Florida Gas Transmission Company

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

January 5, 2002

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

Reference: Facility: New
Compressor Station No. 27, Hillsborough County

Dear Mr. Fancy:

Subject: Application for Air Construction Permit

Florida Gas Transmission Company (FGT) is proposing to construct a new natural gas pipeline compressor station. This facility will be located in Hillsborough County and designated as Compressor Station No. 27. The facility will consist of two 7,200 (ISO) bhp turbine compressor engines and supporting equipment. The new facility will be a minor source under Title V and New Source Review regulations; therefore, only a state construction permit is required.

Enclosed is an Application for an Air Construction Permit for the proposed facility. A check for $4,500.00 is attached for the application fee.

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

Sincerely,

Jim Thompson
Environmental Project Manager
For Florida Gas Transmission Company Phase V Project

CC: James Alexander, Phase V w/o attachments
Rick Craig, w/o attachments
Frank Diemont
Jake Krautsch, Tallahassee

Florida Gas Transmission Company

Phase V Expansion Project

Compressor Station No. 27

APPLICATION
For
AIR CONSTRUCTION
PERMIT

January 2002

Prepared by AQMcs, LLC

Table of Contents

List of Tables

1.0 INTRODUCTION

Florida Gas Transmission Company (FGT), a Delaware Corporation and an ENRON/EL PASO affiliate of Houston, Texas, is proposing to construct a new natural gas pipeline compression facility in Hillsborough County near Thonotosassa, Florida (Compressor Station No. 27). This proposed facility 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. The scope of work for the Phase V Expansion Project includes expansion through the addition of two state-of-the-art compressor turbine engines at this new compressor station. Compressor Station No. 27 is located in Hillsborough County on County Road 579 approximately 2 miles south of U.S. 301. Figure 1-1 shows the proposed location of the new compressor station.

The proposed expansion consists of the installation of two new 7,200 brake horsepower (bhp) (ISO with site elevation), natural gas-fired, turbine compressor engines. Under current federal and state air quality regulations, the proposed new facility will be a minor source under PSD definitions and Title V Regulations.

This application contains three additional sections. Descriptions of the proposed new engine and supporting facilities are presented in Section 2.0. The applicability of state and federal regulations are discussed in Section 3.0 and references are included in Section 4.0.

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

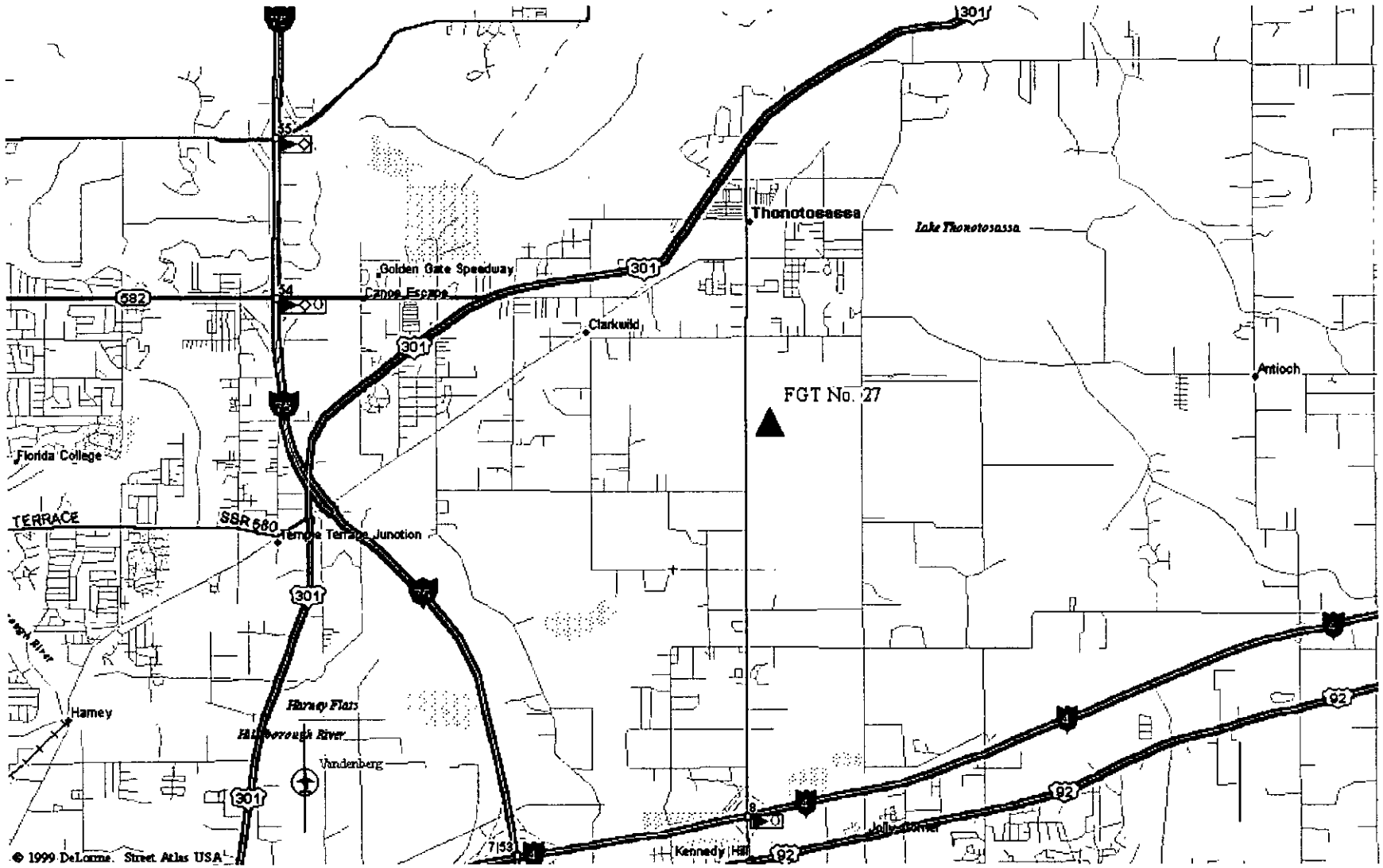


Figure 1.1 Location Map

2.0 PROJECT DESCRIPTION

A plot plan of FGT's Compressor Station No. 27, showing the location of the plant boundaries and the location of the new engines, is presented in Attachment B. The following sections provide a description of the proposed project.

2.1 Proposed New Compressor Station

FGT's proposed Compressor Station No. 27 will consist of two 7,200 bhp natural gas-fired turbine compressor engines and associated support equipment. FGT proposes to construct this compressor station, as part of the Phase V Expansion Project. This facility is necessary to increase the volumetric delivery capacity necessary to meet both short and long-term demands for natural gas.

2.1.1 New Compressor Engines

The new engines will be Cooper-Rolls Royce 501-KC7 DLE compressor turbines rated at 7,200 bhp each at ISO conditions with site elevation. Fuel will be exclusively natural gas from the FGT's natural gas pipeline. Engine specifications and stack parameters for the proposed engine are presented in Table 2-1.

Hourly and annual emissions of regulated pollutants from the proposed engine under normal operating conditions are presented in Table 2-2. Emissions of oxides of nitrogen (NO_X), carbon monoxide (CO) and volatile organic compounds (VOC) are based on the engine manufacturer's supplied data (See Attachment C).

Typically, engine vendors do not provide information on particulate matter (PM) or sulfur dioxide (SO_2) emissions; therefore, particulate matter emissions are based upon USEPA publication AP-42 Table 3.1-2a (USEPA, 2000) and emissions of SO_2 are based on FGT's Federal Energy Regulatory Commission (FERC) certificate limit of 10 grains sulfur per 100 cubic feet of natural gas. Hazardous air pollutant (HAP) emissions are based upon the Gas Research Institute's GRI HapCalc 3.1 software.

Table 2-1 Proposed Compressor Engine 2701/2702 Specifications and Stack Parameters

Parameter	Design
Compressor Engine	
Type	2701/2702
Manufacturer	Cooper-Rolls Royce
Model	501-KC7 DLE
Unit Size	7,200 bhp (ISO /w site elev.)
Specific Heat Input [a]	8,736 Btu/hp-hr
Maximum Fuel Consumption [a]	0.0605 MMscf/hr
Speed	13,600 rpm
Stack Parameters	
Stack Height	61.17 ft
Stack Diameter	88" X 66"
Exhaust Gas Flow	98,206 acfm
Exhaust Temperature	958 °F
Exhaust Gas Velocity	40.58 ft/sec

NOTE:

"	=	inches
acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/bhp-hr	=	British thermal units per brake horsepower per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
MMscf/hr	=	million standard cubic feet per hour
rpm	=	revolutions per minute.

[a] Based on vendor provided heat input value plus 10% and a heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).

Table 2-2 Emissions from Each of FGT's Proposed 2701/2702 Compressor Engines

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	5.7 lb/hr	Manufacturer Data	5.7	25.0
Carbon Monoxide	6.96 lb/hr	Manufacturer Data	6.96	30.5
Volatile Organic Compounds (non methane)	1.49 lb/hr	Manufacturer Data	1.49	6.5
Particulate Matter	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.42	1.8
Sulfur Dioxide	10 grains/100 scf	FERC Limit	1.73	7.6
HAPs	0.0217 g/bhp-hr See Attachment D	GRI HapCalc 3.0	0.345	1.5

* Emissions based on vendor provided fuel use value plus 10 per cent

2.1.2 Support Equipment

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

- Two compressor buildings
- An auxiliary building
- One gas-fired emergency generator
- One 100 bbl hydrocarbon storage tank
- One 100 bbl oily water storage tank

The locations of the structures are shown on the facility plot plan contained in Attachment B. The compressor buildings, housing the two Rolls Royce 501-KC7 DLE turbines, have approximate dimensions of 40 feet wide by 60 feet long by 29.5 feet high. The approximate dimensions of the auxiliary building will be 24 feet wide by 50 feet long by 17 feet high. Emission calculations for support equipment can be found in Attachment D.

2.1.2.1 New Emergency Generator

The new generator will be powered by a natural gas fueled, lean burn Waukesha Model H24GL rated at 440 kW (585 bhp). Engine specifications and stack parameters for the proposed engine are presented in Table 2-3 and emissions are presented in Table 2-4.

2.1.2.2 New Storage Tanks

Two new storage tanks will be installed at Compressor Station No. 27. They are listed in Table 2-5 along with specifications. Emissions were calculated with the U.S EPA's (USEPA) Tank 3.0 program. Details of the calculations can be found in Attachment D.

2.1.2.3 Fugitive Emissions

Potential new emissions from Compressor Station No. 27 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 publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"). Table 2-6 lists the quantities new components to be added as part of the Phase V

Expansion Project and an estimate of the fugitive emissions from these sources.

Table 2-3 Proposed Emergency Generator Engine Specifications and Stack Parameters

Parameter	Design
Compressor Engine	Gen 01
Type	Natural Gas, Lean Burn Reciprocating
Manufacturer	Waukesha
Model	H24GL
Unit Size	585 bhp
Heat Input	4.11 MM Btu/hr
Fuel Consumption [a]	0.00395 MMscf/h
Speed	1800 rpm
Stack Parameters	
Stack Height	20 ft
Stack Diameter	0.67 ft
Exhaust Gas Flow	5,300 lb/hr
Exhaust Gas Flow	2,911 acfm
Exhaust Temperature	842 °F
Exhaust Gas Velocity	138.85 ft/sec

NOTE:

acfm	=	actual cubic feel per minute.
bhp	=	brake horsepower.
Btu/hr	=	British thermal units per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
Lb/hr	=	pound per hour.
rpm	=	revolutions per minute.
scf/h	=	standard cubic feet per hour

[a] Based on heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).

Table 2-4 Emissions from FGT's Proposed Generator Engine

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	2.1 g/hp-hr	Manufacturer Data	2.71	0.68
Carbon Monoxide	1.4 g/hp-hr	Manufacturer Data	1.81	0.45
Volatile Organic Compounds (non methane)	0.24 g/hp-hr	Manufacturer Data	0.31	0.08
Particulate Matter	0.00999 lb/MMBtu	AP-42, Table 3.2-2	0.04	0.01
Sulfur Dioxide	10 grains/100 scf	FERC Limit	0.11	0.03

* Based on 500 hours of operation per year

Table 2-5 New Storage Tanks for Compressor Station No. 27

Tank Name	Condensate Tank	Oily Water Tank
Type of Tank	Vertical, Cone Roof	Vertical, Cone Roof
Contents	Hydrocarbon Liquids	Drain water from washings; oily water
Dimensions	9'-6" dia x 8'-0" high	9'-6" dia x 8'-0" high
Capacity	4,200 Gallons	4,200 Gallons
Paint Color	White	White
Maximum Annual Throughput	3000 Gallons	3000 Gallons
VOC Emissions (tpy)	0.01	<0.001

Table 2-6 VOC Fugitive Emission Calculations and Summary

Component	Service	Component Count	Emissions * Factor (ton/yr)	NM/NE Fraction	Emissions (ton/yr)
Valves	Gas	196	0.0434606	0.05	0.43
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	228	0.0037666	0.05	0.04
Open-Ended Line	Gas	70	0.0193158	0.05	0.07
Pumps	Gas	2	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	22	0.0241448	1.00	0.53
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light Oil	30	0.0010624	1.00	0.03
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	30	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	184	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	3	0.0013521	1.00	0.00
Other	Heavy Oil	4	0.0002994	1.00	0.00
				TOTAL:	**1.12**

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

2.2 Emissions Summary

The total changes in emissions resulting from the project are listed on Table 2-7. As can be seen from the table, the total new emissions are not significant under PSD regulations. The calculations used to estimate these emissions are presented in Attachment D.

Table 2-7 Potential Annual Emissions (tpy) Summary

SOURCE ID	DESCRIPTION	NO_x	CO	VOC[a]	SO_2	PM
	NEW EMISSION SOURCES					
2701	7,200 bhp Recip. Engine	25.0	30.5	6.5	7.6	1.8
2702	7,200 bhp Recip. Engine	25.0	30.5	6.5	7.6	1.8
GEN01	585 bhp Recip. Engine	0.7	0.5	0.1	0.0	0.0
	OTHER SOURCES: [b]	0.0	0.0	1.1	0.0	0.0
	NEW EMISSIONS TOTALS:	**50.7**	**61.5**	**14.2**	**15.2**	**3.6**

(a) VOC = Non-methane HC
(b) Other Sources Includes ancillary equipment, storage tanks and equipment leaks

3.0 REGULATORY ANALYSIS

This section presents a review of federal and Florida State air quality regulations, which govern the operations and proposed construction to be conducted at Compressor Station No. 27.

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. 27.

3.1.1 Classification of Ambient Air Quality

The 1970 Amendments to the CAA gave the USEPA specific authority to establish the minimum level of air quality that all states would be required to achieve. These minimum values or standards were developed in order to protect the public health (primary) and welfare (secondary). The federally promulgated standards and additional state standards are presented on Table 3-1.

Areas of the country that have air quality equal to or better than these standards (i.e., ambient concentrations less than a standard) are designated as "Attainment Areas", while those where monitoring indicates air quality is worse than the standards are known as "Non-attainment Areas." The designation of an area has particular importance for a proposed project as it determines the type of permit review to which the application will be subject.

Major new sources or major modifications to existing major sources located in attainment areas are required to obtain a PSD permit before initiation of construction. Similar sources located in areas designated as non-attainment or that adversely impact such areas undergo more stringent Non-attainment New Source Review (NNSR). In either case, it is necessary, as a first step, to determine the air quality classification of a project site.

All areas of all states are classified as either attainment, non-attainment or unclassifiable for each criteria pollutant. Hillsborough County is designated as unclassifiable or attainment for all criteria pollutants. These designations were obtained from 40 CFR 81.310.

Table 3-1 National and State Ambient Air Quality Standards ($\mu g/m^3$)

POLLUTANT	AVERAGING PERIOD	EPA STANDARDS	
		PRIMARY	SECONDARY
PM_{10}	24-hour[1]	150	150
	Annual[2]	50	50
SO_2	3-hour[1]	—	1,300
	24-hour[1]	365	—
	Annual[2]	80	—
CO	1-hour[1]	—	40,000
	8-hour[1]	10,000	—
NO_2	Annual[2]	100	100
O_3	1-hour[3]	235	235

1) Not to be exceeded more than once per year.
2) Never to be exceeded.
3) Not to be exceeded on more than 3 days over 3 years.

Sources: 40 CFR 50; 36FR22384

The designation of Unclassifiable indicates that there is insufficient monitoring data to prove that the area has attained the federal standards; however, the limited data available indicate that the standard has been achieved. Areas with this classification are treated as attainment areas for permitting purposes.

3.1.2 Prevention of Significant Deterioration (PSD) Applicability

The 1977 CAA Amendments required proposed new major stationary sources or existing sources planning a major modification in an area that has attained the National AAQS, to conduct a preconstruction review that includes a detailed analysis of the impacts from the source's emissions. The Federal air quality permitting regulations for attainment areas are codified in the Code of Federal Regulations (CFR), Title 40- Protection of the Environment, Part 52.21 - Prevention of Significant Deterioration (40 CFR 52.21).

For the PSD regulations to apply to a given project, the proposed location must be in an area that has been classified as attainment or as unclassifiable for a particular pollutant. Hillsborough County is considered an attainment area for all criteria pollutants. Additionally, a project's potential to emit must 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 3-2.

Since Compressor Station No. 27 is not one of the 28 named source categories, and will not emit >250 TPY of any regulated pollutant, it is considered a minor source and therefore a PSD permit is not required.

Table 3-2 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)

3.1.3 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.

Performance standards are published in 40 CFR 60. The new turbines to be installed at Compressor Station No. 27 are subject to Subpart GG, Standards of Performance for Stationary Gas Turbines, because they will have a maximum heat input at peak load of >10.7 gigajoules/hour (10 MMBtu/hr) based on the lower heating value of the natural gas fuel. This regulation establishes emission limits for NO_X and SO_2 and requires performance testing and daily monitoring of fuel nitrogen and sulfur. The applicable emission standards are provided in Table 3-3.

The NO_x emission limit for Subpart GG is calculated as follows:

$STD = 0.0150\ (14.4/Y) + F$

STD = Allowable NO_x emissions

Y = Heat rate at peak load not to exceed 14.4 *Kj/watt-hour*

F = NO_x emission allowance

The fuel bound nitrogen in natural gas is less than 0.015% by weight. Therefore, the value of F as defined in 40 CFR 60.332(3) is equal to zero.

Y = Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

Y = Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= 8,736 Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= 12.35 Kj/watt-hr

STD = 0.0150 (14.4/12.35) + 0

= *0.0175 %*

= 175 ppm_v

Table 3-3 summarizes the NSPS applicability for the proposed gas engines.

The turbine at this facility will meet the NSPS for NO_X of 175 ppmv (i.e., manufacturer's estimation of 25 ppmv), and for SO_2 of 150 ppmv (estimated for this turbine to be 4 ppmv).

FGT requests that the these turbines also be approved for the custom fuel-monitoring schedule that has been approved for other new and modified turbines in this Phase V Expansion Project.

3.1.4 Good Engineering Practice (GEP) Stack Height analysis

The 1977 CAA Amendments require that the emission limitation required for control of any pollutant not be affected by a stack that exceeds GEP height. Further, no dispersion credit is given during air quality modeling for stacks that exceed GEP. GEP stack height is defined as the highest of:

- 65 meters; or
- a height established by applying the formula

  HGEP = H + 1.5 L

  Where:

  HGEP = GEP Stack Height,
  H = Height of the structure or nearby structure, and
  L = Lesser dimension (height or projected width) of the nearby structure; or

- a height demonstrated by fluid modeling or field study.

A structure or terrain feature is considered nearby if a stack is within a distance of five times the structure's height or maximum projected width. Only the smaller value of the height or projected 2width is used and the distance to the structure cannot be greater than 0.8 kilometers. Although GEP stack height regulations require that the stack height used in modeling for determining compliance with National AAQS and PSD increments not exceed GEP stack height, the actual stack height may be greater.

Table 3-3 Applicability of New Source Performance Standards for Turbines 2701/02

NSPS Subpart	NSPS Regulations	Equipment	Fuel	Pollutant	Heat Input Applicability	Equipment Design Maximum*	NSPS Emission Limits	Equipment Emissions
GG	60.332(a)(2)	Engine No. 2701/2702 Gas Turbine	Gas	NO_2	>10 MM Btu/hr	62.95 MMBtu/hr	175 ppm_v	25 ppm_v
GG	60.333(a)	Engine No. 2701/2702 Gas Turbine	Gas	SO_2	>10 MM Btu/hr	62.95 MMBtu/hr	150 ppm_v	4 ppm_v

Design maximum based on vendor data plus 10%.

The stack height regulations also increase GEP stack height beyond that resulting from the formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or modeled to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula. Because terrain in the vicinity of the project site is generally flat, plume impaction was not considered in determining the GEP stack height.

The proposed stack at Compressor Station No. 27 will be 61.17 feet (18.64 meters) tall. Based on the proposed building dimensions, the calculated GEP stack height is less than 65 meters; therefore, GEP stack height is 65 meters. Since the stack is less than GEP stack height, it complies with the regulatory requirement.

3.2 Florida State Air Quality Regulations

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. 27 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. The proposed new emissions will not violate any air quality standards.

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. There will be no odors from the proposed changes.

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). The new and modified engines will not violate this standard.

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

The emissions from the fugitive leak emissions 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

Gas Research institute, 1999. GRI-HAPCalc Software Version 3.0, Radian International, LLC.

U.S. Environmental Protection Agency (USEPA). 1980. PSD Workshop Manual. Research Triangle Park, NC.

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 - NON-TITLE V SOURCE

See Instructions for Form No. 62-210.900(3)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Florida Gas Transmission Company	
2. Site Name: Compressor Station No. 27	
3. Facility Identification Number: [X] Unknown	
4. Facility Location: Street Address or Other Locator: On CR 579 approximately 2 miles south of U.S. 301	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [ ] Yes [X] No

Application Contact

1. Name and Title of Application Contact: Jim Thompson, Environmental Project Manager for Florida Gas Transmission Co. – Phase V Expansion Project
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:	1-28-02
2. Permit Number:	0571279-001-AC

Purpose of Application

Air Operation Permit Application

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

[ ] Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number:_____

[ ] Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number:_____

Operation permit number to be revised:_____

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

Current operation/construction permit number(s):

_____

[ ] Non-Title V air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

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

[X] 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

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Rick Craig, Vice President, Southeastern Operations
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: P.O. Box 1188
   City: Houston State: TX Zip Code: 77251
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (713) 646-7227 - Fax: (713) 646-6128
4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. 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 1-11-02

* 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.

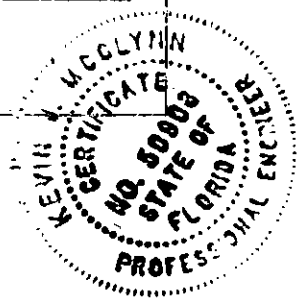
If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or 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. # 50908 — Signature

January 8, 2002 — Date

(seal)



* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
	Cooper-Rolls 501-KC7 DLE Turbine rated at 7,200 bhp, Engine 2701	AC1C	$4,500.00
	Cooper-Rolls 501-KC7 DLE Turbine rated at 7,200 bhp, Engine 2702		
	New Emergency generator, 585 bhp Waukesha H24GL Reciprocating engine, engine GEN01		
	New fugitive emissions from equipment leaks		
	4200 gallon Oily Water Tank		
	4200 gallon Pipeline Condensate Tank		

Application Processing Fee

Check one: [X] Attached - Amount: $__4,500.00_____ [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Construction of a new gas pipeline compressor station.

Installation of two new gas-fired Rolls Royce model 501-KC7 DLE turbine compressor engines rated at 7,200 horsepower each.

Installation of a natural gas-fired Waukesha Model model H24GL emergency generator rated at 440 kW (585 hp) Waukesha Model H24GL.

Installation of a 4200 gallon tank for oily water storage and a 4200 gallon pipeline condensate storage tank.

2. Projected or Actual Date of Commencement of Construction: 06/01/02

3. Projected Date of Completion of Construction: 09/01/02

Application Comment

This proposed new facility 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.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17	East (km): 372.157	North (km): 3102.414	
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 28/02/34		Longitude (DD/MM/SS): 82/18/02	
3. Governmental Facility Code: 0	4. Facility Status Code: C	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4922
7. Facility Comment (limit to 500 characters): Compressor Station No. 27 will be a natural gas pipeline compressor station with two turbine compressor engines. It will be classified as a minor source under New Source Review and Title V definitions.			

Facility Contact

1. Name and Title of Application Contact: Jim Thompson, Environmental Project Manager for Florida Gas Transmission Co. – Phase V Expansion Project			
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	

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [ ] Synthetic Non-Title V Source?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Synthetic Minor Source of HAPs?	
5. [X] One or More Emissions Units Subject to NSPS?	
6. [ ] One or More Emission Units Subject to NESHAP Recordkeeping or Reporting?	
7. Facility Regulatory Classifications Comment (limit to 200 characters):	
Facility is a minor source for PSD and Title V purposes. The project is not subject to PSD since the emissions are less than the levels for a major source.	

Rule Applicability Analysis

FDEP Title V Core List

62-296.320(4)(b)1 General Visible Emissions Standards

40 CFR 60, Subpart GG Standards of Performance for Stationary Gas-fired Turbines

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
NO_X	B				
CO	B				
VOC	B				
SO_2	B				
PM	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID:*Narrative Fig 1-1* [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID:_*Att. B* [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [ ] Attached, Document ID:_____ [X] Not Applicable [X] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
5. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: *Attach. C* [ ] Not Applicable
6. Supplemental Requirements Comment:

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

7,200 bhp natural gas fired turbine compressor unit, Engine 2701

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

The proposed turbine engines will be Cooper-Rolls Royce 501-KC7 DLE engine compressor units ISO rated at 7,200 bhp and site rated at 7,200 bhp. Fuel will be exclusively natural gas from the FGT's gas pipeline. The proposed engines will incorporate dry, low NO_X combustion technology.

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: Cooper-Rolls Royce Model Number: 501-KC7 DLE
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: 62.95 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):

Heat input is 62.95 MM Btu/hr based on vendor specifications of 7,942 Btu/Bhp-hr plus 10% and 7,200 bhp.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? 2701	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: 61.17 feet	7. Exit Diameter: 88" x 66"
8. Exit Temperature: 958 °F	9. Actual Volumetric Flow Rate: 98,206 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): 372.157 North (km): 3102.414		

14. Emission Point Comment (limit to 200 characters):

40 CFR 60 Appendix A Method 1:

Equivalent diameter (D_e) = 2WL / W + L
= (2 x 7.333' x 5.5') / (7.333' + 5.5')
= 80.663 / 12.833 = 6.28'

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired reciprocating engine driving a natural gas compressor, operating full time.		
2. Source Classification Code (SCC): 2-02-002-01	3. SCC Units: million cubic feet burned	
4. Maximum Hourly Rate: 0.0605	5. Maximum Annual Rate: 530	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 heat input of 62.95 MMBtu/hr and 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 _____

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):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: NOX	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code:	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 5.7 lb/hour 25.0 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 5.7 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (5.7 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 24.97 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

Allowable Emissions Allowable Emissions __1___ of __1___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 25 ppmv	4. Equivalent Allowable Emissions: 5.7 lb/hour 25.0 tons/year
5. Method of Compliance (limit to 60 characters): Initial performance test.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): 40 CFR 60.332(a)(2) limits NOX emissions to 175 ppmv.	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.73 lb/hour 7.6 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use data		9. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.0605 MMscf/hr)(1 lb/7000 gr) = 0.86 lb S/hr
(0.86 lb S/hr)(2 lb SO2/lb S) = 1.73 lb SO2/hr
(1.73 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.58 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

SO2 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: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 gr/100 cf	4. Equivalent Allowable Emissions: 1.73 lb/hour 7.6 tons/year

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

Initial performance test and fuel monitoring.

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

40 CFR 60.333 limits SO2 emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: CO	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 6.96 lb/hour 30.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 6.96 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (6.96 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 30.48 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

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):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.49 lb/hour 6.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 1.49 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (1.49 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 6.53 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

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):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2		2. Pollutant Regulatory Code: EL
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.73 lb/hour 7.6 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use data		9. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.0605 MMscf/hr)(1 lb/7000 gr) = 0.86 lb S/hr
(0.86 lb S/hr)(2 lb SO2/lb S) = 1.73 lb SO2/hr
(1.73 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.58 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

SO2 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: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 gr/100 cf	4. Equivalent Allowable Emissions: 1.73 lb/hour 7.6 tons/year

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

Initial performance test and fuel monitoring.

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

40 CFR 60.333(a) limits SO2 emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.42 lb/hour 1.8 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0066 lb/MMBtu Reference: AP-42 Table 3.1-2a, 4/00		9. Emissions Method Code: 4

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

(0.0066 lb/MM Btu)(62.95 MM Btu/hr) = 0.42 lb/hr
(0.42 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.82 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's fuel use data plus 10%.

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):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: HAPs		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.345 lb/hour 1.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0217 g/bhp-hr Reference: GRI-HAPCalc 3.1		9. Emissions Method Code: 4
10. Calculation of Emissions (limit to 600 characters): (0.0217g/hp-hr)(7,200 hp)(1 lb/453.6 g) = 0.345 lb/hr (0.345/lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.51 ton/yr		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Detailed calculations provided in Attachment D. HAP emissions are also included in VOC emissions.		

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):	

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

Visible Emissions Limitation: Visible Emissions Limitation ___1__ of ___1__

1. Visible Emissions Subtype: VE20	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: 40 CFR 60 Appendix A Method 9	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID: *Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

7,200 bhp natural gas fired turbine compressor unit, Engine 2702

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

The proposed turbine engines will be Cooper-Rolls Royce 501-KC7 DLE engine compressor units ISO rated at 7,200 bhp and site rated at 7,200 bhp. Fuel will be exclusively natural gas from the FGT's gas pipeline. The proposed engines will incorporate dry, low NO_X combustion technology.

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: Cooper-Rolls Royce Model Number: 501-KC7 DLE
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: 62.95 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):

Heat input is 62.95 MM Btu/hr based on vendor specifications of 7,942 Btu/Bhp-hr plus 10% and 7,200 bhp.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? 2702	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: 61.17 feet	7. Exit Diameter: 88" x 66"
8. Exit Temperature: 958 °F	9. Actual Volumetric Flow Rate: 98,206 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): 372.157 North (km): 3102.414		

14. Emission Point Comment (limit to 200 characters):

40 CFR 60 Appendix A Method 1:

Equivalent diameter (D_e) = 2WL / W + L
= (2 x 7.333' x 5.5') / (7.333' + 5.5')
= 80.663 / 12.833 = 6.28'

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired turbine engine driving a natural gas compressor, operating full time.		
2. Source Classification Code (SCC): 2-02-002-01	3. SCC Units: million cubic feet burned	
4. Maximum Hourly Rate: 0.0605	5. Maximum Annual Rate: 530	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 heat rate of 62.95 MMBtu/hr. 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 _____

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):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: NOX	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code:	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 5.7 lb/hour 25.0 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 5.7 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (5.7 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 24.97 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

Allowable Emissions Allowable Emissions __1___ of __1___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 25 ppmv	4. Equivalent Allowable Emissions: 5.7 lb/hour 25.0 tons/year
5. Method of Compliance (limit to 60 characters): Initial performance test.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): 40 CFR 60.332(a)(2) limits NOX emissions to 175 ppmv.	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: CO	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 6.96 lb/hour 30.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 6.96 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (6.96 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 30.48 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

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):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.49 lb/hour 6.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 1.49 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (1.49 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 6.53 tons/year		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.		

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):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.73 lb/hour 7.6 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use data		9. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.0605 MMscf/hr)(1 lb/7000 gr) = 0.86 lb S/hr
(0.86 lb S/hr)(2 lb SO2/lb S) = 1.73 lb SO2/hr
(1.73 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.58 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

SO2 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: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 gr/100 cf	4. Equivalent Allowable Emissions: 1.73 lb/hour 7.6 tons/year

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

Initial performance test and fuel monitoring.

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

40 CFR 60.333 limits SO2 emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2		2. Pollutant Regulatory Code: EL
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.73 lb/hour 7.6 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use data		9. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.0605 MMscf/hr)(1 lb/7000 gr) = 0.86 lb S/hr
(0.86 lb S/hr)(2 lb SO2/lb S) = 1.73 lb SO2/hr
(1.73 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.58 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

SO2 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: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 gr/100 cf	4. Equivalent Allowable Emissions: 1.73 lb/hour 7.6 tons/year

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

Initial performance test and fuel monitoring.

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

40 CFR 60.333(a) limits SO2 emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.42 lb/hour 1.8 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0066 lb/MMBtu Reference: AP-42 Table 3.1-2a, 4/00		9. Emissions Method Code: 4
10. Calculation of Emissions (limit to 600 characters): (0.0066 lb/MM Btu)(62.95 MM Btu/hr) = 0.42 lb/hr (0.42 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.82 ton/yr		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Based on vendor's fuel use data plus 10%.		

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):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: HAPs		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.345 lb/hour 1.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0217 g/bhp-hr Reference: GRI-HAPCalc 3.1		9. Emissions Method Code: 4

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

(0.0217g/hp-hr)(7,200 hp)(1 lb/453.6 g) = 0.345 lb/hr
(0.345/lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.51 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Detailed calculations provided in Attachment D.
HAP emissions are also included in VOC emissions.

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):

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

Visible Emissions Limitation: Visible Emissions Limitation ___1__ of ___1__

1. Visible Emissions Subtype: VE20	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: 40 CFR 60 Appendix A Method 9	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID: *Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

Emergency generator Waukesha Model H24GL rated at 585 bhp, 440 kW

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

The proposed generator engine will be a Waukesha Model H24GL reciprocating engine rated at 440 kW (585 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.

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: H24GL
2. Generator Nameplate Rating: 0.440 MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: 4.11 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 4.11 MM Btu/hr based on vendor specifications.

Schedule will be limited to 500 hours per year.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Emergency Generator	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: 0.67 feet
8. Exit Temperature: 842 °F	9. Actual Volumetric Flow Rate: 2911 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): 372.157 North (km): 3102.414		
14. Emission Point Comment (limit to 200 characters):		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired reciprocating engine driving a 440 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: 0.00395	5. Maximum Annual Rate: 1.98	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 4.11 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 _____

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):		

Emissions Unit Information Section __3___ of __6___

Pollutant Detail Information Page ___1__ of ___5__

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: NOX		2. Pollutant Regulatory Code: EL
3. Primary Control Device Code:	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 2.7 lb/hour 11.9 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 2.1 g/bhp-hr Reference: Vendor's data		9. Emissions Method Code: 5

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

(2.1 g/hp-hr)(585 hp)/453.6 g/lb) = 2.70 lb/hr
(2.70 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 11.86 tpy

(2.70 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.68 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's data. See Attachment C.
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: lb/hour 0.68 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.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: CO	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 1.81 lb/hour 7.9 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 1.4 g/bhp-hr Reference: Vendor's data		9. Emissions Method Code: 5

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

(1.4 g/hp-hr)(585 hp)/453.6 g/lb) = 1.81 lb/hr
(1.81 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.93 tpy

(1.81 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.45 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's data. See Attachment C.
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: lb/hour 0.45 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.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.31 lb/hour 1.4 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.24 g/bhp-hr Reference: Vendor's data		9. Emissions Method Code: 5

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

Vendor factor for non-methane hydrocarbons (NMHC) = 0.24 g/hp-hr. Assume all is VOC.

(0.24 g/hp-hr)(585 hp)/453.6 g/lb) = 0.31 lb/hr
(0.31 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.36 tpy

(0.31 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.08 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's data. See Attachment C.
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: lb/hour 0.1 tons/year

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

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.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.11 lb/hour 0.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use data		9. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.00395 MMscf/hr)(1 lb/7000 gr) = 0.056 lb S/hr
(0.056 lb S/hr)(2 lb SO2/lb S) = 0.11 lb SO2/hr
(0.11 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.49 ton/yr

(0.11 lb SO2/hr)(500 hr/yr)(1 ton/2000 lb) = 0.03 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.
SO2 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: lb/hour 0.03 tons/year

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

Initial performance test and fuel monitoring.

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.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.04 lb/hour 0.2 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.00999 lb/MMBtu Reference: AP-42 Table 3.2-2, 4/00		9. Emissions Method Code: 4

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

(0.00999 lb/MM Btu)(4.11 MM Btu/hr) = 0.04 lb/hr
(0.04 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.18 ton/y

(0.04 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.01 ton/y

11. Pollutant Potential 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: 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.

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

Visible Emissions Limitation: Visible Emissions Limitation ___1__ of ___1__

1. Visible Emissions Subtype: VE20	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: 40 CFR 60 Appendix A Method 9	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID: *Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

Fugitive emissions from component leaks

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

These are new fugitive leak emissions from new components (valves, flanges, etc.).

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

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):

B. EMISSION POINT (STACK/VENT) INFORMATION

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: %
11. Maximum Dry Standard Flow Rate: NA dscfm	12. Nonstack Emission Point Height: 0 feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 372.157 North (km): 3102.414		
14. Emission Point Comment (limit to 200 characters):		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _____ of _____

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 _____

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):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.2566 lb/hour 1.12 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: lb/hr/component Reference: EPA-453/R-95-017, Protocol for Equipment Leak EmissionEstimates"		9. Emissions Method Code: 5
10. 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		
11. Pollutant Potential 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: NA lb/hour NA tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

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

Visible Emissions Limitation: Visible Emissions Limitation __NA__ 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):	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID: *Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

4,200-gallon vertical fixed roof pipeline condensate storage tank.

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

Tank is vertical and measures approximately 8 feet high by 9.5-foot diameter.

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

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: 3000 gallons per year
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):

.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Condensate	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: 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: %
11. Maximum Dry Standard Flow Rate: NA dscfm	12. Nonstack Emission Point Height: 8 feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 372.157 North (km): 3102.414		
14. Emission Point Comment (limit to 200 characters): 4200 gallon vertical tank		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __1__ of __2__

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Breathing loss.		
2. Source Classification Code (SCC): 4-07-146-97	3. SCC Units: 1000 gallons capacity	
4. Maximum Hourly Rate: NA	5. Maximum Annual Rate: NA	6. Estimated Annual Activity Factor: 4.2
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
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): Working loss.		
2. Source Classification Code (SCC): 4-07-146-98	3. SCC Units: 1000 gallons throughput	
4. Maximum Hourly Rate: NA	5. Maximum Annual Rate: NA	6. Estimated Annual Activity Factor: 3.0
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

Emissions Unit Information Section __5___ of __6___

Pollutant Detail Information Page ___1_ of ___1__

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.003 lb/hour 0.014 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: Reference: USEPA AP-42 Tanks3.1 Program		9. Emissions Method Code: 3
10. Calculation of Emissions (limit to 600 characters): Calculated using USEPA Tanks program, version 3.1. See Attachment D for output.		
11. Pollutant Potential Emissions Comment (limit to 200 characters):		

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: NA lb/hour NA tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): None	

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

Visible Emissions Limitation: Visible Emissions Limitation __NA__ 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):	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID:_*Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G 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

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. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

4,200-gallon vertical oily water storage tank.

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

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	09/01/02	49

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

Tank is vertical and measures approximately 8 feet high by 9.5-foot diameter.

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

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: 3000 gallons per year
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):

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Oily Water	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: 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: %
11. Maximum Dry Standard Flow Rate: NA dscfm	12. Nonstack Emission Point Height: 8 feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 372.157 North (km): 3102.414		
14. Emission Point Comment (limit to 200 characters): 4200 gallon vertical tank		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __1__ of ___2__

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Breathing loss.		
2. Source Classification Code (SCC): 4-07-146-97	3. SCC Units: 1000 gallons capacity	
4. Maximum Hourly Rate: NA	5. Maximum Annual Rate: NA	6. Estimated Annual Activity Factor: 4.2
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): None		

Segment Description and Rate: Segment _2__ of __2___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Working Loss.		
2. Source Classification Code (SCC): 4-07-146-98	3. SCC Units: 1000 gallon throughput	
4. Maximum Hourly Rate: NA	5. Maximum Annual Rate: NA	6. Estimated Annual Activity Factor: 3.0
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): None		

Emissions Unit Information Section __6___ of __6___

Pollutant Detail Information Page ___1_ of ___1__

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: <0.0001 lb/hour <0.001		7. Synthetically Limited? [ ]
8. Emission Factor: Reference: USEPA AP-42 Tanks3.1 Program		9. Emissions Method Code: 3
10. Calculation of Emissions (limit to 600 characters): Calculated using USEPA Tanks program, version 3.1. See Attachment D for output.		
11. Pollutant Potential Emissions Comment (limit to 200 characters):		

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: NA lb/hour NA tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): None	

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

Visible Emissions Limitation: Visible Emissions Limitation __NA__ 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):	

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

Continuous Monitoring System: Continuous Monitor __NA__ 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):	

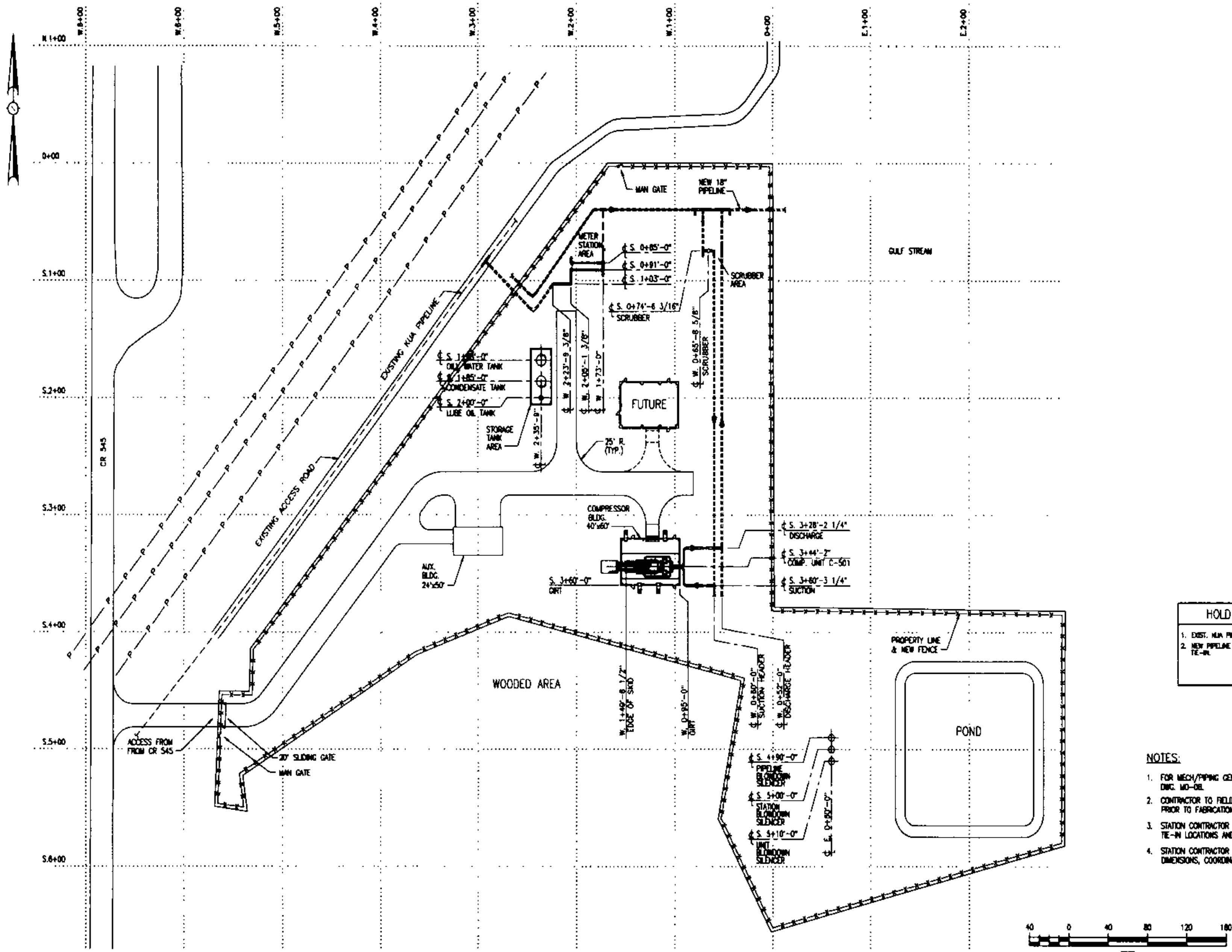
G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] 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 [X] Attached, Document ID: *Narrative*_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information is provided in the narrative description accompanying these forms.

Attachment B

Plot Plan



HOLD LOG

1. EXIST. KUA PIPELINE LOCATION
2. NEW PIPELINE LOCATION AND TIE-IN

NOTES:

1. FOR MECH/PIPING GENERAL NOTES SEE DWG. MO-OEL
2. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION
3. STATION CONTRACTOR TO FIELD VERIFY ALL TIE-IN LOCATIONS AND ELEVATIONS.
4. STATION CONTRACTOR TO FIELD VERIFY ALL (±) DIMENSIONS, COORDINATES & ELEVATIONS.

GULF INTERSTATE ENGINEERING
HOUSTON, TEXAS

0 ISSUED FOR BID

Enron Engineering & Construction Co.
Florida Gas Transmission Co.
Houston, Texas

COMPRESSOR STATION NO. 31
FGT PHASE V EXPANSION
GENERAL STATION LAYOUT

OSCELOA COUNTY, FLORIDA

C.005063.41

M3-1A

7/18/01

SCALE: 1"=40'-0"

Attachment C

Vendor Information

Cooper-Rolls Royce 501 KC-7 Turbine

Waukesha Model H24GL Reciprocating Engine

Cooper-Rolls Royce 501 KC-7 Turbine

Date: June 4, 2001

Project: Florida Gas Site Analyses

Parameter\Data Pt. No.	C/S 27 #1	C/S 27 #2	C/S 27 #3
Altitude (feet)	110	110	110
Ambient Press. (psia)	14.638	14.638	14.638
Relative Humidity	60	60	60
Specific Humidity	0.00638	0.00638	0.00638
Inlet Loss ("H2O)	0	0	0
Exhaust Loss ("H2O)	0	0	0
Inlet Pressure (CIP, psia)	14.638	14.638	14.638
Inlet Temperature (CIT, °F)	59	59	59
Inlet Flow (lb/sec)	45.139	42.061	39.286
MGT t/c (°F)	1375	1292	1235
Control Temp. (°F)	1935	1836	1772
Fuel Flow (MMBTU/hr)	57.2282	48.2534	41.9147
Fuel Flow (lb/hr)	2802.56	2363.05	2052.63
Output Shaft Speed (rpm)	13600	13600	13600
Gas Generator Speed (rpm)	14676	14001	13499
Shaft Power (hp)	7205.6	5406.1	3603.9
% of Full Load	100	75	50
SFC [lb/(hp*hr)]	0.3889	0.4371	0.5696
HeatRate[Shaft] BTU/(shp*hr)	7942	8926	11630
Exhaust Flow (lb/sec)	45.605	40.403	33.97
Exhaust Temp. (f/a, °F)	958	941	959
Exhaust P-static (psia)	14.638	14.638	14.638
Fuel	Ref Gas	Ref Gas	Ref Gas
Fuel LHV (BTU/lb)	20420	20420	20420
H/C (wt ratio)	0.3261	0.3261	0.3261
Fuel Molecular Weight	16.6303	16.6303	16.6303
Fuel Specific Gravity	0.5902	0.5902	0.5902
NOx ppm	25	25	25
CO ppm	50	50	50
UHC ppm	20	20	20
VOC ppm	10	10	10
Expected Emissions (lb/eng-hr)			
NOx	5.7	4.7	3.9
CO	6.96	5.76	4.70
UHC	1.59	1.32	1.07
VOC	1.49	1.23	1.01
Exhaust Gas (vol %)			
CO2	2.94	2.75	2.67
H2O	6.64	6.27	6.12
O2	14.42	14.83	15
N2	75.1	75.24	75.3
Ar	0.9	0.9	0.9

Waukesha Model H24GL Reciprocating Engine

DRESSER Waukesha

SAA No. 2001- 89

CERTIFICATION OF ENGINEERING APPROVAL

Are Special Codes or Equipment Required for this Approval? Y

List Code 1100: Power of 176 psi continuous duty.

Engineering Approval:

Ignition Timing 13 °BTDC Carb Setting (Lambda or MAFR) 1.85 02

When operating per the site conditions listed and per the attached fuel analysis, WED approves a maximum continuous rating of 585 BHP @1800 RPM with no overload allowed.

For the site conditions listed and per the attached fuel analysis with the engine operating at the stated loads @1800 RPM, the following exhaust emissions are guaranteed not to exceed:

	- Guaranteed -		- Estimated -
BHP:	585	439	293
*NOx: (g/bhp-hr)	2.1	2.0	2.0
CO: (g/bhp-hr)	1.4	1.5	1.6
NMHC: (g/bhp-hr)	0.24	0.28	0.32

* NOx emission at absolute humidity of 75 grains H2O/lb dry air.

Fuel must conform to WED "Gaseous Fuel Specification" S7884-7.

Signed: Mark J. Helgren Date: 03/15/2001

Signed: Joe Lange Date: 03/15/2001

HEAT REJECTION AND OPERATING DATA
MODEL H24GL/GLD
130° F (54° C) AUX. WATER TEMPERATURE
180° F (82° C) JACKET WATER TEMP.

	BMEP (PSI)	ENGINE SPEED - RPM				
		1400	1500	1600	1700	1800
POWER (BHP)	185	–	515	545	580	615
	176	455	490	520	555	***585***
	160	415	445	475	505	530
	150	388	415	443	471	498
	125	323	346	369	392	415
	100	258	277	295	314	332
	75	194	208	222	235	249
	50	129	138	148	157	166
BRAKE SPEC FUEL CONS. (BTU/BHP-HR)	185	–	6786	6882	6933	6978
	176	6814	6831	6928	6980	***7026***
	160	6902	6923	7021	7076	7126
	150	6967	6991	7089	7147	7199
	125	7174	7208	7308	7374	7433
	100	7484	7533	7636	7714	7784
	75	8002	8076	8182	8281	8369
	50	9037	9161	9275	9414	9539
FUEL CONSUMPTION (BTU/HR) x 1000	185	–	3475	3760	4025	4290
	176	3100	3330	3600	3855	***4110***
	160	2855	3065	3320	3555	3790
	150	2700	2905	3140	3365	3590
	125	2315	2495	2700	2895	3085
	100	1935	2085	2255	2420	2585
	75	1550	1675	1810	1950	2085
	50	1168	1268	1370	1477	1585
HEAT TO JACKET WATER (BTU/HR) x 1000	185	–	912	972	1024	1077
	176	832	882	939	991	***1042***
	160	781	830	881	931	981
	150	749	798	845	893	942
	125	669	716	754	800	846
	100	590	634	663	707	750
	75	510	553	573	613	654
	50	430	471	482	520	557
HEAT TO LUBE OIL (BTU/HR) x 1000	185	–	94	110	121	131
	176	82	93	108	119	***129***
	160	79.5	90.5	106	116	126
	150	78	89	104	114	124
	125	74.5	85	100	110	120
	100	71	81.5	95.5	105	115
	75	67.5	77.5	91.5	101	110
	50	64	73.5	87	96	105
HEAT TO INTERCOOLER (BTU/HR) x 1000	185	–	185	213	243	273
	176	151	173	199	228	***256***
	160	132	152	175	201	227
	150	120	138	160	184	208
	125	89.5	104	123	142	162
	100	58.5	70	86	101	115
	75	28	36	49	59	68.5
	50	-2	2	12	17	22

HEAT REJECTION AND OPERATING DATA MODEL H24GL/GLD 130° F (54° C) AUX. WATER TEMPERATURE 180° F (82° C) JACKET WATER TEMP.						
	BMEP (PSI)	ENGINE SPEED - RPM				
		1400	1500	1600	1700	1800
HEAT TO RADIATION (BTU/HR) x 1000	185	–	73	79.5	83.5	87.5
	176	72	73	79	83	***87.5***
	160	71	72.5	78.5	82.5	87
	150	71	72.5	78	82.5	86.5
	125	70	72	77.5	81.5	86
	100	69	71.5	76.5	81	85
	75	68	70.5	76	80	84
	50	67.5	69.5	75	79	83
TOTAL ENERGY IN EXHAUST (BTU/HR) x 1000	185	–	942	1030	1112	1196
	176	831	897	983	1061	***1142***
	160	756	818	898	970	1045
	150	709	769	844	913	984
	125	594	647	712	772	833
	100	483	527	581	632	684
	75	376	412	454	495	538
	50	275	302	332	364	397
EXHAUST TEMP AFTER TURBINE (+/- 50 °F)	185	–	810	823	834	844
	176	799	808	821	831	***842***
	160	794	804	816	827	838
	150	791	801	814	824	835
	125	783	795	807	818	829
	100	775	789	800	812	823
	75	768	782	793	805	817
	50	760	776	786	798	811
INDUCTION AIR FLOW (SCFM)	185	–	990	1065	1140	1215
	176	880	945	1020	1090	***1160***
	160	805	865	935	1000	1065
	150	760	815	885	945	1005
	125	640	690	750	800	855
	100	525	565	615	660	705
	75	410	445	485	520	555
	50	300	325	355	385	410
EXHAUST GAS FLOW (LBS/HR)	185	–	4520	4875	5205	5540
	176	4015	4315	4660	4980	***5300***
	160	3675	3955	4275	4575	4870
	150	3465	3725	4035	4315	4600
	125	2930	3155	3420	3670	3915
	100	2400	2585	2810	3020	3230
	75	1885	2030	2210	2380	2550
	50	1380	1495	1625	1755	1890

HEAT REJECTION AND OPERATING DATA MODEL H24GL/GLD 130° F (54° C) AUX. WATER TEMPERATURE 180° F (82° C) JACKET WATER TEMP.						
	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

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, Tcra, 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/m^3 [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 NOx. 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-1104-15 and C-1104-17.*
11. *Exhaust flow at nominal 29.54 inches Hg. (100 kPa) atmospheric pressure:*

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

Attachment D

Emission Calculations

Engine Emissions

Engine HAP Emissions

Fugitive Leak Emissions

Tank Emissions

Engine Emissions

Engine No. 2701/02

NOx Emissions: (Based on Vendor Data)

lb NOx/hr =5.70

tons NOx/yr =(lb NOx/hr)(hr/yr)(1 ton/2000 lb)
=(5.7 lb NOx/hr)(8760 hr/yr)(1 ton/2000 lb)
=24.97

CO Emissions: (Based on Vendor Data)

lb CO/hr =6.96

tons CO/yr =(lb CO/hr)(hr/yr)(1 ton/2000 lb)
=(7.0 lb CO/hr)(8760 hr/yr)(1 ton/2000 lb)
=30.48

VOC Emissions: (Based on Vendor Data)

lb VOC/hr =1.49

tons VOC/yr =(lb VOC/hr)(hr/yr)(1 ton/2000 lb)
=(1.49 lb VOC/hr)(8760 hr/yr)(1 ton/2000 lb)
=6.53

SO2 Emissions: (Based on FERC Limits)

lb S/hr =(gr S/100 scf)(MMscf/hr)(1 lb/7000 gr)
=(10 gr S/100 scf)(0.0605 MMscf/hr)(1 lb/7000 gr)
=0.86

lb SO2/hr =(lb S/hr)(2 lb SO2/lb S)
=(0.86 lb S/hr)(2 lb SO2/lb S)
=1.73

tons SO2/yr =(lb SO2/hr)(hr/yr)(1 ton/2000 lb)
=(1.78 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb)
=7.58

PM 10/2.5 Emissions: (Based on AP-42 Table 3.1-2a, 4/00)

lb PM/hr =(lb PM/MMscf)(MMBtu/hr)
=(0.0066 lb/Btu)(62.95 MMBtu/hr)
=0.4155

tons PM/yr =(lb PM/hr)(hr/yr)(1 ton/2000 lb)
=(0.42 lb PM/hr)(8760 hr/yr)(1 ton/2000 lb)
=1.82

Engine No. Gen 1 EPN:

NOx Emissions: (Based on Vendor Data)

lb NOx/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) = lb/hr
=(2.1 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=2.71

tons NOx/yr =(lb NOx/hr)(hr/yr)(1 ton/2000 lb)
=(2.7 lb NOx/hr)(500 hr/yr)(1 ton/2000 lb)
=0.677

CO Emissions: (Based on Vendor Data)

lb CO/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) = lb/hr
=(1.4 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=1.81

tons CO/yr =(lb CO/hr)(hr/yr)(1 ton/2000 lb)
=(1.8 lb CO/hr)(500 hr/yr)(1 ton/2000 lb)
=0.451

VOC Emissions: (Based on Vendor Data)

lb VOC/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) = lb/hr
=(0.24 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=0.31

tons VOC/yr =(lb VOC/hr)(hr/yr)(1 ton/2000 lb)
=(0.31 lb VOC/hr)(500 hr/yr)(1 ton/2000 lb)
=0.08

SO2 Emissions: (Based on FERC Limits)

lb S/hr =(gr S/100 scf)(MMscf/hr)(1 lb/7000 gr)
=(10 gr S/100 scf)(0.0040 MMscf/hr)(1 lb/7000 gr)
=0.056

lb SO2/hr =(lb S/hr)(2 lb SO2/lb S)
=(0.056 lb S/hr)(2 lb SO2/lb S)
=0.11

tons SO2/yr =(lb SO2/hr)(hr/yr)(1 ton/2000 lb)
=(0.11 lb SO2/hr)(500 hr/yr)(1 ton/2000 lb)
=0.03

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

lb PM/hr =(lb PM/MMBtu)(MMBtu/hr)
=(0.00999 MMBtu/hr)(4.1 MMBtu/hr)
=0.0411

tons PM/yr =(lb PM/hr)(hr/yr)(1 ton/2000 lb)
=(0.041 lb PM/hr)(500 hr/yr)(1 ton/2000 lb)
=0.01

Engine HAP Emissions

GRI-HAPCalc Version 3.1 is a personal computer-based database program that estimates emissions of hazardous air pollutants (HAPs) and criteria pollutants from natural gas industry operations. HAPCalc 3.1 estimates emissions from the following point sources: amine sweetening units, sulfur recovery units, reciprocating engines, combustion turbines, small external combustion devices, flares, liquid hydrocarbon storage tanks, truck loading, miscellaneous process vents, and fugitives.

Emissions are estimated with factors derived from data collected during various GRI Environment and Safety research programs or by the U.S. Environmental Protection Agency (EPA). The GRI Literature database, developed during Phase I of the Air Toxics Program (1990 to 1992), compiled available emission test results from 40 reciprocating engines, 2 gas turbines, and 1 steam generator. The GRI Field Test database, developed from 1994 to 1997, contains GRI test data from 26 engines, 9 gas turbines, and 8 external combustion devices operating at several natural gas transmission, storage, and processing facilities. EPA emission factors are obtained from AP-42, 5th Edition [U.S. Environmental Protection Agency].

Since data are not available for all pollutants for some of the emission factor sets, a hierarchical combination of EPA > GRI Field > GRI Literature was used. Emission factors are prioritized in the listed order.

Engine 2701/2702 HAP Emission Factors and Emissions

Chemical	EF g/bhp-hr	tpy	lbs/hour	Factor Set
Formaldehyde	0.0146323	1.02	0.23224748	EPA
Acetaldehyde	0.0003443	0.02	0.00546481	EPA
1,3-Butadiene	0.0000019	0.00	0.00003016	EPA
Acrolein	0.000034	0.00	0.00053966	EPA
Propional	0.000865	0.06	0.01372949	GRI Field
Propylene Oxide	0.0001248	0.01	0.00198086	EPA
n-Nitrosodimethylamine	0.000001	0.00	0.00001587	EPA
Benzene	0.0006025	0.04	0.00956303	EPA
Toluene	0.0005595	0.04	0.00888052	EPA
Ethylbenzene	0.0001033	0.01	0.0016396	EPA
Xylenes(m,p,o)	0.0001162	0.01	0.00184436	EPA
2,2,4-Trimethylpentane	0.0016053	0.11	0.02547972	GRI Field
n-Hexane	0.0015058	0.10	0.02390043	GRI Field
Phenol	0.0001101	0.01	0.00174753	GRI Field
n-Nitrosomorpholine	0.000001	0.00	0.00001587	EPA
Naphthalene	0.0006025	0.04	0.00956303	EPA
2-Methylnaphthalene	0.0000013	0.00	0.00002063	GRI Field
Biphenyl	0.0003305	0.02	0.00524578	GRI Field
Phenanthrene	0.0000005	0.00	0.00000794	GRI Field
Chrysene	0.000001	0.00	0.00001587	GRI Field
Beryllium	0.0000001	0.00	0.00000159	GRI Field
Phosphorous	0.0000652	0.00	0.00103487	GRI Field
Chromium	0.0000056	0.00	0.00008888	EPA
Chromium	0.0000082	0.00	0.00013015	GRI Field
Manganese	0.0000069	0.00	0.00010952	EPA
Nickel	0.0000061	0.00	0.00009682	GRI Field
Cobalt	0.0000016	0.00	0.0000254	GRI Field
Arsenic	0.0000002	0.00	0.00000317	EPA
Selenium	0.0000003	0.00	0.00000476	GRI Field
Cadmium	0.0000036	0.00	0.00005714	EPA
Mercury	0.0000019	0.00	0.00003016	EPA
Lead	0.0000689	0.00	0.0010936	EPA
TOTALS:	**0.0217114**	**1.51**	**0.3446087**	

Fugitive Leak Emissions

Component	Service	Component Count	Emissions * Factor (ton/yr)	NM/NE Fraction	Emissions (ton/yr)
Valves	Gas	196	0.0434606	0.05	0.43
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	228	0.0037666	0.05	0.04
Open-Ended Line	Gas	70	0.0193158	0.05	0.07
Pumps	Gas	2	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	22	0.0241448	1.00	0.53
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light Oil	30	0.0010624	1.00	0.03
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	30	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	184	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	3	0.0013521	1.00	0.00
Other	Heavy Oil	4	0.0002994	1.00	0.00
				TOTAL:	**1.12**

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

Tank Emission Calculations

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification
Identification No.:	27/cond01
City:	Thonotosassa
State:	FL
Company:	FGT
Type of Tank:	Vertical Fixed Roof
Description:	Condensate Tank

Tank Dimensions
Shell Height (ft):	8.0
Diameter (ft):	9.5
Liquid Height (ft):	8.0
Avg. Liquid Height (ft):	4.5
Volume (gallons):	4242
Turnovers:	0.7
Net Throughput (gal/yr):	3000

Paint Characteristics
Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics
Type:	Cone
Height (ft):	0.00
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

Breather Vent Settings
Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: Tampa, Florida (Avg Atmospheric Pressure = 14.7 psia)

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Pipeline Condensate	All	74.01	68.83	79.19	72.02	0.7084	0.6246	0.8014	53.074			53.00	Option 4: RVP=1.40
Benzene						1.7012	1.4846	1.9432		0.0008	0.0019	78.11	Option 2: A=6.9050,
B=1211.033, C=220.790													
Ethylbenzene						0.1739	0.1467	0.2055		0.0006	0.0001	106.17	Option 2: A=6.9750,
B=1424.255, C=213.210													
Pipeline Condensate						0.7087	0.6249	0.8018		0.9950	0.9963	53.00	Option 4: RVP=1.40
Toluene						0.5036	0.4322	0.5847		0.0016	0.0011	92.13	Option 2: A=6.9540,
B=1344.800, C=219.480													
Xylene (-m)						0.2060	0.1741	0.2428		0.0010	0.0003	106.17	Option 2: A=7.0090,
B=1426.266, C=215.110													
Xylene (-o)						0.1156	0.0969	0.1372		0.0010	0.0002	106.17	Option 2: A=6.9980,
B=1474.679, C=213.690													

Annual Emissions Report

Liquid Contents	Losses (lbs.): Standing	Working	Total
Pipeline Condensate	25.39	2.01	27.41
Benzene	0.05	0.00	0.05
Ethylbenzene	0.00	0.00	0.00
Pipeline Condensate	25.30	2.01	27.30
Toluene	0.03	0.00	0.03
Xylene (-m)	0.01	0.00	0.01
Xylene (-o)	0.00	0.00	0.00
Total:	25.39	2.01	27.41

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	27/oily01
City:	Thonotosassa
State:	FL
Company:	FGT
Type of Tank:	Vertical Fixed Roof
Description:	Oily Water Tank

Tank Dimensions

Shell Height (ft):	8.0
Diameter (ft):	9.5
Liquid Height (ft):	8.0
Avg. Liquid Height (ft):	4.5
Volume (gallons):	4242
Turnovers:	0.7
Net Throughput (gal/yr):	3000

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft):	0.00
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	0.0625

Breather Vent Settings

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

Meteorological Data Used in Emission Calculations: Tampa, Florida (Avg Atmospheric Pressure = 14.7 psia)

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Lube Oil	All	74.01	68.83	79.19	72.02	0.0032	0.0026	0.0039	190.000			190.00	Option 1

Annual Emissions Report

Liquid Contents	Losses (lbs.): Standing	Working	Total
8Lube Oil	0.35	0.04	0.39
Total:	0.35	0.04	0.39