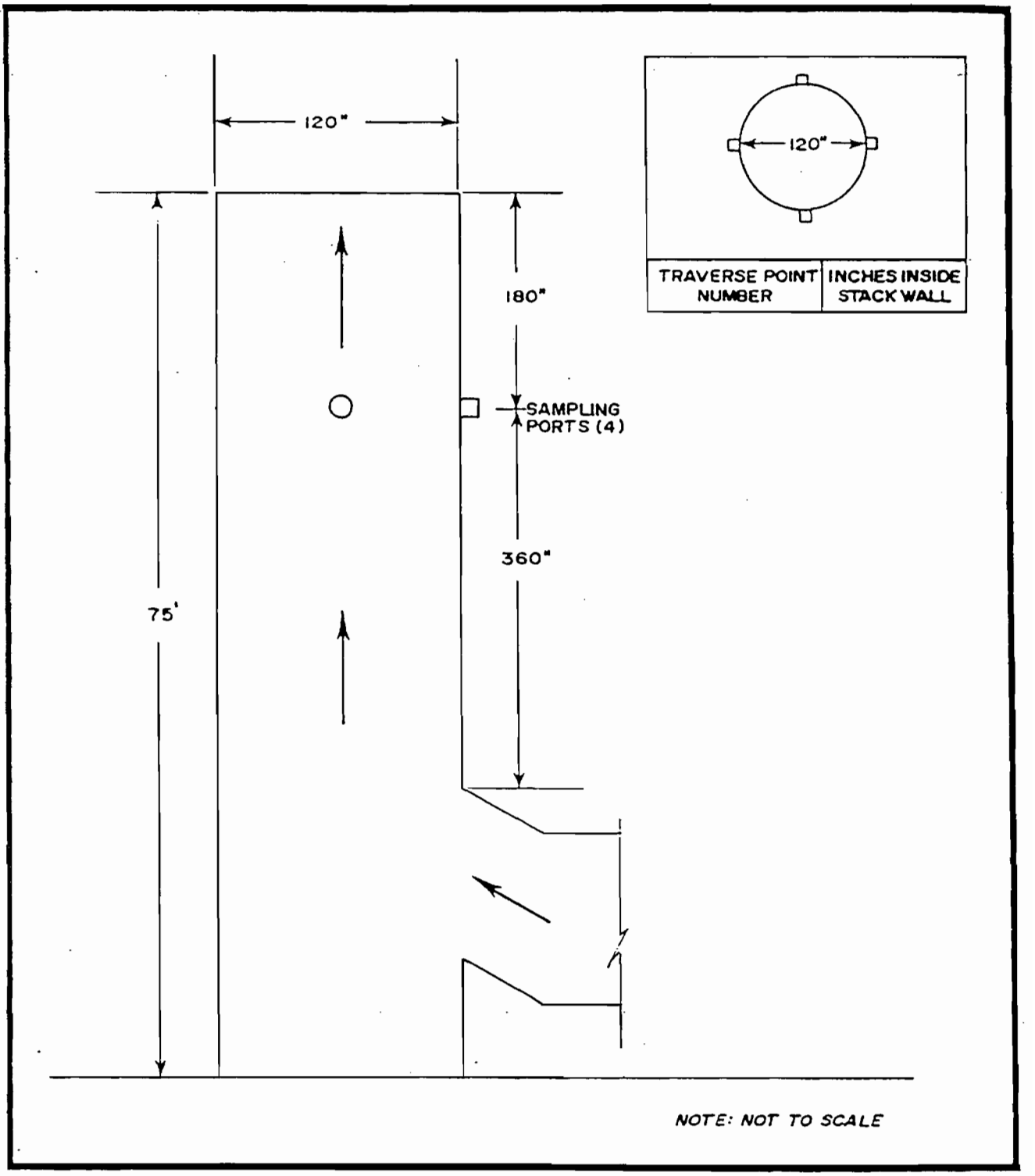


FIGURE 10
SAMPLING POINT LOCATION
COMBINED CYCLE UNIT 1 CC-1
LAKE WORTH UTILITIES
LAKE WORTH, FLORIDA

AIR CONSULTING
and
ENGINEERING

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

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.

[X] 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. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Fuel Oil Storage Tanks 10, 11, and 12
Tank 10 is fixed roof 20,134-gallon capacity, constructed 05/92.
Tank 11 is fixed roof 20,134-gallon capacity, constructed 05/92.
Tank 12 is fixed roof 140,798-gallon capacity, constructed 05/92.

4. Emissions Unit Identification Number: [X] No ID
ID: [ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):
2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit: Manufacturer:	Model Number:	
2. Generator Nameplate Rating:	MW	
3. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Federal: 40 CFR 60 Subpart Kb Volatile Organic Liquid Storage Vessel with capacity greater than or equal to 20,568 gallons constructed after 7/23/84 40 CFR 60, Subpart Kb New Source Performance Standards, Volatile Organic Storage Vessels
State: 62-213.420(3), F.A.C. Title V reportable quantities of all known and suspected emissions sources 62-296.320, F.A.C. General Pollutant Emissions Limiting Standards Title V Core List (3/1/02) Presumptively Applicable (Federal and State)
Local: None

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **T-10, T-11, and T-12**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **P**	6. Stack Height: feet	7. Exit Diameter: feet
8. Exit Temperature: **77°F**	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: **31** feet	
13. Emission Point UTM Coordinates: Zone: **17** East (km): **592.8** North (km): **2943.7**		
14. Emission Point Comment (limit to 200 characters): **The VOC potential emissions from Tanks 10 and 11 are 63 lb/yr each. Tanks 10 and 11 are identical. The VOC potential emissions from Tank 12 are 392 lb/yr.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Working loss and breathing loss from fixed roof storage tanks.**		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
11. Maximum % Sulfur:	12. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): **4-03-010-21 Distillate Fuel No. 2 Fixed Roof Working Loss** **4-03-010-19 Distillate Fuel No. 2 Fixed Roof Breathing Loss** **Capacity: Tanks 10 and 11 = 20,134 gallons each** **Tank 12 = 140,785 gallons**		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC	---	---	NS

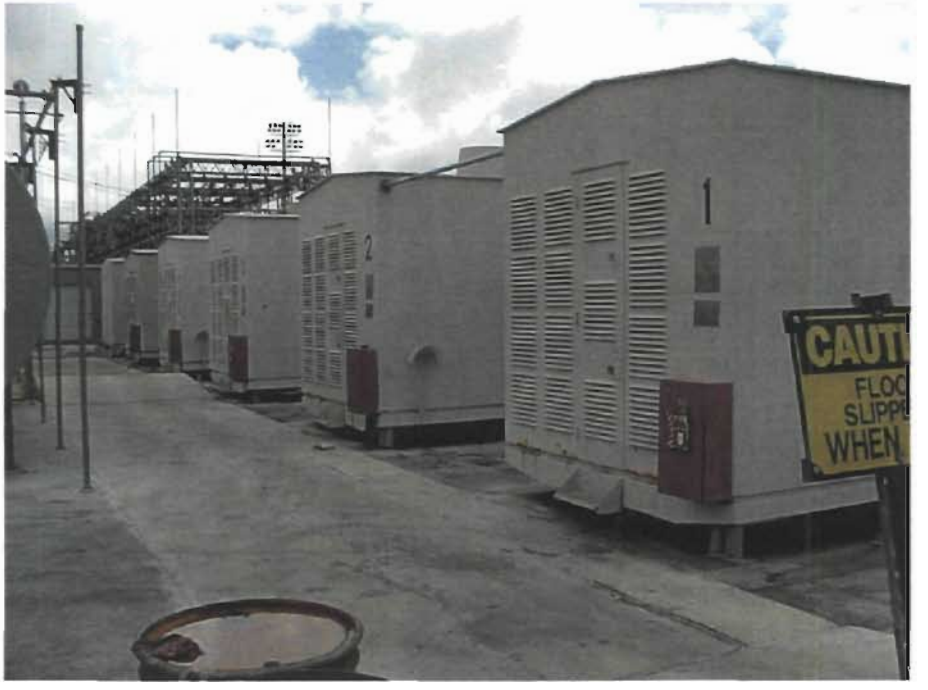


Photo 1. Front View - Diesel Generator Units 1-5

Photo 2. Rear View - Diesel Generator Units 1-5

Attachment LW-EU1-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

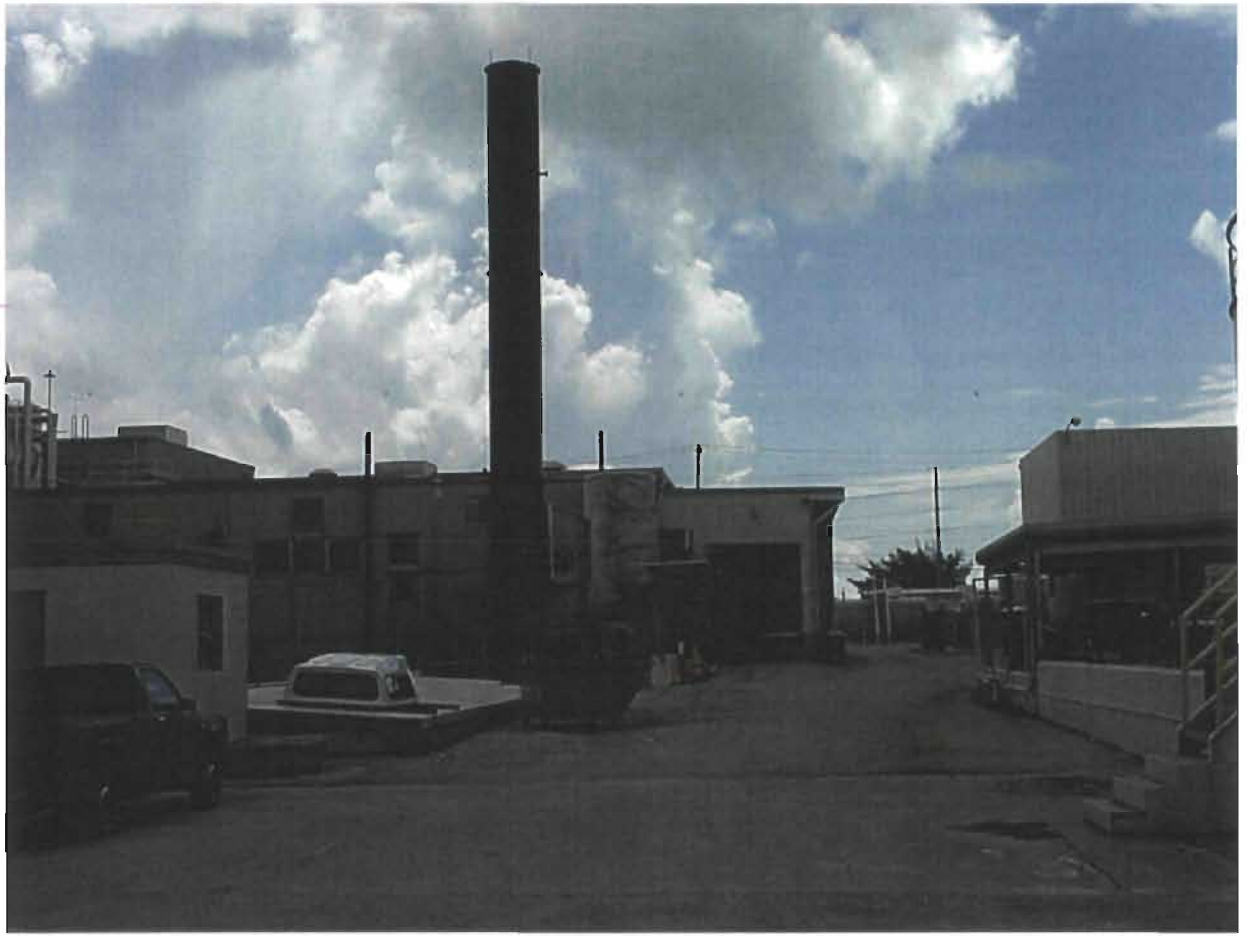


Photo 1. Outside View - Stack and Building Location for Unit S-1

Attachment LW-EU2-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates

Photo 1. Inside View - Turbine and Generator for Unit S-3

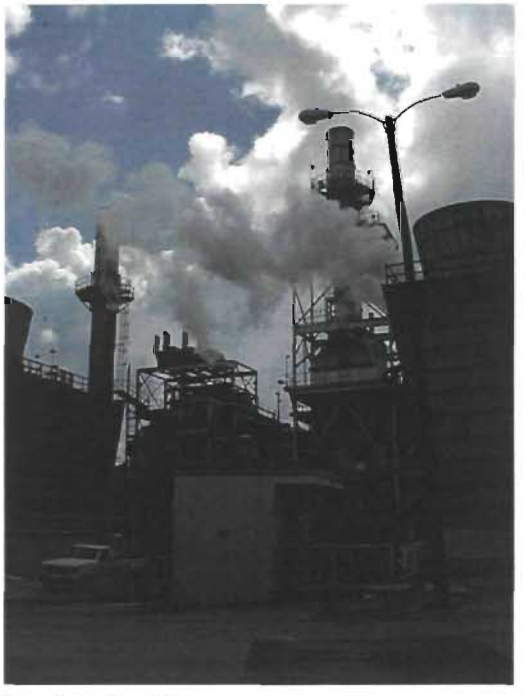


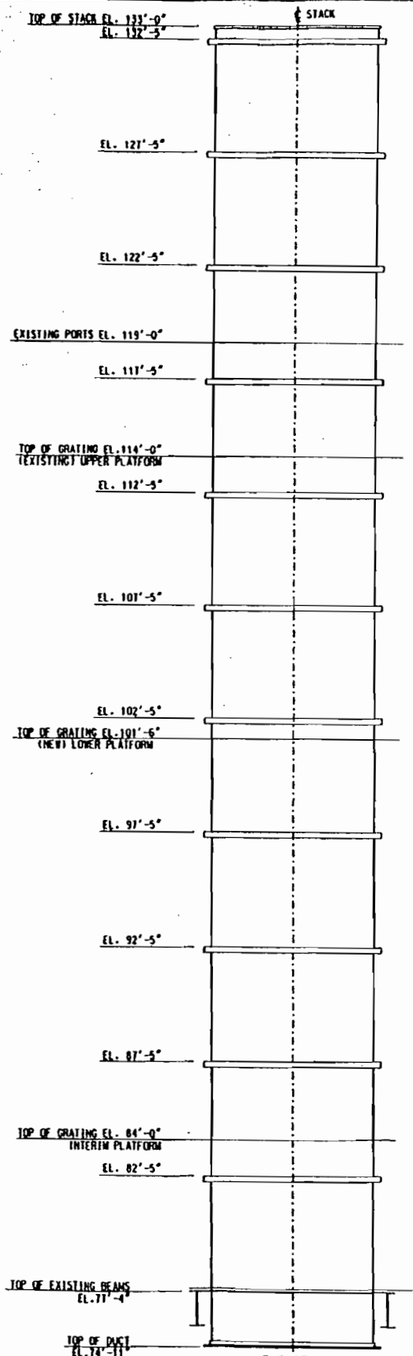
Photo 2. Outside View - Right Stack is for Unit S-3

Attachment LW-EU3-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

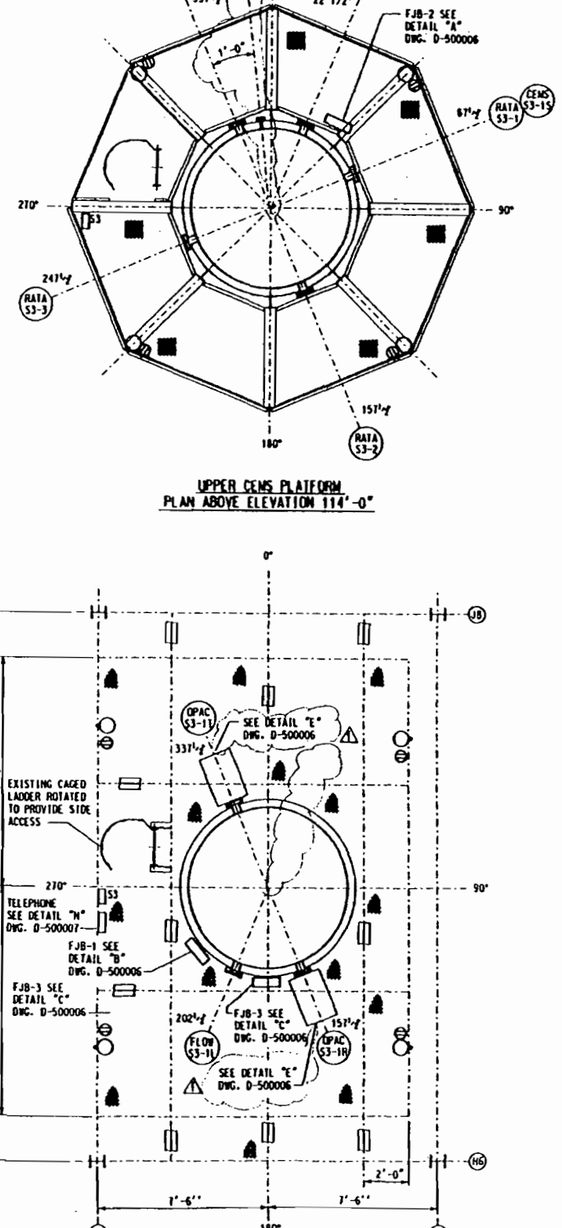
Source: Golder, 2002.

Golder Associates

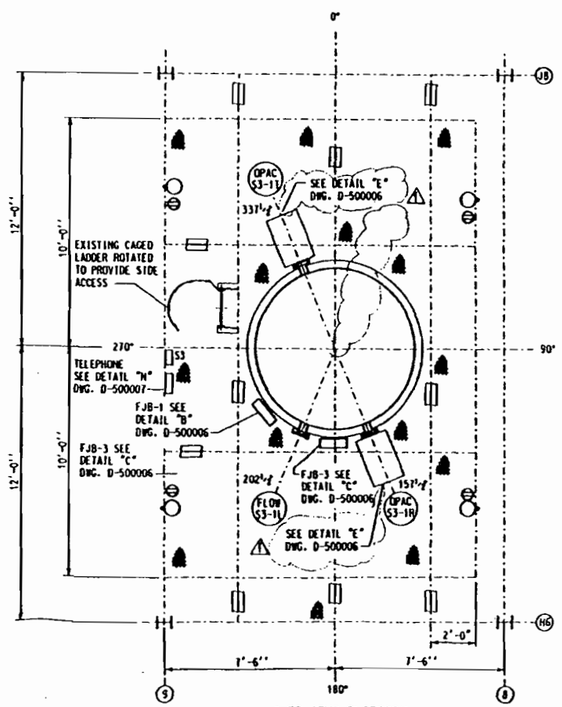
DWG. NO. 8442-D-500004



ELEVATION
VIEW LOOKING NORTH



UPPER CEMS PLATFORM
PLAN ABOVE ELEVATION 114'-0"



LOWER CEMS PLATFORM
PLAN ABOVE ELEVATION 101'-6"

NOTES:

1. REFER TO DWG. 8442-D-500001 FOR GENERAL NOTES, LEGENDS AND REFERENCE DRAWINGS. ⚠

LEGEND:

OPAC S3-1T ---- OPACITY MONITOR (TRANSCEIVER)
OPAC S3-1R ---- OPACITY MONITOR (REFLECTOR)
CEMS S3-1 ---- CEMS PORT
CEMS S3-1S ---- CEMS PORT (SPARE)
RATA S3-1 ---- RATA PORT 1
RATA S3-2 ---- RATA PORT 2
RATA S3-3 ---- RATA PORT 3
RATA S3-4 ---- RATA PORT 4
FLOW S3-1U ---- FLOW (UPPER)
FLOW S3-1L ---- FLOW (LOWER)
TEMP S3-1 ---- TEMPERATURE PORT
○ ---- LIGHT FIXTURE
⊕ ---- DUPLEX RECEPTACLE
S3 ---- 3 WAY LIGHT SWITCH

NOZZLE IDENT.	INSTR. TAG NO.	DEGREES C.W. FROM AZIMUTH 0°	NOZZLE PIPE/FLG. SIZE	NOZZLE ℄ ELEV.
OPAC S3-1T	00E-1000T	337 1/2°	4"	106'-6"
OPAC S3-1R	00E-1000R	157 1/2°	4"	106'-6"
CEMS S3-1	00E-1001	337 1/2°	4"	115'-6"
CEMS S3-1S	00X-1002	67 1/2°	4"	115'-6"
RATA S3-1	00X-1004A	67 1/2°	4" (EXIST.)	119'-0"
RATA S3-2	00X-1004B	157 1/2°	4" (EXIST.)	119'-0"
RATA S3-3	00X-1004C	247 1/2°	4" (EXIST.)	119'-0"
RATA S3-4	00X-1004D	337 1/2°	4" (EXIST.)	119'-0"
FLOW S3-1U	00E-1005A	22 1/2°	4"	116'-0"
FLOW S3-1L	00E-1005B	202 1/2°	4"	106'-0"
TEMP S3-1	00E-1006	353 3/4°	1"	115'-6"

NOTES:
1. PENETRATION ELEVATIONS REFERENCE EXTERIOR FACE OF STACK.
2. 0 = ALL TAG NUMBERS SHALL BE PREFIXED WITH S3CEM

NO.	REV	DATE	DESCRIPTION	DES.	DR.	CH.	APP.	PROJ. ENG.	PROJ. MGR.
	1	9/26/94	DELETED PIPES S3-1 & RELOCATED TEMP S3-1	CA	BC	RMS	WCB		
	0	7/1/94	ISSUED FOR CONSTRUCTION	CA	BC	RMS	WCB		

CITY OF LAKE WORTH UTILITIES
LAKE WORTH, FLORIDA

TOM G. SMITH POWER PLANT UNIT #3
CEMS SYSTEM PROJECT
STACK EQUIPMENT & NOZZLE ARRANGEMENT

SCALE ¾"=1'-0"

Raytheon Engineers & Constructors

DWG. NO. 8442-D-500004 REV. NO. 1

Photo 1. Aerial View - Stack and Building Location for Unit GT-1

Attachment LW-EU4-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

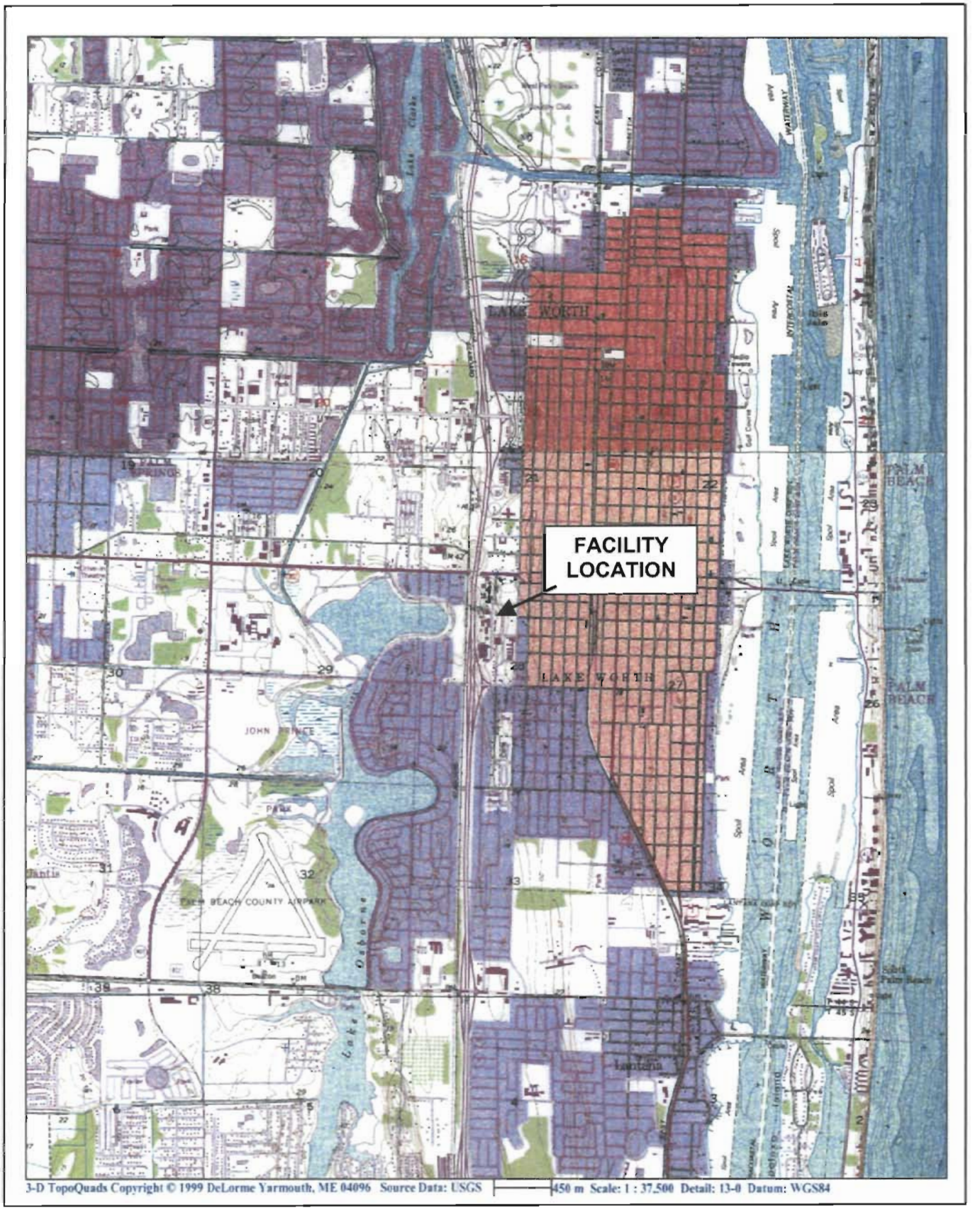
Golder Associates

Photo 1. Outside View - Stack and Building Location for Unit GT-2/S-5

Attachment LW-EU5-A9. Emission Unit Comment
Tom G. Smith Powerplant and Lake Worth Water Treatment Plant
Lake Worth Utilities

Source: Golder, 2002.

Golder Associates



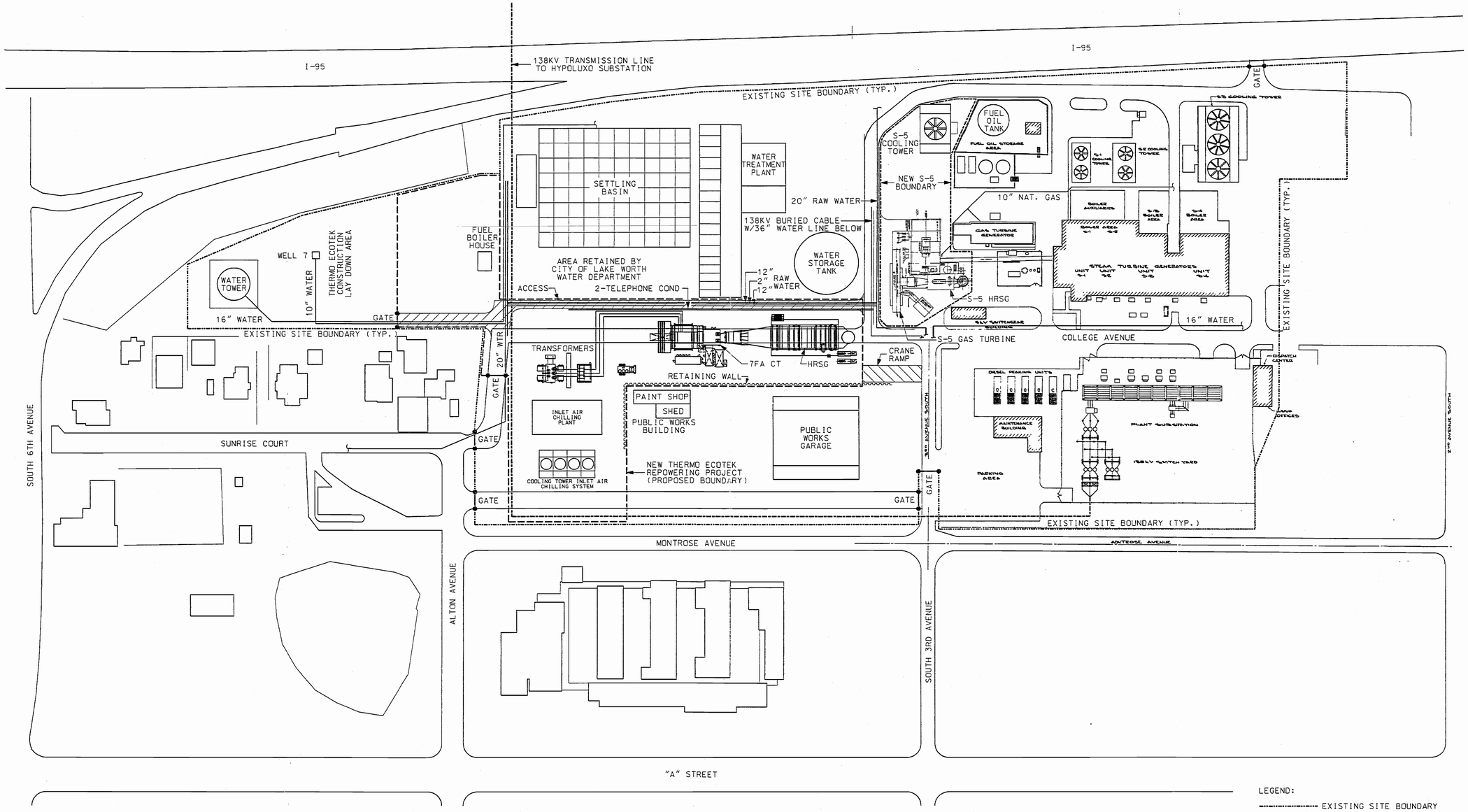
Attachment LW-FI-C1. Area Map
Lake Worth Utilities, City of Lake Worth, Florida

Source: Golder, 2002.

Golder Associates

099 0045-003

0



LEGEND:

---------- EXISTING SITE BOUNDARY

- - - - - - - THERMO EKOTEK LEASED AREA

---------- 138KV TRANSMISSION LINE TO HYPOLUXO SUBSTATION

NORTH

FILE NAME: TGS-M1-4.DGN

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
0	12-15-98	D.SKOIRCHET			PRELIMINARY/FOR COMMENTS	

SCALE	1"= 60'
PROJECT NUMBER	10486-004

SITE PLAN

THOMAS G. SMITH STATION
CITY OF LAKE WORTH
LAKE WORTH, FLORIDA
THERMO ECOTEK CORP.
WALTHAM, MASSACHUSETTS

Sargent & Lundy LLC

DRAWING NO.	REV.
M-1	0
SHEET 4 OF	

FORM GDS 2.6.1 REV. 1 (05/93)