



Florida Gas Transmission Company

Capital Projects Field Office, 111 Kelsey Lane, Ste. A., Tampa, FL 33619
813.655.7441 / 800.381.1477

June 11, 2001

Mr. Clair H. Fancy, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Bldg.
2600 Blairstone
Tallahassee, FL 32399-2400

RECEIVED

JUN 13 2001

BUREAU OF AIR REGULATION

Reference: Facility: 1330005
Compressor Station No. 13, Caryville, Washington County

Dear Mr. Fancy:

Subject: Application for Air Construction Permit

Florida Gas Transmission Company (FGT) is proposing to install two new electric drive compressor units at existing Compressor Station No. 13. These units do not have air emissions and do not require an air permit. As part of the modifications, there will be a new 660 kW emergency generator installed and additional new fugitive emissions from component leaks.

This facility is a major source under New Source Review definitions; however, the proposed modifications do not result in emissions that are significant under Prevention of Significant Deterioration requirements.

Attached is an application for an Air Construction Permit for the proposed modifications. FGT understands that no processing fee is required since this facility is operated under a Part 70 Permit.

If you have any questions or need additional information, please call me at (800) 381-1477.

Sincerely,

Jim Thompson
Project Manager, Environmental

CC: James Alexander, Phase V w/o attachments
Jim Thompson, Phase V
Jake Krautsch, FGT
V. Duane Pierce, Ph.D., AQMs
Team Environmental Leader, Compressor Station No. 13

Florida Gas Transmission Company

Phase V Expansion Project

Compressor Station No. 13

APPLICATION
For
AIR CONSTRUCTION
PERMIT

May 2001

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1.0 INTRODUCTION

Florida Gas Transmission Company (FGT), a Delaware Corporation and ENRON/EL PASO affiliate of Houston, Texas, is proposing to expand its existing natural gas pipeline facility near Caryville in Washington County, Florida (Compressor Station No. 13). This proposed modification is part of FGT's Phase V Expansion Project, aimed at increasing the supply capacity of FGT's network servicing domestic, commercial, and industrial customers in Florida. The scope of work for the Phase V Expansion Project includes expansion through the addition of state-of-the-art compressor engines at eight existing compressor stations and the development of two new compressor stations within the State of Florida. The basic project components include:

- Mainline loops, additions, and replacements;
- Lateral loops and additions;
- Meter station additions, modifications, and expansions;
- Regulator additions, modifications, and expansions; and
- Compressor station additions and modifications.

Compressor Station No. 13 is located in Washington County, Florida, approximately 8 miles south of Caryville on County Road 284. Figure 1-1 shows the location of the existing compressor station.

The proposed expansion at this location consists of the addition of one 600 kW (800 bhp), natural-gas-fired, emergency generator and fugitive emissions from component leaks. Under current federal and state air quality regulations, the proposed modification will constitute a minor modification of an existing major source. Based on the projected annual emission rates, there will be no PSD (Prevention of Significant Deterioration) significant increase in any emissions.

Descriptions of the existing operation at FGT's Compressor Station No.13 and the proposed new emergency generator is presented in Section 2.0. Section 3.0 contains a review of the potentially applicable state and federal rules and Section 4.0 contains references.

FDEP permit application forms are presented in Attachment A. Attachment B contains a plot plan of the facility. Attachment C contains vendor information and Attachment D contains emission calculations.

2.0 PROJECT DESCRIPTION

A plot plan of FGT's Compressor Station No. 13, showing the location of the plant boundaries, the existing emission sources, and the location of the proposed engine addition, is presented in Attachment B. The following sections provide a description of the existing operations at this location, as well as a description of the proposed project.

2.1 Existing Operations

FGT's existing Compressor Station No. 13 consists of five 2,000 bhp and one 2,700 bhp natural-gas-fired reciprocating internal combustion (IC) engines. Table 2-1 summarizes engine manufacturer, model, and the date of installation for each of the existing engines. The original installation was made in 1962 (Compressor Engines 1301 through 1303). Other engines were added in 1966 and 1968 (Compressor Engines 1304 and 1305). These engines were installed before the CAA Amendments of 1977. An addition referred to as Phase II was constructed in 1991 (Compressor Engine 1306) and was subject to PSD review. These existing engines are not being modified as part of this expansion project.

The existing facility also has supporting equipment including lube and used oil storage tanks, air compressors and emergency generators.

2.2 Proposed Compressor Station Addition

FGT proposes to increase the horsepower capacity of Compressor Station No. 13, as part of the Phase V Expansion Project. This will involve adding two new electric drive turbines (Compressor Engines 1307 and 1308). The proposed new engines will be used to increase the volumetric delivery capacity by driving a gas compressor that is a part of a gas transmission line that transports natural gas from source wells in Texas and Louisiana for delivery throughout Florida. Without the proposed new engines, it would not be possible to increase the volumetric delivery capacity necessary to meet both short and long-term demands for natural gas in Florida. Since these engines are electric drive units there are no air pollutant emissions from them.

Table 2-1 Summary of Existing Compressor Engines

Engine #	Date of Installation	Type	Manufacturer	Model #	Brake Horse Power (bhp)
1601	1962	Reciprocating	Cooper – Bessemer	LS-8-SG	2000
1602	1962	Reciprocating	Cooper – Bessemer	LS-8-SG	2000
1603	1962	Reciprocating	Cooper – Bessemer	LS-8-SG	2000
1604	1966	Reciprocating	Cooper - Bessemer	LS-8-SG	2000
1605	1968	Reciprocating	Cooper - Bessemer	LS-8-SG	2000
1606	1991	Reciprocating	Cooper - Bessemer	GMVR-12C2	2700

2.2.1 Support Equipment Additions and Changes

In addition to the compressor engines, some support equipment will be installed at the site. They include:

- Two new compressor buildings
- A new emergency generator

The locations of the new on-site structures are shown on the facility plot plan contained in Attachment B. The new compressor buildings, housing the turbines, have approximate dimensions of 40 feet wide by 78.5 feet long by 35.3 feet high. The new emergency generator is described in the next section.

2.2.2 Emergency Generator

A new generator powered by a natural gas fueled, lean burn Waukesha Model L36GL rated at 600 kW (800 bhp). Engine specifications and stack parameters for the proposed engine are presented in Table 2-2 and emissions are presented in Table 2-3.

2.2.3 Fugitive Emissions

Potential new emissions from Compressor Station No. 13 also include fugitive emissions from the new valves and flanges that will be in gas service. These fugitive emissions have been estimated using USEPA factors for components in gas service at oil and gas facilities (EPA

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Table 2-2 Proposed Emergency Generator Engine Specifications and Stack Parameters

Parameter	Design
Compressor Engine	Gen 03
Type	Natural Gas, Lean Burn Reciprocating
Manufacturer	Waukesha
Model	L36GL
Unit Size	800 bhp
Heat Input	5.685 MM Btu/hr
Fuel Consumption ^a	0.00547 MMscf/h
Speed	1800 rpm
Stack Parameters	
Stack Height	20 ft
Stack Diameter	0.833 ft
Exhaust Gas Flow	7,310 lb/hr
Exhaust Gas Flow (approximate)	4,003 acfm
Exhaust Temperature	838 °F
Exhaust Gas Velocity	122.4 ft/sec
<p>NOTE:</p> <p>acfm = actual cubic feet per minute.</p> <p>bhp = brake horsepower.</p> <p>Btu/hr = British thermal units per hour.</p> <p>°F = degrees Fahrenheit.</p> <p>ft = feet.</p> <p>ft/sec = feet per second.</p> <p>Lb/hr = pound per hour</p> <p>rpm = revolutions per minute.</p> <p>^a Based on heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).</p>	

Table 2-3 Emissions from FGT's Proposed Generator Engine*

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	2.0 g/hp-hr	Manufacturer Data	3.52	0.88
Carbon Monoxide	1.32 g/hp-hr	Manufacturer Data	2.33	0.58
Volatile Organic Compounds (non methane)	0.25 g/hp-hr	Manufacturer Data	0.44	0.11
Particulate Matter	0.00999 lb/MMBtu	AP-42, Table 3.2-2	0.06	0.01
Sulfur Dioxide	10 grains/100 scf	FERC Limit	0.16	0.04

* based on 500 hours of operation per year

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publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"). Table 2-4 lists the quantities of existing and new components to be added as part of the Phase V Expansion Project and an estimate of the fugitive emissions from these sources.

2.2.4 Emissions Summary

The new emissions resulting from the project are listed on Table 2-5. As can be seen from the table, the emission increases are not significant. The calculations used to estimate these emissions are presented in Attachment D.

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Table 2-4 VOC Fugitive Emission Calculations and Summary

Component	Service	Component Count	Emissions * Factor (ton/yr)	NM/NE Fraction	Emissions (ton/yr)
Valves	Gas	105	0.0434606	0.05	0.23
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	146	0.0037666	0.05	0.03
Open-Ended Line	Gas	37	0.0193158	0.05	0.04
Pumps	Gas	2	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	7	0.0241448	1.00	0.17
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light Oil	13	0.0010624	1.00	0.01
Open-Ended Line	Light Oil	1	0.0135211	1.00	0.01
Pumps	Light Oil	0	0.1255527	1.00	0.00
Other	Light Oil	0	0.0724343	1.00	0.00
Valves	Heavy Oil	0	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	0	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	0	0.0013521	1.00	0.00
Other	Heavy Oil	0	0.0002994	1.00	0.00
				TOTAL:	0.49

* 'EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"

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Table 2-5 New Potential Annual Emissions (tpy) Summary

SOURCE ID	DESCRIPTION	NO_x	CO	VOC^a	SO₂	PM
GEN03	800 bhp Recip. Engine – new	0.9	0.6	0.1	0.04	0.01
Fugitive	Component leaks	0.0	0.0	0.5	0.0	0.0
TOTALS:		0.9	0.6	0.6	0.04	0.01

(a) VOC = Non-methane HC

3.0 REGULATORY ANALYSIS

This section presents a review of federal and Florida State air quality regulations, which govern the operations and proposed modifications to be conducted at Compressor Station No. 13.

3.1 Federal Regulations Review

The federal regulatory programs administered by the USEPA have been developed under the authority of the Clean Air Act. The following subsections review the essential elements of the federal regulatory program and the impact they have on the operations and proposed modifications at Compressor Station No. 13.

3.1.1 PSD Applicability

For the PSD regulations to apply to a given project the proposed location must be in a PSD area, i.e., an area that has been classified as attainment or as unclassifiable for a particular pollutant. Washington County is designated as attainment area for all criteria pollutants. A project's potential to emit is then reviewed to determine whether it constitutes a major stationary source or major modification to an existing major stationary source.

A major stationary source is defined as either one of the 28 sources identified in 40 CFR 52.21 that has a potential to emit 100 tons or more per year of any regulated pollutant, or any other stationary source that has the potential to emit 250 tons or more per year of a regulated pollutant. "Potential to emit" is determined on an annual basis after the application of air pollution control equipment, or any other federally enforceable restriction. "Significant" emission rates are defined as amounts equal to or greater than the emission rates given in Table 3-3.

By these definitions, and based on the emissions presented in Section 2.0, the action proposed for Compressor Station No. 13 is a minor modification of an existing major stationary source. Since Compressor Station No. 13 is not one of the 28 named source categories, but does emit >250 TPY of at least one regulated pollutant, it is considered a major source. The increase in emissions resulting from the proposed action will not exceed the PSD significant rate; therefore, Compressor Station No. 13 is not subject to PSD pre-construction review.

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Table 3-1 Applicability of PSD Significant Emission Rates

Pollutant	Emission Rate Tons/Year
Carbon Monoxide	100
Nitrogen Oxides	40
Sulfur Dioxide	40
Particulate Matter (PM/PM ₁₀)	25/15
Ozone (VOC)	40
Lead	0.6
Fluorides	3
Reduced Sulfur including Hydrogen Sulfide	10
Total Reduced Sulfur including Hydrogen Sulfide	10
Sulfuric Acid Mist	7
Lead	0.6
Mercury	0.1

VOC = Volatile Organic Compounds
Sources: 40 CFR 52.21(b)(23); Table 212.400-2 62-212 F.A.C.

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3.1.2 Applicability of New Source Performance Standards (NSPS)

The regulation of new sources through the development of standards applicable to a specific category of sources was a significant step taken by the 1970 CAA Amendments. The Administrator was directed to publish a proposed regulation establishing a Standard of Performance for any category of new sources that cause or contribute significantly to air pollution and which may reasonably be anticipated to endanger public health. All Standards apply to all sources within a given category, regardless of geographic location or ambient air quality at the location.

There are no New Source Performance Standards applicable to the new sources at compressor Station No. 13.

3.1.3 Applicability of National Emission Standards for Hazardous Air Pollutants (NESHAPS)

Currently the only NESHAPS potentially applicable to this compressor station is 40 CFR 63 Subpart HHH. Compressor Station No. 13 has no affected sources as defined by 40 CFR 63 Subpart HHH and is, therefore, not subject to this subpart.

There are potential future regulations that may affect sources at this facility, but these regulations have not been promulgated at this time.

3.2 Florida State Air Quality Regulations

Compressor Station No. 13 is currently operating under Permit No. 0070012-002-AV and is subject to the provisions of that permit. Rule 62, F.A.C., contains the air quality rules and regulations for the State of Florida. The primary federal regulations that affect Compressor Station No. 13 have been incorporated into or are referenced by these rules. The significant state regulations that are applicable to the new emission units are briefly listed below.

3.2.1 Rule 62-210.300 Permits Required

FGT is required to obtain a construction permit prior to construction of new emission units. This requirement is being met by the submittal of this application.

3.2.2 Rule 62-204.240 Ambient Air Quality Standards

FGT must not violate any of the ambient air quality standards listed under this rule.

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3.2.3 Rule 62-296.320(2) Objectionable Odors

This rule prohibits the discharge of pollutants that will cause or contribute to an objectionable odor.

3.2.4 Rule 62-296.320(4)(b)1 General Particulate Emission Limiting Standards.

FGT is prohibited from allowing the new compressor engine to discharge into the atmosphere the emissions of air pollutants, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

3.2.5 Rule 62-210.300(3)(a) Exempt Emissions Units and/or Activities.

The emissions from both the emergency generator and the fugitive leaks are insignificant sources and are exempt from the permitting requirements of Chapter 62-210 Stationary Sources - General Requirements, 62-213 Operation Permits For Major Sources Of Air Pollution and 62-4 Permits.

4.0 REFERENCES

U.S. Environmental Protection Agency (USEPA). 2000. Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (5th Ed.) AP-42. Supplement E, Research Triangle Park, NC.

Attachment A

DEP Forms



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: Florida Gas Transmission Company	
2. Site Name: Compressor Station No. 13	
3. Facility Identification Number: 1330005 [] Unknown	
4. Facility Location: Street Address or Other Locator: Rt. 1, Box 553, 2508 River Road City: Caryville County: Washington Zip Code: 32427	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Jim Thompson, Environmental Project Manager	
2. Application Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 111 Kelsey Lane, Ste. A City: Tampa State: FL Zip Code: 33619	
3. Application Contact Telephone Numbers: Telephone: (800) 381-1477 Fax: (813) 655-3951	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	6-13-01
2. Permit Number:	1330005-002-AC
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)

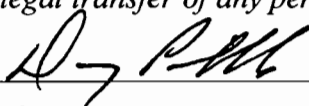
- Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a 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: 1330005-001-AV
- 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: _____
Reason for revision: _____

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: Danny Pribble, Vice President Operations
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 1400 Smith Street City: Houston State: TX Zip Code: 77002
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (713)345-7162 Fax: (713) 646-3201
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], 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.</i>  Signature 6/6/01 Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Kevin McGlynn Registration Number: 50908
2. Professional Engineer Mailing Address: Organization/Firm: McGlynn Consulting Company Street Address: 1967 Commonwealth Lane City: Tallahassee State: FL Zip Code: 32303
3. Professional Engineer Telephone Numbers: Telephone: (850)380-5035 Fax: (850) 350-5002

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.

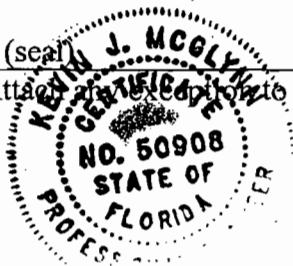
If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this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

Kevin J. McGlynn, P.E.
Signature

June 4, 2001
Date



* Attached as an exhibit to certification statement.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Installation of a new 600 kW (800 hp) Waukesha Model L36GL

2. Projected or Actual Date of Commencement of Construction: 09/20/01

3. Projected Date of Completion of Construction: 12/20/01

Application Comment

This proposed modification is part of FGT's Phase V Expansion Project, aimed at increasing the supply capacity of FGT's network servicing domestic, commercial, and industrial customers in Florida.

The existing facility is currently operating under Permit No. 1330005-001-AV.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 16 East (km): 610.69 North (km): 3394.28			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 30/40/40 Longitude (DD/MM/SS): 85/50/40			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4922
7. Facility Comment (limit to 500 characters): Compressor Station No. 13 is an existing natural gas pipeline compressor station with six existing compressor engines. It is classified as a major source under New Source Review and Title V definitions.			

Facility Contact

1. Name and Title of Facility Contact: Harold Branham, Team Environmental Leader			
2. Facility Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: Rt. 1, Box 553, 2508 River Road City: Caryville State: FL Zip Code: 32427			
3. Facility Contact Telephone Numbers: Telephone: (850) 350-5250 Fax: (850) 350-5251			

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
I. Facility Regulatory Classifications Comment (limit to 200 characters):	
Facility is a major source for PSD and Title V purposes. The project is not subject to PSD since the increases in emissions are less than the significant levels.	

List of Applicable Regulations

FDEP Title V Core List	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
NO _x	A				
CO	A				
VOC	B				
SO ₂	B				
PM	B				

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input checked="" type="checkbox"/> Attached, Document ID: <i>Narrative Table 2-5</i> <input type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: _____) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input checked="" type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

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

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>Emergency generator Waukesha Model L36GL rated at 800 bhp</p>			
<p>4. Emissions Unit Identification Number:</p> <p><input type="checkbox"/> ID: <input checked="" type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p style="text-align: center;">C</p>	<p>6. Initial Startup Date: 12/20/01</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p style="text-align: center;">49</p>	<p>8. Acid Rain Unit?</p> <p style="text-align: center;"><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p> <p>The proposed generator engine will be a Waukesha Model L36GL reciprocating engine rated at 600 kW (800 bhp). Fuel will be exclusively natural gas from the FGT's gas pipeline. The unit will be operated no more than 500 hours per year.</p>			

Emissions Unit Control Equipment

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

NA

2. Control Device or Method Code(s): NA

Emissions Unit Details

1. Package Unit:

Manufacturer: Waukesha

Model Number: L36GL

2. Generator Nameplate Rating: 0.660 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:	5.685	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	500	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			
Heat input is 5.685 MM Btu/hr based on vendor specifications.			
Schedule will be limited to 500 hours per year.			

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? GEN 03		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA			
5. Discharge Type Code: V	6. Stack Height: 20 feet	7. Exit Diameter: 0.833 feet	
8. Exit Temperature: 838 °F	9. Actual Volumetric Flow Rate: 4003 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 16 East (km): 610.69 North (km): 3394.28			
14. Emission Point Comment (limit to 200 characters): The unit will not be operated more than 500 hours per year.			

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): Natural gas fired reciprocating engine driving a 600 Kw generator, operating no more than 500 hours per year.		
2. Source Classification Code (SCC): 2-02-002-54		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 0.00547	5. Maximum Annual Rate: 2.735	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1040
10. Segment Comment (limit to 200 characters): Based on vendor supplied heat rate of 5.685 MM Btu/hr and a fuel heat value of 1040 Btu/scf. Percent sulfur is base on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.		

Segment Description and Rate: Segment NA of NA

1. Segment Description (Process/Fuel Type) (limit to 500 characters): NA		
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):		

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

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 3.52 lb/hour 15.4 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 2.0 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): $(2.0 \text{ g/hp-hr})(800 \text{ hp})/453.6 \text{ g/lb} = 3.52 \text{ lb/hr}$ $(3.52 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 15.45 \text{ tpy}$ $(3.52 \text{ lb/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.88 \text{ tpy}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Operation limited to 500 hours per year.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.88 tons/year
5. Method of Compliance (limit to 60 characters): Maintain record of hours of operation.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 2.33 lb/hour 10.2 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 1.32 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): $(1.32 \text{ g/hp-hr})(800 \text{ hp})/453.6 \text{ g/lb} = 2.33 \text{ lb/hr}$ $(2.33 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 10.2 \text{ tpy}$ $(2.33 \text{ lb/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.58 \text{ tpy}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Operation limited to 500 hours per year.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.58 tons/year
5. Method of Compliance (limit to 60 characters): Maintain record of hours of operation.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.44 lb/hour 1.93 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.25 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): Vendor factor for non-methane hydrocarbons (NMHC) = 0.24 g/hp-hr. Assume all is VOC. $(0.25 \text{ g/hp-hr})(800 \text{ hp})/453.6 \text{ g/lb} = 0.44 \text{ lb/hr}$ $(0.44 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 1.93 \text{ tpy}$ $(0.44 \text{ lb/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.11 \text{ tpy}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Operation limited to 500 hours per year.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.11 tons/year
5. Method of Compliance (limit to 60 characters): Maintain record of hours of operation.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.	

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: 0.16 lb/hour 0.68 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 82 scfm natural gas fuel Reference: Vendor's data	7. Emissions Method Code: 2
8. Calculation of Emissions (limit to 600 characters): $(10 \text{ gr S}/100 \text{ scf})(0.00547 \text{ MMscf/hr})(1 \text{ lb}/7000 \text{ gr}) = 0.078 \text{ lb S/hr}$ $(0.078 \text{ lb S/hr})(2 \text{ lb SO}_2/\text{lb S}) = 0.16 \text{ lb SO}_2/\text{hr}$ $(0.16 \text{ lb SO}_2/\text{hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.68 \text{ ton/yr}$ $(0.16 \text{ lb SO}_2/\text{hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.04 \text{ ton/yr}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Operation limited to 500 hours per year. SO ₂ emission factor is based on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.04 tons/year
5. Method of Compliance (limit to 60 characters): Maintain record of hours of operation.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.	

**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: 0.057 lb/hour 0.25 tons/year		4. Synthetically Limited? [X]	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.00999 lb/MM Btu Reference: AP-42 Section 3.2 Table 3.2-2, 4/00 Supplement E		7. Emissions Method Code: 4	
8. Calculation of Emissions (limit to 600 characters): $(0.00999 \text{ lb/MM Btu})(5.685 \text{ MM Btu/hr}) = 0.057 \text{ lb/hr}$ $(0.057 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.25 \text{ ton/y}$ $(0.057 \text{ lb/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.01 \text{ ton/y}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Operation limited to 500 hours per year. Based on vendor's fuel use data.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions: NA	
3. Requested Allowable Emissions and Units: NA		4. Equivalent Allowable Emissions: NA lb/hour 0.01 tons/year	
5. Method of Compliance (limit to 60 characters): Maintain record of hours of operation.			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.			

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

Supplemental Requirements

1. Process Flow Diagram <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: <u> Attach. C </u> <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment: Process flow diagrams and fuel analyses have been previously submitted. Supplemental information is provided in the narrative description accompanying these forms.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**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:			
	24	hours/day	7 days/week
	52	weeks/year	8760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

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? FUGITIVE		2. Emission Point Type Code: 4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA			
5. Discharge Type Code: F	6. Stack Height: NA feet	7. Exit Diameter: NA feet	
8. Exit Temperature: 77 °F	9. Actual Volumetric Flow Rate: NA acfm	10. Water Vapor: NA %	
11. Maximum Dry Standard Flow Rate: NA dscfm		12. Nonstack Emission Point Height: 0 feet	
13. Emission Point UTM Coordinates: Zone: 16 East (km): 610.69 North (km): 3394.28			
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): Fugitive emissions from component leaks.		
2. Source Classification Code (SCC): 3-10-888-11		3. SCC Units: MM cubic feet produced
4. Maximum Hourly Rate: 0	5. Maximum Annual Rate: 0	6. Estimated Annual Activity Factor: component count
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): Based on count of new components and USEPA emission factors provided in EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"		

Segment Description and Rate: Segment NA of NA

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):		

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.11 lb/hour 0.49 tons/year	4. Synthetically Limited? [Y]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: lb/hr/component Reference: EPA-453/R-95-017, Protocol for Equipment Leak EmissionEstimates"	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): (EPA factor for specific component type) (number of components of specific type) = tpy. Assume non-methane/non-ethane fraction is 5%. (tons/year)(2000 lb/ton)(1 yr/8760 hr) = lb/hr See Attachment D for details.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Factors vary by component type. See Attachment D for specific factors and calculations.	

Allowable Emissions Allowable Emissions NA of

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

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

Supplemental Requirements

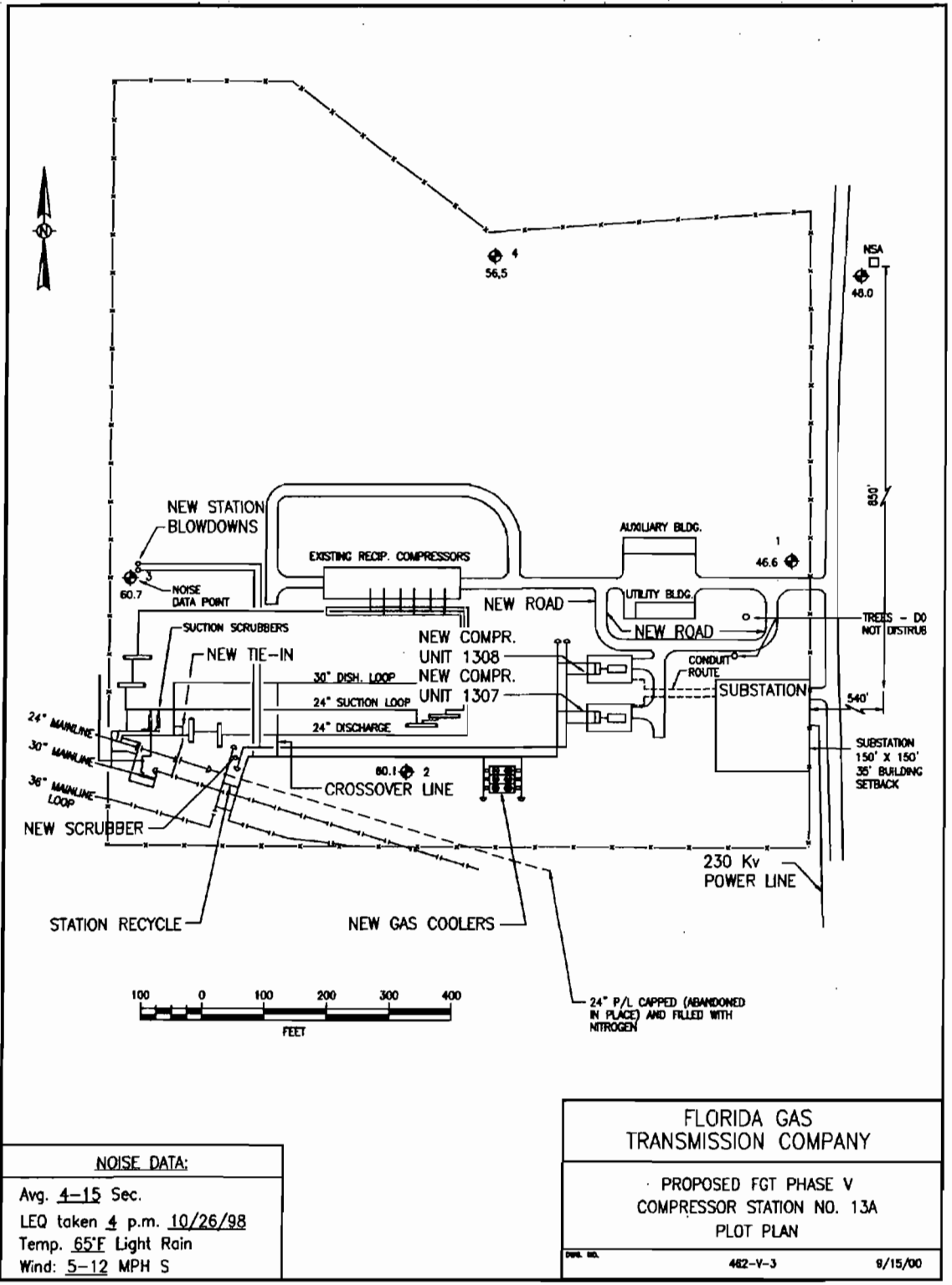
1. Process Flow Diagram <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Narrative <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment: Process flow diagrams and fuel analyses have been previously submitted. Supplemental information is provided in the narrative description accompanying these forms.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Attachment B

Plot Plan



NOISE DATA:

Avg. 4-15 Sec.

LEQ taken 4 p.m. 10/26/98

Temp. 65°F Light Rain

Wind: 5-12 MPH S

FLORIDA GAS TRANSMISSION COMPANY

PROPOSED FGT PHASE V COMPRESSOR STATION NO. 13A PLOT PLAN

DATE: 8/15/00

Attachment C

Vendor Information

Waukesha Model L36GL Natural Gas-fired Reciprocating Engine

Waukesha Model L36GL Natural Gas-fired Reciprocating Engine

HEAT REJECTION

3

**HEAT REJECTION AND OPERATING DATA
MODEL L36GL/GLD; HIGH SPEED TURBOS
130° F (54.5° C) AUX. WATER TEMPERATURE
180° F (82° C) JACKET WATER TEMPERATURE**

	BMEP (PSI)	1.0 ENGINE SPEED - RPM				
		1400	1500	1600	1700	1800
POWER (BHP)	185	-	770	820	870	925
	176	685	735	780	830	880
	160	620	670	710	755	800
	150	581	623	665	706	748
	125	485	519	554	588	623
	100	388	415	443	471	498
	75	291	312	332	353	374
	50	194	208	222	235	249
BRAKE SPEC FUEL CONS. (BTU/BHP-HR)	185	-	6785	6856	6920	6976
	176	6809	6830	6902	6966	7026
	160	6878	6923	6996	7062	7129
	150	6931	6991	7065	7132	7203
	125	7116	7208	7286	7357	7437
	100	7414	7533	7618	7693	7782
	75	7941	8076	8170	8255	8349
	50	9038	9161	9274	9378	9470
FUEL CONSUMPTION (BTU/HR) x 1000	185	-	5215	5620	6025	6430
	176	4645	4995	5380	5770	6165
	160	4265	4600	4960	5320	5685
	150	4030	4355	4695	5035	5385
	125	3450	3740	4035	4330	4635
	100	2875	3130	3375	3620	3880
	75	2310	2515	2715	2915	3120
	50	1750	1900	2055	2205	2360
HEAT TO JACKET WATER (BTU/HR) x 1000	185	-	1367	1457	1535	1615
	176	1248	1323	1410	1486	1565
	160	1172	1245	1325	1398	1471
	150	1124	1196	1272	1343	1413
	125	1004	1074	1140	1204	1269
	100	884	952	1007	1066	1125
	75	765	829	875	928	980
	50	645	707	742	789	836
HEAT TO LUBE OIL (BTU/HR) x 1000	185	-	141	165	181	197
	176	123	139	163	178	194
	160	119	136	159	174	190
	150	117	133	156	171	187
	125	112	128	150	165	179
	100	107	122	143	158	172
	75	102	116	137	151	165
	50	96.5	111	131	144	157
HEAT TO INTERCOOLER (BTU/HR) x 1000	185	-	297	327	376	425
	176	234	269	302	347	392
	160	192	223	259	298	337
	150	168	196	234	269	304
	125	115	137	175	201	228
	100	73	89	121	141	160
	75	41	52	72.5	87	101
	50	19	26	30	40.5	51.5



HEAT REJECTION

3

**HEAT REJECTION AND OPERATING DATA
MODEL L36GL/GLD; HIGH SPEED TURBOS
130° F (54.5° C) AUX. WATER TEMPERATURE
180° F (82° C) JACKET WATER TEMPERATURE
2.0**

	BMEP (PSI)	3.0 ENGINE SPEED - RPM					
		1400	1500	1600	1700	1800	
HEAT TO RADIATION (BTU/HR) x 1000	185	-	107	110	113	116	
	176	105	107	110	113	115	
	160	106	108	110	112	115	
	150	106	108	110	112	115	
	125	106	108	109	112	114	
	100	105	107	108	111	113	
	75	102	105	107	109	112	
	50	99.5	102	105	108	111	
TOTAL ENERGY IN EXHAUST (BTU/HR) x 1000	185	-	1393	1525	1655	1790	
	176	1237	1339	1463	1585	1710	
	160	1138	1235	1344	1454	1570	
	150	1073	1167	1268	1371	1478	
	125	904	989	1073	1160	1252	
	100	732	805	876	949	1027	
	75	563	621	681	742	806	
	50	404	445	493	541	591	
EXHAUST TEMP AFTER TURBINE (+/- 50 °F)	185	-	800	817	830	843	
	176	794	804	818	830	841	
	160	799	809	818	828	838	
	150	801	810	817	826	836	
	125	799	809	813	822	830	
	100	789	801	805	815	824	
	75	771	786	794	806	817	
	50	745	763	779	795	810	
INDUCTION AIR FLOW (SCFM)	185	-	1485	1595	1705	1820	
	176	1320	1415	1525	1630	1740	
	160	1205	1300	1400	1500	1600	
	150	1130	1220	1320	1415	1510	
	125	955	1035	1120	1200	1285	
	100	780	850	920	990	1060	
	75	610	665	725	775	835	
	50	450	490	530	575	615	
EXHAUST GAS FLOW (LBS/HR)	185	-	6780	7280	7795	8310	
	176	6020	6475	6965	7455	7950	
	160	5495	5930	6390	6845	7310	
	150	5170	5585	6025	6460	6900	
	125	4360	4730	5115	5490	5875	
	100	3570	3880	4210	4520	4840	
	75	2805	3050	3310	3560	3820	
	50	2070	2240	2440	2625	2815	

**HEAT REJECTION AND OPERATING DATA
MODEL L36GL/GLD; HIGH SPEED TURBOS
130° F (54.5° C) AUX. WATER TEMPERATURE
180° F (82° C) JACKET WATER TEMPERATURE**



HEAT REJECTION 3

	BMEP (PSI)	Engine Speed - RPM				
		1400	1500	1600	1700	1800
NOx Emissions (g/bhp-hr)	185	–	2.66	2.66	2.54	2.42
	176	2.53	2.48	2.38	2.22	2.06
	160	2.50	2.42	2.35	2.18	2.00
	150	2.47	2.39	2.32	2.17	2.01
	125	2.40	2.33	2.26	2.12	1.99
	100	2.34	2.26	2.17	2.08	1.98
	75	2.26	2.19	2.12	2.03	1.94
	50	2.10	2.02	1.94	1.90	1.86
CO Emissions (g/bhp-hr)	185	–	1.25	1.24	1.25	1.27
	176	1.34	1.28	1.29	1.31	1.34
	160	1.32	1.40	1.35	1.34	1.32
	150	1.38	1.42	1.39	1.31	1.23
	125	1.43	1.45	1.42	1.42	1.43
	100	1.52	1.51	1.51	1.51	1.52
	75	1.66	1.62	1.61	1.63	1.66
	50	1.85	1.88	1.87	1.86	1.85
NMHC Emissions (g/bhp-hr)	185	–	0.30	0.28	0.26	0.24
	176	0.36	0.30	0.28	0.26	0.24
	160	0.33	0.31	0.30	0.28	0.25
	150	0.35	0.32	0.31	0.29	0.27
	125	0.36	0.32	0.32	0.30	0.29
	100	0.38	0.35	0.35	0.32	0.30
	75	0.44	0.39	0.38	0.36	0.35
	50	0.51	0.47	0.45	0.44	0.44
THC Emissions (g/bhp-hr)	185	–	1.99	1.84	1.60	1.53
	176	2.38	1.99	1.84	1.73	1.61
	160	2.22	2.07	1.99	1.84	1.69
	150	2.30	2.11	2.07	1.94	1.80
	125	2.38	2.15	2.15	2.03	1.92
	100	2.53	2.30	2.30	2.15	1.99
	75	2.91	2.61	2.53	2.42	2.30
	50	3.37	3.14	2.99	2.95	2.91




HEAT REJECTION 3

NOTES:

1. All data are based on ISO standard conditions of 29.54 inches Hg. (100 kPa) barometric pressure, 77° F (25° C) ambient and induction air temperature, 30% relative humidity (0.3 inches Hg. / 1 kPa water vapor pressure), 180° F (82° C) engine jacket water outlet temperature, and standard ignition timing per Note 5 for 11:1 compression ratio.
2. All data are average values at the standard conditions and will vary for individual engines and with operating and ambient conditions and with changes to ignition timing or air/fuel ratio. An adequate reserve should be used for cooling system or heat recovery calculations. See also Cooling System Guidelines, S-6699-7, latest version.
3. ISO Standard (continuous) power ratings conform to ISO 3046/1, latest version, with a mechanical efficiency of 90% and auxiliary water temperature, T_{cra}, of 130° F (54.5° C) limited to ± 10° F (± 5.5° C). ISO Standard power rating of 176 BMEP requires Price Book Option Code 1100.
4. Fuel standard: dry natural gas, 900 BTU/scf (35.38 MJ/m³ [25, V (0; 101.325)]) saturated lower heating value (SLHV) with a minimum Waukesha Knock Index™ of 91. Refer to S-7884-6, latest version, for the full fuel specification.
5. Standard ignition timing is 13° BTDC with J-type 60999T or 60999W spark plugs and 15° BTDC with 4-ground 60999S spark plugs.
6. For heat rejection changes due to engine jacket water outlet temperature higher than standard (Note 1), refer to S-7613-3, latest version.
7. Total Exhaust Energy includes both recoverable and non-recoverable heat. For a procedure to calculate recoverable heat refer to S-8117-1, latest version.
8. Exhaust oxygen concentration set to 7.8% at rated speed and load at standard timing to provide 2 g/bhp-hr or less NO_x. This oxygen level is measured at the port located in the exhaust manifold upstream of the turbocharger.
9. Low pressure (draw thru) fuel system on the GLD model.
10. Reference Engine Ratings and Fuel Consumption curve sheets C-1108-14 and C-1108-16.
11. Exhaust flow at nominal 29.54 inches Hg. (100 kPa) atmospheric pressure:

Flow rate (English): $ACFM = \frac{(Exh. Flow, lb/hr) \times (Exh. Temp. ^\circ F + 460)}{2275}$

	<p>1.1 HEAT REJECTION AND OPERATING DATA MODEL H24GL/GLD 130° F (54° C) AUX. WATER TEMPERATURE</p>	<p>Ref: S 7779-43</p>
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Attachment D
Emission Calculations

Engine Emissions
Fugitive Leak Emissions

Engine Emissions

Engine No. Gen 3

NOx Emissions: (Based on Vendor Data)

$$\begin{aligned}\text{Lb NOx/hr} &= (\text{g/bhp-hr})(\text{bhp})(1 \text{ lb}/453.59 \text{ g}) = \text{lb/hr} \\ &= (2.0 \text{ g/bhp-hr})(800 \text{ bhp})(1 \text{ lb}/453.59 \text{ g}) \\ &= 3.52\end{aligned}$$

$$\begin{aligned}\text{tons NOx/yr} &= (\text{lb NOx/hr})(\text{hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= (3.52 \text{ lb NOx/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= 0.88\end{aligned}$$

CO Emissions: (Based on Vendor Data)

$$\begin{aligned}\text{lb CO/hr} &= (\text{g/bhp-hr})(\text{bhp})(1 \text{ lb}/453.59 \text{ g}) = \text{lb/hr} \\ &= (1.32 \text{ g/bhp-hr})(800 \text{ bhp})(1 \text{ lb}/453.59 \text{ g}) \\ &= 2.33\end{aligned}$$

$$\begin{aligned}\text{tons CO/yr} &= (\text{lb CO/hr})(\text{hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= (2.33 \text{ lb CO/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= 0.58\end{aligned}$$

VOC Emissions: (Based on Vendor Data)

$$\begin{aligned}\text{lb VOC/hr} &= (\text{g/bhp-hr})(\text{bhp})(1 \text{ lb}/453.59 \text{ g}) = 88 \text{ lb/hr} \\ &= (0.25 \text{ g/bhp-hr})(800 \text{ bhp})(1 \text{ lb}/453.59 \text{ g}) \\ &= 0.44\end{aligned}$$

$$\begin{aligned}\text{Tons VOC/yr} &= (\text{lb VOC/hr})(\text{hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= (0.44 \text{ lb VOC/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= 0.11\end{aligned}$$

SO2 Emissions: (Based on FERC Limits)

$$\begin{aligned}\text{lb S/hr} &= (\text{gr S}/100 \text{ scf})(\text{MMscf/hr})(1 \text{ lb}/7000 \text{ gr}) \\ &= (10 \text{ gr S}/100 \text{ scf})(0.00547 \text{ MMscf/hr})(1 \text{ lb}/7000 \text{ gr}) \\ &= 0.078\end{aligned}$$

$$\begin{aligned}\text{lb SO2/hr} &= (\text{lb S/hr})(2 \text{ lb SO2}/\text{lb S}) \\ &= (0.078 \text{ lb S/hr})(2 \text{ lb SO2}/\text{lb S}) \\ &= 0.16\end{aligned}$$

$$\begin{aligned}\text{tons SO2/yr} &= (\text{lb SO2/hr})(\text{hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= (0.16 \text{ lb SO2/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= 0.04\end{aligned}$$

PM Emissions: (Based on AP-42 Table 3.2-2, 4/00)

$$\begin{aligned}\text{lb PM/hr} &= (\text{lb PM}/\text{MMBtu})(\text{MMBtu/hr}) \\ &= (0.00999 \text{ MMBtu/hr})(5.685 \text{ MMBtu/hr}) \\ &= 0.0568\end{aligned}$$

$$\begin{aligned}\text{tons PM/yr} &= (\text{lb PM/hr})(\text{hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= (0.0568 \text{ lb PM/hr})(500 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) \\ &= 0.01\end{aligned}$$

Fugitive Leak Emissions

Fugitive Emissions Factors					
Component		Service	Emissions *		
			Factor tpy	Factor lb/hr	Factor kg/hr
Valves		Gas	0.0434606	0.00992251	0.00450085
Connector		Gas	0.0019316	0.00044100	0.00020004
Flanges		Gas	0.0037666	0.00085995	0.00039008
Open-Ended Line		Gas	0.0193158	0.00441000	0.00200038
Pumps		Gas	0.023179	0.00529201	0.00240046
Other		Gas	0.0849895	0.01940400	0.00880165
Valves		Light Oil	0.0241448	0.00551251	0.00250048
Connector		Light Oil	0.0020282	0.00046306	0.00021004
Flanges		Light Oil	0.0010624	0.00024256	0.00011002
Open-Ended Line		Light Oil	0.0135211	0.00308701	0.00140027
Pumps		Light Oil	0.1255527	0.02866500	0.01300244
Other		Light Oil	0.0724343	0.01653751	0.00750142
Valves		Heavy Oil	0.0000811	0.00001852	0.00000840
Connector		Heavy Oil	0.0000724	0.00001653	0.00000750
Flanges		Heavy Oil	0.0000038	0.00000087	0.00000039
Open-Ended Line		Heavy Oil	0.0013521	0.00030870	0.00014003
Pumps		Heavy Oil	NA	0.00529	NA
Other		Heavy Oil	0.0002994	0.00006836	0.00003101

*EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"

New Components

Component	Service	Component	Emissions *	NM/NE	Emissions
		Count	Factor (ton/yr)	Fraction	(ton/yr)
Valves	Gas	105	0.0434606	0.05	0.23
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	146	0.0037666	0.05	0.03
Open-Ended Line	Gas	37	0.0193158	0.05	0.04
Pumps	Gas	2	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	7	0.0241448	1.00	0.17
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light Oil	13	0.0010624	1.00	0.01
Open-Ended Line	Light Oil	1	0.0135211	1.00	0.01
Pumps	Light Oil	0	0.1255527	1.00	0.00
Other	Light Oil	0	0.0724343	1.00	0.00
Valves	Heavy Oil	0	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	0	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	0	0.0013521	1.00	0.00
Other	Heavy Oil	0	0.0002994	1.00	0.00
				TOTAL:	0.4901