



TITLE V RENEWAL APPLICATION
Texas Eastern Transmission, LP > Accident, Maryland

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1. INTRODUCTION

1.1. INTRODUCTION

Texas Eastern Transmission, LP (Texas Eastern) transports natural gas via underground pipelines from the Gulf Coast region of the United States to the Northeast and mid-Atlantic United States. The gas must be compressed at several compressor stations along the pipeline to ensure efficient transportation and delivery to customers at serviceable pressures. Texas Eastern owns and operates a natural gas compressor station (Accident Compressor Station) located in Accident, Garrett County, Maryland. Texas Eastern operates the existing compressor station under Title V Operating Permit Number 24-023-00081 (effective August 1, 2011), issued by the Maryland Department of the Environment (MDE). The current Title V permit will expire on February 28, 2016.

This document provides the complete Title V permit renewal application for the Accident Compressor Station. This application report also outlines requested changes in the Title V permit and includes a complete regulatory review for the existing emission units at the station.

Texas Eastern believes the information provided herein to be accurate and complete and, as such, Texas Eastern requests that an application shield be granted by the MDE. Under an application shield, Texas Eastern may continue to operate the Accident Compressor Station in accordance with the terms of the existing Title V permit until a renewal permit is issued, even if the issuance would occur after the current permit's expiration date.

1.2. FACILITY BACKGROUND

The Accident Compressor Station is currently a major source with respect to Title V permitting established under the Code of Maryland Regulations (COMAR) 26.11.03. The site is also currently a major source with respect to emissions of Hazardous Air Pollutants (HAPs). Existing permitted emission units at the site are listed in Table 1-1.

Table 1-1. Currently Permitted Emissions Units

Emissions Units ID	ARMA Registration No.	Emissions Unit Description	Date Installed
Eng-92101 Eng-92102	9-0026 9-0027	Two (2) reciprocating internal combustion engines, Dresser Clark TCV-16, 5500 HP 2-stroke lean burn, natural gas fired	1966 1971
Eng-92135	9-0000	Caterpillar G-398, 500 HP, 4-stroke rich burn internal combustion engine, natural gas fired; emergency generator	1965
921WBH01 921WBH04 ¹	5-0043 5-0044	Two (2) water bath heaters, BS&B ² , rated at 15 million Btu/hr, natural gas-fired	2009 2011
921WBH02 921WBH03	5-0018 5-0019	Two (2) water bath heaters, BS&B, rated at 12 million Btu/hr, natural gas fired	1965 1966
921SBH05 921SBH06	5-0022 5-0023	Two (2) salt bath heaters, BS&B, rated at 3 million Btu/hr, natural gas fired	1994 1995

¹ Unit was installed in 2011 to replace an existing unit of the same rating. Texas Eastern is requesting the ID for this emissions unit to remain the same as the unit that was replaced.

² BS&B stands for Black, Sivalls and Bryson

Emissions Units ID	ARMA Registration No.	Emissions Unit Description	Date Installed
TK-02A TK-02B	9-0028	Two (2) pipeline liquids storage tank, 12,600 gallons, vertical, above-ground	1965 1971
PL-TL	N/A	Pipeline liquids truck loading	1965
F-1	N/A	Facility fugitives: blow downs and pipe component	1965
MPV	N/A	Miscellaneous Process Vents (Source control vessels, emergency bypass vents) F-2 (Group designation for multiple emission points throughout the facility)	1965

In addition to the permitted emissions units presented in Table 1-1, Texas Eastern operates several insignificant units at the Accident Compressor Station. These insignificant units are listed in Appendix B.

1.3. REQUESTED PERMIT CHANGES

Texas Eastern requests that the following changes be incorporated into the Accident Compressor Station Title V permit:

- In September 2011, MDE issued a Permit-to-Construct to Texas Eastern for the installation of a one (1) natural gas-fired water bath heater, rated at 15 MMBtu/hr to replace an existing unit. The replaced unit is listed in the current Title V as emissions unit ID 921WBH04 and ARMA registration number 5-0014. Texas Eastern requests that the replaced unit be removed from the Title V permit, and the operating conditions of the 2011 Permit-to-Construct permit be incorporated in the renewed Title V operating permit. The new unit will retain the Emission Unit ID of 921WBH04. The Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3Bs has been included with this renewal application for this unit in Appendix A.
- In 2013 Texas Eastern installed a 24,300 gallon aboveground storage tank (AST) for the storage of wastewater/methanol as a replacement to an existing 60,000 gallon tank. In July 2014, Texas Eastern received a letter from MDE confirming that the installation of the tank would not require a Permit-to-Construct nor be subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Kb, nor any other federal or state emission standard, owing to the lack of significant emissions from the tank. Texas Eastern has included this tank on the list of Insignificant Activities in Appendix B, and requests this tank be included as an Insignificant Activity in the renewed Title V permit.
- Condition 4.2.4C(1) of the Accident Compressor Station’s Title V permit states that for Eng-92102:

“...the Permittee shall operate the engine so as to comply with the NOx emission standard specified in COMAR 26.11.29.05C. Thereafter, operation of the engine with an air manifold pressure (AMP) less than the air manifold pressure set point (AMP_{SP}) shall constitute a violation of this regulation unless the Permittee can otherwise show that the engine operated in compliance with this regulation.”

In a memo submitted to the MDE on January 5, 2015, Texas Eastern demonstrated that under normal operating conditions, instances where AMP is slightly less than AMP_{SP} do not result in a violation of the applicable emission standard. Based upon subsequent discussions with the MDE, Texas Eastern is working with the MDE to amend this condition in Permit to Construct 023-9-0026 and -0027 M for Eng-92102 to reflect the demonstration conducted by Texas Eastern. Texas Eastern requests that the MDE include the revised condition language in the renewed Title V permit when the amended construction permit is issued.

1.4. TITLE V RENEWAL APPLICATION ORGANIZATION

This application is comprised of the following sections:

- An application narrative which includes descriptions of the emission units at the Accident Compressor Station, a description of the requested changes to the permit, a review of the applicability of federal and state air pollution regulations, and the determination of the applicability of the Compliance Assurance Monitoring (CAM) Plan.

- Appendices containing the following information:
 - MDE Title V Renewal Application Forms
 - MDE Checklist of Insignificant Activities
 - Process Flow Diagrams for the Accident Compressor Station
 - Accident Compressor Station Plot Plan
 - MDE Application Completeness Checklist
 - Potential to Emit Calculations for the Station
 - Maryland Comptroller Form (House Bill 935)
 - Annual Emissions Report (2013)

2. APPLICABLE REGULATIONS

This section discusses the applicability of federal and state air quality regulations to the emission units at the Accident Compressor Station. Section 3B of the application forms provided in Appendix A documents the applicable federal and state standards that are not state-only enforceable requirements for the facility. The discussion in this section is provided to supplement and/or clarify the information provided in the forms. In addition to providing a summary of applicable requirements, non-applicability determinations are also discussed for certain regulations where there may be some question of applicability specific to the operations at the site. Categorically non-applicable regulations are not discussed.

Applicability or non-applicability of the following regulatory programs is addressed:

- Title V of the 1990 Clean Air Act Amendments;
- EPA's Greenhouse Gas (GHG) Tailoring Rule;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Prevention of Significant Deterioration of Air Quality (PSD)/Nonattainment New Source Review (NSR);
- Compliance Assurance Monitoring (CAM);
- Code of Maryland Regulations (COMAR);
- Risk Management Plan (RMP); and
- Ozone Depleting Substances (ODS).

2.1. TITLE V OPERATING PERMIT PROGRAM

The Title V Operating Permit program (COMAR 26.11.03) applies to stationary sources that are considered major with the potential to emit over 100 tons per year (tpy), or a lower major source threshold defined by non-attainment status, of any individual criteria air pollutant, 10 tpy of any individual HAP, or 25 tpy of combined HAPs. Maryland is located in the Ozone Transport Region and therefore the major source threshold for NO_x and VOCs are 100 tpy and 50 tpy, respectively.³ Because the station has the potential to emit over 100 tpy NO_x, it is subject to Title V permitting and is operating under state-issued Part 70 Operating Permit No. 24-023-00081.

2.2. EPA'S TAILORING RULE

On June 3, 2010, the EPA published the Tailoring Rule in the Federal Register which establishes an approach to addressing greenhouse gases (GHGs) from stationary sources under Clean Air Act (CAA) permitting programs (PSD and Title V).⁴ On June 23, 2014, the Supreme Court issued a decision that said the EPA may not treat greenhouse gases as an air pollutant for purposes of determining whether a source is a major source required to obtain a Title V permit.⁵ However, for reference purposes, Texas Eastern has included the facility-wide total potential to emit (PTE) of carbon dioxide equivalent (CO_{2e}) in Section 5 Summary Sheet of Potential Emissions of the permit application forms contained in Appendix A to this report.

³ Major source thresholds are found in COMAR 26.11.02.01C(1).

⁴ Federal Register, Volume 75, No. 106, 6/3/2010.

⁵ *Utility Air Regulatory Group v. EPA* (No. 12-1146).

At this time, the only GHG-related regulatory requirement to which the facility is potentially subject is the EPA's Mandatory GHG Reporting Rule (40 CFR Part 98). However, this reporting rule is not considered an applicable requirement under Title V.⁶ Therefore, this requirement will not be discussed further in this application.

2.3. NEW SOURCE PERFORMANCE STANDARDS

NSPS, located in Title 40 of the Code of Federal Regulations Part 60 (40 CFR Part 60), require new, modified, or reconstructed sources in applicable source categories to control emissions to the level achievable by the best demonstrated technology (BDT) as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. NSPS are developed for particular industrial source process or equipment categories. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the Accident Compressor Station.

2.3.1. 40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

NSPS Subpart Dc applies to owners and operators of steam generating units for which construction, modification or reconstruction is commenced after June 9, 1989, that have a maximum design heat input capacity of less than or equal to 100 MMBtu/hr, but greater than or equal to 10 MMBtu/hr.

All four of the water bath heaters at the Accident Compressor Station meet the heat input size threshold for NSPS Subpart Dc. Both of the salt bath heaters are smaller than 10 MMBtu/hr and are therefore not subject to this rule. Only the two (2) 15 MMBtu/hr water bath heaters were constructed after the compliance date, and therefore they are the only units subject to the rule. Both units burn only natural gas, and are subject to the initial notification requirements under 40 CFR 60.48c(a):

The owner or operator shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include: (1) The design heat capacity of the affected facility and fuels to be combusted in the affected facility (3) The annual capacity at which the owner or operator anticipates operating the affected facility based on all fuels fired.

Both units are also subject to the recordkeeping requirements under 40 CFR 60.48c(g), which require records be kept of the amount of fuel combusted in each unit. Texas Eastern will continue to comply with applicable requirements.

2.3.2. 40 CFR Part 60, Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978

NSPS Subpart K applies to storage vessels for petroleum liquids which have a storage capacity of greater than 40,000 gallons but not exceeding 65,000 gallons that commenced construction, reconstruction or modification after March 8, 1974, but before May 19, 1978 or have a capacity greater than 65,000 gallons that commenced construction or modification after June 11, 1973, but prior to May 19, 1978.

⁶ Federal Register, Volume 74, No. 209, 10/30/2009. "As currently written, the definition of 'applicable requirement' in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today's action, which is promulgated under CAA sections 114(a)(1) and 208." (page 56288).

All of the storage tanks at the Accident Compressor Station are smaller than 40,000 gallons; therefore they are exempt from this rule.

2.3.3. 40 CFR Part 60, Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

NSPS Subpart Ka applies to storage vessels for petroleum liquids which have a storage capacity of greater than 40,000 gallons that commenced construction, reconstruction or modification after May 18, 1978, but before July 23, 1984. All of the storage tanks at the Accident Compressor Station are smaller than 40,000 gallons; therefore they are exempt from this rule.

2.3.4. 40 CFR Part 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

NSPS Subpart Kb applies to storage vessels with capacities greater than or equal to 75 m³ (19,813 gallons) that are used to store volatile organic liquids for which construction, reconstruction or modification commenced after July 23, 1984. The rule does not apply to storage vessels with a capacity greater than or equal to 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than 19,813 gallons but less than 39,890 gallons storing a liquid with a maximum true vapor pressure of less than 15.0 kPa. The 24,300 gallon wastewater/methanol tank at the Accident Compressor station is potentially subject to this rule, however the material stored in this tank has a maximum true vapor pressure of less than 15.0 kPa. Therefore this tank is exempt from the regulation. All other tanks at the station are smaller than the 19,813 gallon threshold, and are therefore not subject to this rule.

2.3.5. 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

NSPS Subpart JJJJ applies to owners and operators of stationary spark ignition (SI) internal combustion engines (ICE) that commence construction after June 12, 2006, and are manufactured:

- On or after July 1, 2007 for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 hp);
- On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;
- On or after July 1, 2008 for engines with a maximum engine power less than 500 HP; or
- On or after January 1, 2009 for emergency engines with a maximum engine power greater than 25 HP.

NSPS Subpart JJJJ is potentially applicable to the two (2) 5,500 HP Dresser Clark 2-stroke lean burn natural gas-fired engines, the one (1) 500 HP Caterpillar 4-stroke rich burn natural-gas fired emergency generator engine, and the one (1) 470 HP Waukesha natural gas-fired emergency generator engine. The two (2) Dresser Clark engines are not subject to NSPS Subpart JJJJ because they were manufactured prior to the applicability date above. In addition, the two emergency generator engines are not subject to NSPS Subpart JJJJ because they were also manufactured prior to the applicability date of January 1, 2009. Therefore, none of the engines at the Accident Compressor Station are subject to NSPS Subpart JJJJ.

2.3.6. 40 CFR Part 60, Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution

NSPS Subpart OOOO applies to owners and operators of several types of facilities related to the production, transmission, or storage of crude oil or natural gas that commenced construction, modification or reconstruction after August 23, 2011. The only unit at the Accident Compressor Station that was constructed, modified or reconstructed after this compliance date is the 24,300 gallon wastewater/methanol AST that was installed in 2013. However, this tank does not meet the definition of any of the affected facilities subject to the rule. Therefore, no units at the site are subject to NSPS Subpart OOOO.

2.4. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP OR MACT)

NESHAP are generally applicable to sources of HAPs. Part 61 NESHAP standards are defined for specific pollutants while Part 63 NESHAP standards are for source categories where allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAPs or potential emissions in excess of 10 tpy for any individual HAP. NESHAPs apply to sources in specifically regulated industrial source categories (CAA Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type. The Accident Compressor Station is currently classified as a major source for HAP emissions due to emissions of formaldehyde and hexane.

The following sections evaluate applicability to relevant 40 CFR Part 63 standards.

2.4.1. 40 CFR Part 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities

Per 40 CFR 63.760(a) and (b), for major sources of HAP, Subpart HH applies to facilities that process, upgrade, or store hydrocarbon liquids. The natural gas production facilities to which the rule applies ends at the point that the natural gas enters a facility in the natural gas transmission and storage category per 40 CFR 63.760(a)(3). The Accident Compressor Station is considered a natural gas transmission and storage facility; therefore, Subpart HH does not apply.

2.4.2. 40 CFR Part 63, Subpart HHH - National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities

Per 40 CFR 63.1270(a) and (b), Subpart HHH applies to glycol dehydration units at major sources of HAP. Since Texas Eastern does not operate any glycol dehydration units at the Accident Compressor Station, this regulation does not apply to the station per 40 CFR 63.1270(c).

2.4.3. 40 CFR Part 63, Subpart ZZZZ - Stationary Reciprocating Internal Combustion Engines

NESHAP Subpart ZZZZ was first promulgated on June 15, 2004 and applied only to stationary reciprocating internal combustion engines (RICE) with a site rating > 500 HP at major HAP sources. The rule was amended in 2008 and again in 2010. NESHAP Subpart ZZZZ applies to both new and existing reciprocating internal combustion engines (RICE) located at major and area sources.

NESHAP Subpart ZZZZ potentially applies to the two (2) 5,500 HP Dresser Clark 2-stroke lean burn natural gas-fired engines, the one (1) 500 HP Caterpillar 4-stroke rich burn natural-gas fired emergency generator engine, and the one (1) 470 HP Waukesha natural gas-fired emergency generator engine.

According to 40 CFR 63.6590(a)(1)(i), stationary RICE with a site rating of more than 500 HP located at a major source of HAP emissions are existing RICE if construction or reconstruction was commenced before December 19, 2002. The two Dresser Clark engines were installed before this date and therefore, are considered existing stationary RICE.

According to 40 CFR 63.6590(b)(3)(i), existing spark ignition 2 stroke lean burn stationary RICE with a site rating of more than 500 HP located at a major source of HAP emissions do not have to meet any requirements under NESHAP Subpart ZZZZ or NESHAP Subpart A, including the initial notification requirements. Therefore, the two Dresser Clark engines are not subject to any requirements under NESHAP Subpart ZZZZ.

According to 40 CFR 63.6590(a)(1)(ii), stationary RICE with a site rating of 500 HP or less located at a major source of HAP emissions are existing RICE if construction or reconstruction was commenced before June 12, 2006. The two emergency generator engines were installed before this date and therefore, are considered existing stationary RICE.

Both emergency generator engines are subject to several work practice and recordkeeping requirements under NESHAP Subpart ZZZZ. Detailed descriptions of the requirements and proposed methods of compliance demonstration are provided in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-15 in Appendix A. Texas Eastern will continue to operate and maintain the engines in compliance with all requirements.

2.4.4. 40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

NESHAP Subpart DDDDD establishes emission limitations and work practice standards for HAP emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This regulation is potentially applicable to the water bath and salt bath heaters at the Accident Compressor Station.

All but one of the existing natural gas-fired heaters at the facility were constructed before June 4, 2010. Therefore these units are considered existing units in accordance with 40 CFR 63.7490(d). One 15 MMBtu/hr water bath heater was installed in 2011 (ARMA registration number 5-0044), and is considered a new unit.

The heaters burn natural gas; therefore, they are considered Gas 1 units under the rule. Detailed descriptions of the requirements and proposed methods of compliance demonstration are provided in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Forms 3B-18 and 19 in Appendix A. Texas Eastern was required to submit an Initial Notification pursuant to 40 CFR 63.7545(b) no later than 120 days after January 31, 2013. This notification was submitted by the required deadline. Additionally, per 40 CFR 63.7545(e), a Notification of Compliance Status (NOCS) is required to be submitted within 60 days of the initial tune-up and energy assessment for each subject existing or new unit, as applicable, which must be conducted by January 31, 2016.

2.5. PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY/NEW SOURCE REVIEW

There are no installations or activities that would subject the source to PSD or NSR. In order to avoid triggering nonattainment New Source Review, Permits to Construct were issued on July 11, 2006 that placed explicit Federally enforceable limits on the premises-wide emissions of NO_x, CO, and VOC. Texas Eastern will continue to comply with all applicable requirements.

2.6. COMPLIANCE ASSURANCE MONITORING

The CAM regulations under 40 CFR Part 64 apply to pollutant-specific emission units (PSEU) at a major source that have pre-control device emissions greater than the Title V major source threshold(s) and use a control device to achieve compliance with an emission limitation or standard. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices. Both two (2) 5,500 HP Dresser Clark engines utilize oxidation catalysts to control emissions. However, the potential pre-control emissions from these units are less than the Title V major source thresholds. Although the uncontrolled emissions of the HAP formaldehyde from each engine would exceed 10 tpy, the major source threshold for any individual HAP, HAP standards are exempt from CAM under 40 CFR 64.2(b)(1)(i) as "*an emission limitation or standard proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.*" As such, CAM is not applicable to the oxidation catalysts.

2.7. CODE OF MARYLAND REGULATIONS

This section of the report lists the regulations contained in the COMAR that potentially apply to the Accident Compressor Station. For the purposes of the COMAR regulations, the state is segregated into specific areas. The Accident Compressor Station, located in Garrett County, is classified as Area I in accordance with COMAR 26.11.01.03. Note that this section of the report only highlights the key applicable requirements and does not discuss the general requirements in COMAR that are applicable to all facilities [e.g., toxic air pollutants (TAPs)].

2.7.1. COMAR 26.11.09.05A - Visible Emissions from Fuel Burning Equipment

COMAR 26.11.09.05A(1) limits visible emissions from fuel burning equipment, other than water in an uncombined form, to less than 20 percent opacity for sources located in Area I regions of the state. Per COMAR 26.11.09.05A(3), this regulation does not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if the visible emissions are not greater than 40 percent opacity and the visible emissions do not occur for more than six (6) consecutive minutes in any sixty minute period. This regulation applies to the water bath heaters and salt bath heaters at the Accident Compressor Station. Compliance is demonstrated with this limitation by the use of natural gas heaters and operating the units in accordance with manufacturer recommendations.

2.7.2. COMAR 26.11.09.05E - Visible Emissions from Stationary Internal Combustion Engines

COMAR 26.11.09.05E(2) prohibits visible emissions from any engine, operating at idle, greater than 10 percent opacity. Per COMAR 26.11.09.05E(3), visible emissions from any engine, operating at other than idle conditions, is limited to 40 percent opacity. The exceptions to the standard include the following per COMAR 26.11.09.05E(4):

- Visible emissions may exceed 10 percent opacity for a period of two (2) consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system and emissions resulting

directly from cold engine start-up and warm-up for 30 minutes when not in service or 15 minutes for all other engines.

- The 10 percent opacity limit during idle and the 40 percent opacity limit during other conditions do not apply while maintenance repair, or testing is being performed by qualified mechanics.

This regulation applies to each the engines at the Accident Compressor Station. Texas Eastern demonstrates compliance with this limitation through the use of natural gas and operating the engines in accordance with manufacturer recommendations.

2.7.3. COMAR 26.11.09.08 - Control of NO_x Emissions for Major Stationary Sources

COMAR 26.11.09.08 contains requirements for owners or operators of an installation that causes emissions of NO_x and is located at premises that have a total potential to emit greater than the major source threshold for NO_x. COMAR 26.11.09.08I(3) states that owners or operators of a stationary internal combustion engine at a natural gas pipeline combustion station with a capacity factor over 15 percent shall employ either parametric optimization or engine rebuild to meet the following NO_x emission limits:

- Per COMAR 26.11.09.08I(3)(a), facilities with five or less engines shall meet a combined maximum hourly emission rate of 300 pounds per hour

This regulation applies to both 5,500 HP Dresser Clark engines at the Accident Compressor Station. Texas Eastern will continue to operate in accordance with this requirement using the compliance methods described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Forms 3B-2 and 7 in Appendix A.

COMAR 26.11.09.08E contain requirements for owners or operators of fuel-burning equipment of 100 MMBtu/hr or less to perform a combustion analysis and optimization at least once per year. In addition, it requires operators to attend a training program on combustion optimization once every three years. This regulation applies to the water bath heaters and salt bath heaters at the Accident Compressor Station. Texas Eastern will continue to operate in accordance with this regulation using the compliance methods described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-17 and in Appendix A.

COMAR 26.11.09.08G contains requirements for owners or operators of fuel-burning equipment with a capacity factor of 15 percent or less to perform a combustion analysis and optimization annually if the engine operates for greater than 500 hours in a calendar year. In addition, it requires operators to attend a training program on combustion optimization once every three years. This regulation applies to the 500 HP Caterpillar 4-stroke rich burn natural-gas fired emergency generator engine, as well as the 470 HP Waukesha emergency generator listed as an insignificant activity in Appendix B. Texas Eastern will continue to operate in accordance with this regulation using the compliance methods described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-12 in Appendix A.

2.7.4. COMAR 26.11.13.04 - Control of Gasoline and Volatile Organic Compound Storage and Handling: Loading Operations

COMAR 26.11.13.04D contains general standards for the loading of VOCs having a true vapor pressure of 1.5 psia or greater. These standards include the requirement that loading connections on the vapor lines be equipped with fittings that have no leaks and automatically close upon disconnection. Equipment must also be maintained to prevent avoidable leaks during loading and unloading operations. The regulation applies to the

two pipeline liquids storage tanks and pipeline liquids tank truck loading operations at the Accident Compressor Station. Texas Eastern complies with this regulation through routine inspections of each tank truck loading operations, as described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-21.

2.7.5. COMAR 26.11.19 - Volatile Organic Compounds from Specific Processes

COMAR 26.11.19.02 contains standards for the control of VOC emissions from specific processes. The regulation applies to the two pipeline liquids storage tanks and pipeline liquids tank truck loading operations at the Accident Compressor Station. Texas Eastern will continue to comply with this regulation by including emissions from the storage tanks in its annual emissions certification report, as described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-22.

COMAR 26.11.19.09D contains requirements related to cold degreasing operations. This regulation applies to the Safety Kleen parts washer that is listed as an insignificant activity in Appendix B. Texas Eastern will continue to comply with this regulation by using only degreasing material that is in compliance with the rule, as well as continuing to use good operating practices.

2.7.6. COMAR 26.11.29.05 - Emission Reduction Requirements for Stationary Internal Combustion Engines at Natural Gas Pipeline Compression Stations

COMAR 26.11.29.05 applies to stationary internal combustion engines of a certain size located at a natural gas pipeline compressor station that had average daily emissions of 1 ton or more of NO_x per day for the 1995 or 1996 control periods. Engine 92102 (5,500 HP Dresser Clark) is subject to this rule, and must meet the following emission limitation:

- Per COMAR 26.11.29.05(B)(1), on or before May 1, 2003, meet the applicable NO_x emission standard of 125 ppmv at 15% oxygen.

Texas Eastern will continue to operate in accordance with this requirement as described in Section 3B Citation to and Description of Applicable Federally Enforceable Requirements Form 3B-8 in Appendix A.

2.7.7. COMAR 26.11.36.03- Emergency Generators and Load Shaving Units NO_x Requirements

COMAR 26.11.36.03 contains requirements for the operation of emergency generators and load shaving units. This rule applies to both emergency generator engines at the Accident Compressor Station; however, the only requirement in this rule applicable to the engines is COMAR 26.11.36.03A(5). This requirement states that the owner or operator of an emergency generator may not operate the engine for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary. Texas Eastern will comply with this requirement.

2.8. RISK MANAGEMENT PLAN REGULATIONS

Subpart B of 40 CFR 68 outlines requirements for RMP pursuant to Section 112(r) of the Clean Air Act. Applicability of this subpart is determined based on the type and quantity of chemicals stored at a facility. There are no listed substances stored at quantities greater than the corresponding threshold. Therefore, the site is not subject to RMP requirements.

2.9. OZONE DEPLETING REGULATIONS

Subpart F of 40 CFR 82 outlines requirements for the ODS regulations. Texas Eastern must comply with the following ozone depleting regulations:

- Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.
- Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
- Owners will certify recovery and recycling equipment with the Administrator pursuant to 40 CFR 82.162.
- Persons disposing of small appliances, motor vehicle air conditioning systems (MVACS), and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.166.
- Persons owning commercial or industrial process refrigeration equipment or comfort cooling appliances normally containing more than 50 pounds of refrigerant shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
- Owners/operators of appliances normally containing more than 50 pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

Texas Eastern will continue to operate in compliance with the applicable ODS regulations.

APPENDIX A: TITLE V RENEWAL APPLICATION FORMS

PART 70 PERMIT APPLICATION FOR RENEWAL
 AIR AND RADIATION MANAGEMENT ADMINISTRATION

Facilities required to obtain a Part 70 permit under COMAR 26.11.03.01 must complete and return this form. Applications are incomplete unless all applicable information required by COMAR 26.11.03.03 and 26.11.03.13 is supplied. Failure to supply additional information required by the Department to enable it to act on the application may result in loss of the application shield and denial of this application.

Owner and Operator:

Name of Owner or Operator: Texas Eastern Transmission, LP		
Street Address: P.O. Box 1642		
City: Houston	State: TX	Zip Code: 77251-1642
Telephone Number (713) 627-5400	Fax Number (713) 989-8347	

Facility Information:

Name of Facility: Accident Compressor Station		
Street Address: 196 Texas Eastern Drive		
City: Accident	State: MD	Zip Code: 21520
Plant Manager: Justin Rose	Telephone Number: (301) 746-8138	Fax Number: (301) 746-8440
24-Hour Emergency Telephone Number for Air Pollution Matters: (301) 746-8138		

List, on a separate page, the names and telephone numbers of other facility owners and persons with titles.



SECTION 1. CERTIFICATION STATEMENTS

1. Compliance Status with Applicable Enhanced Monitoring and Compliance Certification Requirements

The emissions units identified in this application are in compliance with applicable enhanced monitoring and compliance certification requirements.

2. Certification of Current Compliance with All Applicable Federally Enforceable Requirements

Except for the requirements identified in Section 7 of this application, for which compliance is not achieved, I hereby certify, based on information and belief formed after reasonable inquiry, that the facility is currently in compliance with all applicable federally enforceable requirements and agree that the facility will continue to comply with those requirements during the permit term.

You must complete a Section 7 form for each non-complying emissions unit.

3. Statement of Compliance with Respect to All New Applicable Requirements Effective During the Permit Term

I hereby state, based on information and belief formed after reasonable inquiry, that the facility agrees to meet, in a timely manner, all applicable federally enforceable requirements that become effective during the permit term, unless a more detailed schedule is expressly required by the applicable requirement.

4. Risk Management Plan Compliance

I hereby certify that, based on information and belief formed after reasonable inquiry, that a Risk Management Plan as required under _112(r) of the Clean Air Act:

has been submitted;

will be submitted at a future date; or

does not need to be submitted.



5. Statement of Truth, Accuracy, and Completeness

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision and in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

RESPONSIBLE OFFICIAL:

X _____

SIGNATURE

DATE

Tom V. Wooden

PRINTED NAME

Vice President – Field Operations

TITLE



SECTION 2. FACILITY DESCRIPTION SUMMARY

1. Major Activities of Facility

Briefly describe the major activities, including the applicable SIC Code(s) and end product(s).

The Accident Compressor Station is located in Accident, Garrett County, Maryland. This station compresses natural-gas that is delivered via underground pipelines to the Northeast and mid-Atlantic United States. The station consists of two (2) natural gas-fired reciprocating internal combustion engines, several water and salt bath heaters, one (1) natural gas-fired emergency generator, two (2) tanks for the storage of pipeline liquids, and several other insignificant activities.

The primary SIC code for the Accident Compressor Station is 4922, natural gas transmission.

2. Facility-Wide Emissions

A. This facility is required to obtain a Part 70 Operating Permit because it is:
Check appropriate box:

- Actual Major
- Potential Major
- Solid Waste Incineration Unit Requiring Permit Under § 129(e) of CAA

B. List the actual facility-wide emissions below: **[as reported in tons in 2013]**

PM10: 5.72 NOx: 38.04 VOC: 43.27 SOx: 0.09 CO: 17.74 HAPs: 6.55

3. Include With the Application:

Flow Diagrams showing all emissions units, emission points, and control devices;

Emissions Certification Report (copy of the most recent submitted to the Department.)

Flow Diagrams and 2013 Emissions Certification Report included in Appendices C and H, respectively, of this application.



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-1. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : Eng-92101 1a. Date of installation (month/year): 1966	2. MDE Registration No.:(if applicable) 9-0026									
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): Dresser Clark TCV-16, 5500 HP, 2SLB, natural gas-fired reciprocating engine. [Emission Point: E-1]										
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: 14,000 hours/year combined with Eng-92102 General Reference: <u>Part 70 Operating Permit 24-023-00081 Condition 4.1.2D(3)</u> Continuous Processes: <u>24</u> hours/day <u>365</u> days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year										
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;">Type(s) of Fuel</th> <th style="width:30%;">% Sulfur</th> <th style="width:40%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pipeline natural gas</u></td> <td></td> <td><u>301.961 MMscf</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Pipeline natural gas</u>		<u>301.961 MMscf</u>	2. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)								
1. <u>Pipeline natural gas</u>		<u>301.961 MMscf</u>								
2. _____		_____								
6. Emissions in Tons: A. Actual Major: _____ Potential Major: <u>X</u> (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>20.88</u> SOx: <u>0.03</u> VOC: <u>6.07</u> PM10: <u>2.77</u> HAPs: <u>2.28</u> (HCHO)										



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-2. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : Eng-92102 1a. Date of installation (month/year): 1971	2. MDE Registration No.:(if applicable) 9-0027									
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): Dresser Clark TCV-16, 5500 HP, 2SLB, natural gas-fired reciprocating engine. [Emission Point: E-2]										
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: 14,000 hours/year combined with Eng-92101 General Reference: <u>Part 70 Operating Permit 24-023-00081 Condition 4.1.2D(3)</u> Continuous Processes: <u>24</u> hours/day <u>365</u> days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year										
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pipeline natural gas</u></td> <td></td> <td><u>301.961 MMscf</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Pipeline natural gas</u>		<u>301.961 MMscf</u>	2. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)								
1. <u>Pipeline natural gas</u>		<u>301.961 MMscf</u>								
2. _____		_____								
6. Emissions in Tons: A. Actual Major: _____ Potential Major: <u>X</u> (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>12.79</u> SOx: <u>0.03</u> VOC: <u>4.61</u> PM10: <u>2.64</u> HAPs: <u>2.18</u> (HCHO)										



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-3. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : Eng-92135 1a. Date of installation (month/year): 1965	2. MDE Registration No.:(if applicable) 9-0000												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): Caterpillar G-398, 500 HP, 4SRB, natural gas-fired emergency generator reciprocating engine. [Emission Point: E-3]													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: _____ hours/day _____ days/year Batch Processes: _____ <500 hours/year _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Type(s) of Fuel</th> <th style="width:20%;">% Sulfur</th> <th style="width:40%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Pipeline natural gas</td> <td></td> <td>2.277 MMscf</td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Pipeline natural gas		2.277 MMscf	2. _____		_____	3. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Pipeline natural gas		2.277 MMscf											
2. _____		_____											
3. _____		_____											
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: 0.05 SOx: 1.0E-05 VOC: 0.0007 PM10: 4.55E-04 HAPs: 4.81E-04 (HCHO)													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-4. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : 921WBH01 (Htr-1) 1a. Date of installation (month/year): 6/2009	2. MDE Registration No.:(if applicable) 5-0043												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): BS&B Water Bath Heater, 15.0 MMBtu/hr. [Emission Point: H-1]													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: ___ 24 ___ hours/day ___ 365 ___ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pipeline natural gas</u></td> <td></td> <td><u>128.824 MMscf</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Pipeline natural gas</u>		<u>128.824 MMscf</u>	2. _____		_____	3. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Pipeline natural gas</u>		<u>128.824 MMscf</u>											
2. _____		_____											
3. _____		_____											
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>0.70</u> SOx: <u>0.004</u> VOC: <u>0.04</u> PM10: <u>0.05</u> HAPs: <u>5.25E.04</u> (HCHO)													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-5. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : 921WBH02 (Htr-2) 1a. Date of installation (month/year): 1965	2. MDE Registration No.:(if applicable) 5-0018												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): BS&B Water Bath Heater, 12.0 MMBtu/hr. [Emission Point: H-2]													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: ___ 24 ___ hours/day ___ 365 ___ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Type(s) of Fuel</th> <th style="width:20%;">% Sulfur</th> <th style="width:40%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Pipeline natural gas</td> <td></td> <td>103.059 MMscf</td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Pipeline natural gas		103.059 MMscf	2. _____		_____	3. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Pipeline natural gas		103.059 MMscf											
2. _____		_____											
3. _____		_____											
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>0.56</u> SOx: <u>0.003</u> VOC: <u>0.03</u> PM10: <u>0.04</u> HAPs: <u>4.20E.04</u> (HCHO)													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-6. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : 921WBH03 (Htr-3) 1a. Date of installation (month/year): 1966	2. MDE Registration No.:(if applicable) 5-0019												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): BS&B Water Bath Heater, 12.0 MMBtu/hr. [Emission Point: H-3]													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: ___ 24 ___ hours/day ___ 365 ___ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Type(s) of Fuel</th> <th style="width:20%;">% Sulfur</th> <th style="width:40%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. Pipeline natural gas</td> <td></td> <td>103.059 MMscf</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. Pipeline natural gas		103.059 MMscf	2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. Pipeline natural gas		103.059 MMscf											
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>0.56</u> SOx: <u>0.003</u> VOC: <u>0.03</u> PM10: <u>0.04</u> HAPs: <u>4.20E-04</u> (HCHO)													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-7. EMISSIONS UNIT DESCRIPTIONS

<p>1. Emissions Unit No. : 921WBH04 (Htr-4)</p> <p>1a. Date of installation (month/year): 2011</p>	<p>2. MDE Registration No.:(if applicable)</p> <p>5-0044</p>												
<p>3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):</p> <p>BS&B Water Bath Heater, 15.0 MMBtu/hr.</p> <p>[Emission Point: H-4]</p>													
<p>4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:</p> <p>General Reference: _____</p> <p>Continuous Processes: ___ 24 ___ hours/day ___ 365 ___ days/year</p> <p>Batch Processes: _____ hours/batch _____ batches/day</p> <p style="padding-left: 100px;">_____ days/year</p>													
<p>5. Fuel Consumption:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 60%;">Type(s) of Fuel</th> <th style="text-align: left; width: 20%;">% Sulfur</th> <th style="text-align: left; width: 20%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pipeline natural gas</u></td> <td></td> <td><u>128.824 MMscf</u></td> </tr> <tr> <td>2. _____</td> <td></td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td></td> <td>_____</td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. <u>Pipeline natural gas</u>		<u>128.824 MMscf</u>	2. _____		_____	3. _____		_____
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. <u>Pipeline natural gas</u>		<u>128.824 MMscf</u>											
2. _____		_____											
3. _____		_____											
<p>6. Emissions in Tons:</p> <p>A. Actual Major: _____ Potential Major: _____ (note: before control device)</p> <p>B. Actual Emissions (2013): NOx: <u>0.71</u> SOx: <u>0.004</u> VOC: <u>0.04</u> PM10: <u>0.05</u> HAPs: <u>5.35E-04</u> (HCHO)</p>													



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-9. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No. : 921SBH06 (Htr-6)	2. MDE Registration No.:(if applicable)
1a. Date of installation (month/year): 1995	5-0023
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): BS&B Water Bath Heater, 3.0 MMBtu/hr. [Emission Point: H-6]	
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: ___ 24 ___ hours/day ___ 365 ___ days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year	
5. Fuel Consumption:	
Type(s) of Fuel	% Sulfur
1. <u>Pipeline natural gas</u>	<u>25.765 MMscf</u>
2. _____	_____
3. _____	_____
6. Emissions in Tons:	
A. Actual Major: _____ Potential Major: _____ (note: before control device)	
B. Actual Emissions (tons in 2013): NOx: <u>0.86</u> SOx: <u>0.005</u> VOC: <u>0.05</u> PM10: <u>0.07</u> HAPs: <u>6.46E-04</u> (HCHO)	



MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-10. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: TK-02A (Tank-1) 1a. Date of installation (month/year): 1965	2. MDE Registration No.:(if applicable) 9-0028												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <hr/> <u>Pipeline liquids storage tank, 12,600 Gallon AST, vertical orientation</u> <hr/> <u>Maximum annual throughput: 201,600 gallons</u> <hr/> <u>Emission Point: T-1</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: <u> 24 </u> hours/day <u> 365 </u> days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: N/A <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Type(s) of Fuel</th> <th style="text-align: left; width: 20%;">% Sulfur</th> <th style="text-align: left; width: 40%;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. _____</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. _____			2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. _____													
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>N/A</u> SOx: <u>N/A</u> VOC: <u>1.57</u> PM10: <u>N/A</u> HAPs <u>6.92E-03</u> (Benzene)													

MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-11. EMISSIONS UNIT DESCRIPTIONS

<p>1. Emissions Unit No.: TK-02B (Tank-2)</p> <p>1a. Date of installation (month/year): 1965</p>	<p>2. MDE Registration No.:(if applicable)</p> <p>9-0028</p>												
<p>3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):</p> <hr/> <p><u>Pipeline liquids storage tank, 12,600 Gallon AST, vertical orientation</u></p> <hr/> <p><u>Maximum annual throughput: 201,600 gallons</u></p> <hr/> <p><u>Emission Point: T-2</u></p> <hr/> <hr/> <hr/> <hr/> <hr/>													
<p>4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____</p> <p>Continuous Processes: <u>24</u> hours/day <u>365</u> days/year</p> <p>Batch Processes: _____ hours/batch _____ batches/day</p> <p> _____ days/year</p>													
<p>5. Fuel Consumption: N/A</p> <table style="width:100%; border: none;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: left;">% Sulfur</th> <th style="text-align: left;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. _____</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. _____			2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. _____													
2. _____													
3. _____													
<p>6. Emissions in Tons:</p> <p>A. Actual Major: _____ Potential Major: _____ (note: before control device)</p> <p>B. Actual Emissions (tons in 2013): NOx: <u>N/A</u> SOx: <u>N/A</u> VOC: <u>1.57</u> PM10: <u>N/A</u> HAPs: <u>6.92E-03</u> (Benzene)</p>													

MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-12. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: PL-TL 1a. Date of installation (month/year): 1965	2. MDE Registration No.:(if applicable) N/A												
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s): <hr/> <u>Pipeline liquids truck loading</u> <hr/> <u>Emission Point: PL-TL</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>													
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____ Continuous Processes: <u>24</u> hours/day <u>365</u> days/year Batch Processes: _____ hours/batch _____ batches/day _____ days/year													
5. Fuel Consumption: <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type(s) of Fuel</th> <th style="text-align: center;">% Sulfur</th> <th style="text-align: right;">Annual Usage (specify units)</th> </tr> </thead> <tbody> <tr> <td>1. _____</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> </tr> </tbody> </table>		Type(s) of Fuel	% Sulfur	Annual Usage (specify units)	1. _____			2. _____			3. _____		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)											
1. _____													
2. _____													
3. _____													
6. Emissions in Tons: A. Actual Major: _____ Potential Major: _____ (note: before control device) B. Actual Emissions (tons in 2013): NOx: <u>N/A</u> SOx: <u>N/A</u> VOC: <u>0.02</u> PM10: <u>N/A</u> HAPs: <u>0.0</u>													

MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3A-14. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: MPV (Miscellaneous Process Vents)	2. MDE Registration No.:(if applicable)	
1a. Date of installation (month/year): ~1965	N/A	
3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):		
Miscellaneous Process Vents (Source control vessels, emergency bypass vents)		
Emissions Point: F-2 (Group designation for multiple emission points throughout the facility)		
4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit: General Reference: _____		
Continuous Processes:	_____ 24 _____ hours/day _____ 365 _____ days/year	
Batch Processes:	_____ hours/batch _____ batches/day _____ days/year	
5. Fuel Consumption: N/A		
Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1. _____		
2. _____		
3. _____		
6. Emissions in Tons:		
A. Actual Major: _____ Potential Major: <u>X</u> (note: before control device)		
B. Actual Emissions (tons in 2013): NOx: <u>N/A</u> SOx: <u>N/A</u> VOC: <u>11.32</u> PM10: <u>N/A</u> HAPs: <u>N/A</u>		

MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3B-1 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92101

General Reference: COMAR 26.11.09.05E(2), COMAR 26.11.09.05E(3), COMAR
26.11.09.05E(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

A. The following visible emissions standards apply:

- (1) COMAR 26.11.09.05E(2). Emissions During Idle Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle conditions, greater than 10 percent opacity.
- (2) COMAR 26.11.09.05E(3). Emissions During Operating Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions greater than 40 percent opacity.
- (3) COMAR 26.11.09.05E(4) Exceptions:
 - (a) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (b) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (i) Engines that are idled continuously when not in service: 30 minutes;
 - (ii) All other engines : 15 minutes
 - (c) COMAR 26.11.09.05E(2) and E(3) do not apply while maintenance, repair or testing is being performed by qualified mechanics

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____

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Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: Condition F(1), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006, COMAR 26.11.03.06C(3) Describe:

- A. The Permittee shall maintain records demonstrating that the engines are being maintained in good operating condition.

Reporting Reference: None Describe:

- A. The permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III - "Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-2 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92101

General Reference: COMAR 26.11.09.08I(3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

- B. A person who owns and operates a stationary internal combustion engine at a natural gas pipeline combustion station with a capacity factor over 15 percent shall employ either parametric optimization or engine rebuild to meet the following NOx emission limits: COMAR 26.11.09.08I(3)(a) facilities with five or less internal combustion engines shall meet a combined maximum hourly emission rate of 300 pounds per hour or less.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: ✓

Methods used to demonstrate compliance:

Monitoring Reference: Conditions D(2) and D(3). permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

- B.
- (1) The Permittee shall maintain and operate the internal combustion engines and any associated air pollution control equipment, including the catalytic oxidation units, in such a manner as to ensure full and continuous compliance with all applicable regulations.
 - (2) The Permittee shall properly maintain and keep in good working condition all control panel instrumentation and monitoring devices that the Permittee uses to determine if the air pollution control equipment is operating as designed.

Testing Reference: COMAR 26.11.03.06C(3) Describe:

- B. The Permittee shall conduct emission testing on the Dresser Clark TCV 16 engine by July 1 of each year, using a Department approved portable exhaust gas analyzer, in accordance with procedures recommended by the analyzer manufacturer. All testing shall be conducted at or above 90 percent load. Any deviations from this schedule shall require written approval of the Department. If the engines are found to be initially noncompliant, the engines shall be retested no later than September 1, after all necessary repairs and modifications to bring the engines into compliance.

Record Keeping Reference: COMAR 26.11.09.08I(4), COMAR 26.11.03.06C(3), COMAR 26.11.09.08K(3) Describe:

- B. The following requirements apply:
- (1) The Permittee shall maintain on site records demonstrating performance of parametric optimization.
 - (2) The Permittee shall maintain records on site of the hours of operation and monthly and annual fuel use.

Reporting Reference: COMAR 26.11.09.08K(2), COMAR 26.11.03.06C(3) Describe:

- B. The following requirements apply:
- (1) By August 15 of each year, or within 45 days after completion of the test, whichever date is earlier, the Permittee shall submit the results of the annual NOx testing of the engines to the Department.
 - (2) If the annual test results indicate an exceedance of the hourly NOx limit, submit a written report within 5 days of discovery to the Department detailing the reasons for the exceedance.
 - (3) By October 1, submit a report detailing all necessary modifications or repairs made in order to bring the non-compliant unit into compliance.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-3 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92101

General Reference: Conditions D(5) and D(6), permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006

Briefly describe the Emission Standard/Limit or Operational Limitation:

C. The following additional limitations on NOx emissions apply:

- (1) Both Engines 92101 and 92102 shall be equipped with high pressure fuel injection (HPFI) technology and a parametric emissions control and monitoring system including Trapped Air/Fuel Equivalence Ratio monitoring [aka Trapped Equivalence Ratio (TER)] manufactured by Enginuity, LLC.
- (2) The Permittee shall operate Engines 92101 and 92102 with HPFI Technology at all times including times other than the Control Period required by COMAR 26.11.29.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- | | |
|---|---------|
| <input type="checkbox"/> Quarterly Monitoring Report: | _____ |
| <input type="checkbox"/> Annual Compliance Certification: | _____ ✓ |
| <input type="checkbox"/> Semi-Annual Monitoring Report: | _____ ✓ |

Methods used to demonstrate compliance:

Monitoring Reference: Conditions D(2), D(3), and D(5), permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006, COMAR 26.11. 03.06C(3)]; Describe:

C.

- (1) The Permittee shall maintain and operate the internal combustion engines and any associated air pollution control equipment, including the catalytic oxidation units,

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in such a manner as to ensure full and continuous compliance with all applicable regulations.

- (2) The Permittee shall properly maintain and keep in good working condition all control panel instrumentation and monitoring devices that the Permittee uses to determine if the air pollution control equipment is operating as designed.
- (3) The engine shall be equipped with a parametric emissions monitoring system (PEMS).
- (4) The PEMS shall automatically sample data at fifteen minute intervals or less and automatically record hourly averages in a manner such that the data is retrievable on demand by inspectors. The following parameters shall be monitored and recorded by the system:
 - (a) the engine speed in revolutions per minute (RPM)
 - (b) the engine fuel flow rate in SCFM (FF_{SCFM})
 - (c) the calculated fuel flow per revolution in SCF/rev ($FFRPM$)
 - (d) the actual air manifold pressure in inches of mercury (AMP).
 - (e) the air manifold temperature in °F (AMT).
 - (f) the calculated trapped air/fuel equivalence ratio set point (TER_{sp}) based on the calculated fuel flow per revolution parameter ($FFRPM$) and equation of the type below:

$$TER_{sp} = A*(FFRPM)^2 + B*(FFRPM) + C$$

Where A, B, and C are constants determined from the NO_x emissions testing required by 4.1.3 C(1) and C(2) above.

- (g) the calculated air manifold pressure (gage) set point in inches of mercury (AMP_{sp}) using an equation of the type referenced in the permit.

$$AMP_{SP} = 2.036 AF_{ST} * (0.0765 * FSG) * FFRPM - 14.73]$$

$$* \frac{[*(AMT + 460)}{}$$

$$2.699 * TER_{sp} * V_{TRAP}$$

Where: V_{TRAP} = engine trapped volume in cubic feet per revolution

AF_{ST} = stoichiometric air/fuel mass ratio

FSG = the fuel gas specific gravity referenced to air

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Note: The above equations may be adjusted upon prior written approval from the Department if test data or other considerations indicate that such a modification or adjustment is warranted.

Testing Reference: COMAR 26.11.03.06C(3) Describe:

C. The following testing requirements apply:

- (1) The Permittee shall establish a correlation between engine operating parameters and the NO_x emissions by conducting several stack test runs using EPA Reference Method 7E (40 CFR Part 60, Appendix A) or other approved methods, with the engines operating over a range of operating conditions in sufficient to determine the coefficients to an equation defining the trapped equivalence ratio set point (TER_{SP}) as a function of operating rate.
- (2) The Permittee shall perform subsequent annual confirmatory emissions testing for NO_x in accordance with procedures approved by the Department.
- (3) The Permittee shall conduct at least one stack test for NO_x using EPA reference methods and in accordance with a stack test protocol receiving prior approval from the Department. The stack tests shall be conducted while the engine is running at not less than 90 percent of the maximum load at which the engine will be operated during the term of the permit. The stack tests shall be conducted not more than two years prior to the expiration date of this permit, but shall be completed so that the stack test report shall be available at the time of Title V permit renewal application is required to be submitted to the Department.

Record Keeping Reference: COMAR 26.11.03.06C(3), Conditions F(2) and F(4), permits to construct 023 9-0026 and -0027 M, issued on July 11, 2006 Describe:

C. The following requirements apply:

- (1) The Permittee shall keep records of emissions test data, all stack test reports and the initial and confirmatory emissions testing for NO_x. The Permittee shall maintain a records of the calculation of emissions of NO_x sufficient to demonstrate that the emissions increase from the modification of the engines do not exceed the limitation based on any period of 12 consecutive months of operation.
- (2) The Permittee shall maintain for the engine the following records:
 - (a) Monthly records of the hours of operation and a rolling 12-month total of the hours of operation;
 - (b) Monthly records of the amount of natural gas combusted;
 - (c) Records of all data obtained during the initial performance test and subsequent annual performance tests and all reports of performance tests;
 - (d) Monthly records of the pressure drop across each catalytic oxidation unit;

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- (e) Hourly records of the 4-hour rolling average inlet temperature to each catalytic oxidation unit.
- (3) The Permittee shall maintain a maintenance log book which records pertinent information, such as date the catalyst was replaced or regenerated; date of any activity tests that were performed on the catalyst; all other routine maintenance work as required by the manufacturer's operation and maintenance guidance; and all other non-routine maintenance or shut downs. This logbook shall include the signature of the Permittee personnel that performed or documented the maintenance or shutdown.

Reporting Reference: COMAR 26.11.03.06C(3) Describe:

C. The following requirements apply:

- (1) The Permittee shall report excess emission in accordance with Section III, Part 4 of this permit and submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.
- (2) The Permittee shall submit an emissions test report detailing the results of the annual confirmatory test for NO_x to the Department within 45 days after completion of the emissions testing.
- (3) The Permittee shall submit to the Department the NO_x emissions continuous parametric monitoring data required by 4.1.4C above as requested by the Department.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-4 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92101

General Reference: Condition E(4), permits to construct 023-9-0026 and -0027 M, issued on July 16, 2002, Conditions D(7) and D(8) permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006

Briefly describe the Emission Standard/Limit or Operational Limitation:

D. VOC and CO and Additional NO_x Emission Limits.

- (1) In order to comply with New Source Review requirements, the VOC and CO emissions increase from both engines collectively as a result of the modification authorized by permits to construct 023-9-0026 and -0027 M issued on July 16, 2002 shall be less than 40 tons per year of VOC and less than 100 tons per year of CO in any period of 12 consecutive months [Condition E(4), permits to construct 023-9-0026 and -0027 M, issued on July 16, 2002].
- (2) In order to comply with New Source Review requirements of COMAR 26.11.17, the net contemporaneous NO_x and VOC emissions increase from the premises, excluding fugitive emissions, as a result of the proposed modifications to the adjacent natural gas storage field, after installation of the oxidation catalyst, shall be limited to less than 40 tons per year of VOC and 40 tons per year of NO_x in any period of 12 consecutive months [Condition D(7), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006].
- (3) In keeping with D(1) and 0(2) above, the emissions of NO_x and VOC from the affected installations (Engine 92101 , Engine 92102, and Boilers SBH1 , SBH2, WBH1, WBH2, WBH3, and WBH4) shall be limited to the following unless the Permittee receives prior approval from the Department:
 - (a) 182.5 tons per year for NO_x, in any period of 12 consecutive months; and
 - (b) 45.6 tons per year for VOC (excluding fugitive emissions), in any period of 12 consecutive months.

To assure compliance with these limitations, the total hours of operation of Engine 92101 and Engine 92102 shall not exceed 14.000 hours per year in any period of 12 consecutive months.

Permit Shield Request: Yes

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Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

Monitoring Reference: Conditions E(4) and E(5), permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

D. The following monitoring requirements apply:

- (1) The Permittee shall continuously monitor and record the temperature of the flue gas at the inlet of the catalytic oxidizer units. The temperature data shall be reduced to 4-hour rolling averages which shall be computed at least once each hour from temperature measurements taken at least once every 15 minutes.
- (2) The Permittee shall maintain the 4-hour rolling average temperature of the flue gas at the inlet of the catalytic oxidizer above 450 °F.
- (3) The Permittee shall monitor and record once each month the pressure drop across the catalytic oxidation unit while the engine is operating at or above 90 percent of maximum load.

Testing Reference: COMAR 26.11.03.06C(3), Conditions E(1), E(2) and E(3), permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

D. The following applies:

- (1) The Permittee shall perform annual confirmatory emissions testing for VOC in accordance with procedures approved by the Department.
- (2) The Permittee shall conduct an initial and subsequent annual performance test with a Department-approved portable CO analyzer to determine the hourly emission rate for CO of the catalytic oxidation units by measuring the outlet concentration of CO and oxygen. The outlet concentrations shall be corrected to 15 percent O₂ dry exhaust gas. The Permittee shall conduct three (3) 1-hour average determinations. All testing shall be conducted during normal operation and at least 90 percent of the maximum load conditions or above.
- (3) If the emission rate for CO determined during the initial or subsequent annual performance tests is greater than 7.7 pounds per hour, the Permittee shall clean,

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reactivate, replace the catalyst or take other corrective measures deemed appropriate and repeat the performance test within 30 days.

- (4) The Permittee shall conduct at least one stack test for VOC and CO each using EPA reference methods and in accordance with a stack test protocol receiving prior approval from the Department. The stack tests shall be conducted while the engine is running at near maximum load as possible, but not less than 90 percent of the maximum load at which the engine will be operated during the term of the permit. The stack tests shall be conducted not more than two years prior to the expiration date of this permit, but shall be completed so that the stack test report shall be available at the time of Title V permit renewal application is required to be submitted to the Department.
- (5) The Permittee shall comply with the following schedule:
 - (a) Perform annual performance tests in accordance with a schedule to be determined;
 - (b) Submit a test protocol to the ARMA Compliance Program for review and approval at least 45 days prior to the anticipated date of the annual performance test;
 - (c) Notify the Department at least 15 days in advance of the annual performance test; and
 - (d) Submit to the Department a report of the results of the annual performance tests within 45 days of the completion of the tests.

Record Keeping Reference: COMAR 26.11.03.06C(3), Conditions F(2) and F(4), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

D. The following requirements apply:

- (1) The Permittee shall keep records of emissions test data, all stack test reports and the initial and confirmatory emissions testing for CO and VOC. The Permittee shall maintain a records of the calculation of emissions of CO and VOC sufficient to demonstrate that the emissions increase from the modification of the engines do not exceed the limitation based on any period of 12 consecutive months of operation.
- (2) The Permittee shall maintain for the engine the following records:
 - a. Monthly records of the hours of operation and a rolling 12-month total of the hours of operation;
 - b. Monthly records of the amount of natural gas combusted;
 - c. Records of all data obtained during the initial performance test and subsequent annual performance tests and all reports of performance tests;
 - d. Monthly records of the pressure drop across each catalytic oxidation unit;
 - e. Hourly records of the 4-hour rolling average inlet temperature to each catalytic oxidation unit.
- (3) The Permittee shall maintain a maintenance log book which records pertinent information, such as date the catalyst was replaced or regenerated; date of any activity tests that were performed on the catalyst; all other routine maintenance work as required by the manufacturer's operation and maintenance guidance; and all other non-

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routine maintenance or shut downs. This logbook shall include the signature of the Permittee personnel that performed or documented the maintenance or shutdown.

Reporting Reference: COMAR 26.11.03.06C(3) Describe:

- D. Within 45 days after completion of the test, the Permittee shall submit an emissions test report detailing the results of the annual confirmatory CO and VOC testing of the engines to the Department.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-5 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92101

General Reference: COMAR 26.11.02.09

Briefly describe the Emission Standard/Limit or Operational Limitation:

E. The Permittee shall burn only pipeline quality natural gas unless the Permittee applies for and receives an approval or permit from the Department.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: None Describe:

Reporting Reference: COMAR 26.11.03.06G(6) and (7) Describe:

E. The Permittee shall submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-6 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92102

General Reference: COMAR 26.11.09.05E(2), COMAR 26.11.09.05E(3), and COMAR 26.11.09.05E(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

A. The following visible emissions standards apply:

- (1) COMAR 26.11.09.05E(2). Emissions During Idle Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle conditions, greater than 10 percent opacity
- (2) COMAR 26.11.09.05E(3). Emissions During Operating Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions greater than 40 percent opacity.
- (3) COMAR 26.11.09.05E(4) Exceptions :
 - (a) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of 15 consecutive minutes for the purpose of clearing the exhaust system
 - (b) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (i.) Engines that are idled continuously when not in service: 30 minutes:
 - (ii.) All other engines: 15 minutes
 - (c) COMAR 26.11.09.05E(2) and E(3) do not apply while maintenance, repair or testing is being performed by qualified mechanics

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓

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□ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: Describe: COMAR 26.11.03.06C(3) Describe:

- A. The Permittee shall maintain records demonstrating that the engines are being maintained in good operating condition.

Reporting Reference: None Describe:

- A. The permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III - "Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-7 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92102

General Reference: COMAR 26.11.09.08I(3)(a)

Briefly describe the Emission Standard/Limit or Operational Limitation:

B. A person who owns and operates a stationary internal combustion engine at a natural gas pipeline combustion station with a capacity factor over 15 percent shall employ either parametric optimization or engine rebuild to meet the following NOx emission limits: COMAR 26.11.09.081(3)(a) facilities with five or less internal combustion engines shall meet a combined maximum hourly emission rate of 300 pounds per hour or less.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

Monitoring Reference: Conditions D(2) and D(3). permit to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

- B.
- (1) The Permittee shall maintain and operate the internal combustion engines and any associated air pollution control equipment, including the catalytic oxidation units, in such a manner as to ensure full and continuous compliance with all applicable regulations.
 - (2) The Permittee shall properly maintain and keep in good working condition all control panel instrumentation and monitoring devices that the Permittee uses to determine if the air pollution control equipment is operating as designed.

Testing Reference: COMAR 26.11.03.06C(3) Describe:

- B. The Permittee shall conduct emission testing on the Dresser Clark TCV 16 engine (92102) by July 1 of each year, using a Department approved portable exhaust gas analyzer, in accordance with procedures recommended by the analyzer manufacturer. All testing shall be conducted at or above 90 percent load. Any deviations from this schedule shall require written approval of the Department. If the engines are found to be initially noncompliant, the engines shall be retested no later than September 1, after all necessary repairs and modifications to bring the engines into compliance.

Record Keeping Reference: COMAR 26.11.09.08I(4), COMAR 26.11.03.06C(3), COMAR 26.11.09.08K(3) Describe:

B. The following requirements apply:

- (1) The Permittee shall maintain on site records demonstrating performance of parametric optimization.
- (2) The Permittee shall maintain records on site of the hours of operation and monthly and annual fuel use.

Reporting Reference: COMAR 26.11.09.08K(2), COMAR 26.11.03.06C(3), COMAR 26.11.03.06C(7)(a)(iii) Describe:

B. The following requirements apply:

- (1) By August 15 of each year, or within 45 days after completion of the test, whichever date is earlier, the Permittee shall submit the results of the annual NOx testing of the engines to the Department.
- (2) If the annual test results indicate an exceedance of the hourly NOx limit, submit a written report within 5 days of discovery to the Department detailing the reasons for the exceedance.
- (3) By October 1, submit a report detailing all necessary modifications or repairs made in order to bring the non-compliant unit into compliance.
- (4) By October 1, submit a report detailing the results of the retesting of the non-compliant unit to the Department.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-8 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92102

General Reference: COMAR 26.11.29.05C, Conditions D(5) and D(6) permits to construct
023-9-0026 and -0027 M, issued on July 11, 2006

Briefly describe the Emission Standard/Limit or Operational Limitation:

C. NOx Emission Reduction Requirements for Stationary Internal Combustion Engines at
Natural Gas Pipeline Compression Stations.

Type Engine oxygen)	Size (brake HP)	Standard (15% oxygen)
Spark ignited, lean burn	2400 HP	125 ppmv

The following related operational limitations apply:

- (1) Both Engines 92101 and 92102 shall be equipped with high pressure fuel injection (HPFI) technology and a parametric emissions control and monitoring system including Trapped Air/Fuel Equivalence Ratio monitoring [aka Trapped Equivalence Ratio (TER)] manufactured by Enginuity, LLC.
- (2) The Permittee shall operate both Engines 92101 and 92102 with HPFI Technology at all times, including times other than the Ozone Season.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: ✓

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Methods used to demonstrate compliance:

Monitoring Reference: Conditions E(3), E(5) and E(6) of permits to construct 023-9-0026 and -0026M issued on July 16, 2002 Describe:

C. The following requirements apply:

- (1) Beginning May 1, 2003, the Permittee shall operate the engine so as to comply with the NO_x emission standard specified in COMAR 26.11.29.05C. Thereafter, operation of the engine with an air manifold pressure (AMP) less than the air manifold pressure set point (AMP_{sp}) shall constitute a violation of this regulation unless the Permittee can otherwise show that the engine operated in compliance with this regulation.¹
- (2) The engine shall be equipped with a parametric emissions monitoring system (PEMS) that shall automatically sample data at fifteen minute intervals or less and automatically record hourly averages in a manner such that the data is retrievable on demand by inspectors. The following parameters shall be monitored and recorded by the system [Condition E(5) and E(6), permits to construct 023-9-0026 and -0027 issued on July 16, 2002]:
 - (a) the engine speed in revolutions per minute (RPM)
 - (b) the engine fuel flow rate in SCFM (FF_{SCFM})
 - (c) the calculated fuel flow per revolution in SCF/rev (FFRPM).
 - (d) the actual air manifold pressure in inches of mercury (AMP).
 - (e) the air manifold temperature in °F (AMT)
 - (f) the calculated trapped air/fuel equivalence ratio set point (TER_{sp}) based on the calculated fuel flow per revolution parameter (FFRPM) and equation of the type below:

$$\text{TER}_{\text{sp}} = A * (\text{FFRPM})^2 + B * (\text{FFRPM}) + C$$

Where A, B, and C are constants determined from the NO_x emissions testing required by 4.1.3 C (1) and C (2) above.

¹ Texas Eastern is in the process of modifying Permit to Construct 023-9-0026 and -0027 M for Eng-92102 to revise this condition to state that operation of the engine with an AMP less than AMP_{sp} does not necessarily constitute a violation of the regulation. Texas Eastern requests that the MDE include this revised condition in the renewed Title V permit when the amended construction permit is issued.

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(g) the calculated air manifold pressure (gage) set point in inches of mercury (AMP_{SP}) using an equation of the type referenced in the permit.

$$\text{AMP}_{\text{SP}} = 2.036 \text{ AF}_{\text{ST}} * (0.0765 * \text{FSG}) * \text{FFRPM} - 14.73] \\ * [* (\text{AMT} + 460) \\ \underline{\hspace{10em}} \\ 2.699 * \text{TER}_{\text{sp}} * \text{VrRAP}$$

Where:

V_{TRAP} = engine trapped volume in cubic feet per revolution

AF_{ST} = stoichiometric air/fuel mass ratio

FSG = the fuel gas specific gravity referenced to air

Note: The above equations may be adjusted upon prior written approval from the Department if test data or other considerations indicate that such a modification or adjustment is warranted.

Testing Reference: COMAR 26.11.03.06C(3), Conditions D(1)(a) and D(1)(f), permits to construct 023-9-0027 M issued on July 16, 2002. Describe:

C. The following testing requirement apply:

- (1) No later than March 1, 2003, the Permittee shall establish a correlation between engine operating parameters and the NO_x emissions by conducting at least nine (9) stack test runs using EPA Reference Method 7E (40 CFR Part 60, Appendix A) or other approved methods, with the engines operating over a range of operating conditions in order to determine the coefficients to an equation defining the trapped equivalence ratio test point (TER_{TP}) as a function of operating rate.

NOTE: The required testing was performed on December 12, 2002. The appropriate values of the coefficients A, B, and C were determined to be

$$A = -0.0628 \quad B = 0.299 \quad c = 0.066$$

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- (2) The Permittee shall perform subsequent annual confirmatory emissions testing for NO_x, CO, and VOC in accordance with procedures approved by the Department.
- (3) The Permittee shall conduct at least one stack test for NO_x using EPA reference methods and in accordance with a stack test protocol receiving prior approval from the Department. The stack tests shall be conducted while the engine is running at not less than 90 percent of the maximum load at which the engine will be operated during the term of the permit. The stack tests shall be conducted not more than two years prior to the expiration date of this permit, but shall be completed so that the stack test report shall be available at the time of Title V permit renewal application is required to be submitted to the Department.

Record Keeping Reference: COMAR 26.11.03.06C(3), Conditions D(1)(f) and F(2) permits to construct 023-9-0026 and -0027M issued on July 16, 2002 Describe:

C. The following requirements apply:

- (1) The Permittee shall keep records of the stack testing required to establish a correlation between engine operating parameters and the NO_x emissions.
- (2) The Permittee shall keep records of the annual confirmatory emissions testing for NO_x, performed in accordance with procedures approved by the Department.
- (3) The Permittee shall keep the NO_x emissions monitoring data required by COMAR 26.11.29.04A.

Reporting Reference: COMAR 26.11.03.06C(3), and Condition F(2), permits to construct 023-9-0026 and -0027M issued on July 16, 2002 Describe:

C. The following requirements apply:

- (1) The Permittee shall submit an emissions test report detailing the results of the annual confirmatory test for NO_x to the Department within 45 days after completion of the emissions testing.
- (2) The Permittee shall submit the NO_x emissions continuous parametric monitoring data required in support of regulation COMAR 26.11.29.05C to the Department.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-9 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92102

General Reference: Condition E(4), permits to construct 023-9-0026 and -0027 M, issued on July 16, 2002, Conditions D(7) and D(8), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006

Briefly describe the Emission Standard/Limit or Operational Limitation:

D. VOC and CO and Additional NOx Emission Limits.

- (1) In order to comply with New Source Review requirements, the VOC and CO emissions increase from both engines collectively as a result of the modification authorized by permits to construct 023-9-0026 and -0027 M issued on July 16, 2002 shall be less than 40 tons per year of VOC and less than 100 tons per year of CO in any period of 12 consecutive months.
- (2) In order to comply with New Source Review requirements of COMAR 26.11.17, the net contemporaneous NOx and VOC emissions increase from the premises, excluding fugitive emissions, as a result of the proposed modifications to the adjacent natural gas storage field, after installation of the oxidation catalyst, shall be limited to less than 40 tons per year of VOC and 40 tons per year of NOx in any period of 12 consecutive months.
- (3) In keeping with D(1) and 0(2) above, the emissions of NOx and VOC from the affected installations (Engine 92101, Engine 92102, and Boilers SBH1, SBH2, WBH1, WBH2, WBH3, and WBH4) shall be limited to the following unless the Permittee receives prior approval from the Department:
 - (a) 182.5 tons per year for NOx, in any period of 12 consecutive months; and
 - (b) 45.6 tons per year for VOC (excluding fugitive emissions), in any period of 12 consecutive months.

To assure compliance with these limitations, the total hours of operation of Engine 92101 and Engine 92102 shall not exceed 14,000 hours per year in any period of 12 consecutive months.

Permit Shield Request: Yes

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Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

Monitoring Reference: Conditions E(4) and E(5), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006 Describe:

D. The following requirements apply:

- (1) The Permittee shall continuously monitor and record the temperature of the flue gas at the inlet of the catalytic oxidizer units. The temperature data shall be reduced to 4-hour rolling averages which shall be computed at least once each hour from temperature measurements taken at least once every 15 minutes.
- (2) The Permittee shall maintain the 4-hour rolling average temperature of the flue gas at the inlet of the catalytic oxidizer above 450 °F.
- (3) The Permittee shall monitor and record once each month the pressure drop across the catalytic oxidation unit while the engine is operating at or above 90 percent of maximum load.

Testing Reference: Conditions D(1)(b), permits to construct 023-9-0027 M issued on July 16, 2002, Conditions E (1), E(2) and E(3), permits to construct 023-9-0026 and -0027 M, issued on July 11, 2006, COMAR 26.11.03.06C(3) Describe:

D. The following testing requirements apply:

- (1) After completing the emissions control and monitoring equipment installation required to achieve compliance with COMAR 26.11.29, but no later than March 1, 2003, the Permittee shall conduct a stack test for VOC and CO using the appropriate EPA Reference Method or other methods receiving approval from the Department.

Note: the required stack testing was completed on December 12, 2002.

- (2) The Permittee shall conduct an initial and subsequent annual performance test for with a Department-approved CO portable analyzer to determine the hourly

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emission rate for CO of the catalytic oxidation units by measuring the outlet concentration of CO and oxygen. The outlet concentrations shall be corrected to 15 percent O₂ dry exhaust gas. The Permittee shall conduct three (3) 1-hour average determinations. All testing shall be conducted during normal operation and at least 90 percent of the maximum load conditions or above.

- (3) If the emission rate for CO determined during the annual performance tests is greater than 7.7 pounds per hour, the Permittee shall clean, reactivate, replace the catalyst or take other corrective measures deemed appropriate and repeat the performance test within 30 days.
- (4) The Permittee shall conduct at least one stack test for VOC and CO each using EPA reference methods and in accordance with a stack test protocol receiving prior approval from the Department. The stack tests shall be conducted while the engine is running at near maximum load as possible, but not less than 90 percent of the maximum load at which the engine will be operated during the term of the permit. The stack tests shall be conducted not more than two years prior to the expiration date of this permit, but shall be completed so that the stack test report shall be available at the time of Title V permit renewal application is required to be submitted to the Department.
- (5) The Permittee shall comply with the following schedule:
 - (a) Perform annual performance tests in accordance with a schedule to be determined
 - (b) Submit a test protocol to the ARMA Compliance Program for review and approval at least 45 days prior to the anticipated date of the annual performance tests;
 - (c) Notify the Department at least 15 days in advance of the annual performance tests; and
 - (d) Submit to the Department a report of the results of the annual performance tests within 45 days of the completion of the tests.

Record Keeping Reference: COMAR 26.11.03.06C(3), Conditions F(2) and F(4), permits to construct 023-9-0026 and -0027M, issued on July 11, 2006 Describe:

D. The following requirements apply:

- (1) The Permittee shall keep records of emissions test data, all stack test reports and the initial and confirmatory emissions testing for CO and VOC. The Permittee shall maintain a records of the calculation of emissions of CO and VOC sufficient to demonstrate that the emissions increase from the modification of the engines do not exceed the limitation based on any period of 12 consecutive months of operation.
- (2) The Permittee shall maintain for the engine the following records:

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- (a) Monthly records of the hours of operation and a rolling 12-month total of the hours of operation;
 - (b) Monthly records of the amount of natural gas combusted;
 - (c) Records of all data obtained during the initial performance test and subsequent annual performance tests and all reports of performance tests;
 - (d) Monthly records of the pressure drop across each catalytic oxidation unit;
 - (e) Hourly records of the 4-hour rolling average inlet temperature to each catalytic oxidation unit.
- (3) The Permittee shall maintain a maintenance log book which records pertinent information, such as date the catalyst was replaced or regenerated; date of any activity tests that were performed on the catalyst; all other routine maintenance work as required by the manufacturer's operation and maintenance guidance; and all other non-- routine maintenance or shutdowns. This logbook shall include the signature of the Permittee personnel that performed or documented the maintenance or shutdown.

Reporting Reference: COMAR 26.11.03.06C(3) Describe:

- D. The Permittee shall submit an emissions test report detailing the results of the annual confirmatory test for CO and VOC to the Department within 45 days after completion of the emissions testing.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-10 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92102

General Reference: COMAR 26.11.02.09

Briefly describe the Emission Standard/Limit or Operational Limitation:

- E. The Permittee shall burn only pipeline quality natural gas unless the Permittee applies for and receives an approval or permit from the Department.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: None Describe:

Reporting Reference: COMAR 26.11.03.06G(6) and (7) Describe:

- E. The Permittee shall submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-11 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92135

General Reference: COMAR 26.11.09.05E(2), COMAR 26.11.09.05E(3), and COMAR 26.11.09.05E(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

A. The following visible emissions standards apply:

- (1) COMAR 26.11.09.05E(2). Emissions during Idle Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle conditions, greater than 10 percent opacity.
- (2) COMAR 26.11.09.05E(3). Emissions during Operating Mode. The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions greater than 40 percent opacity.
- (3) COMAR 26.11.09.05E(4) Exceptions:
 - (a) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of 15 consecutive minutes for the purpose of clearing the exhaust system.
 - (b) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
 - (i) Engines that are idled continuously when not in service: 30 minutes;
 - (ii) All other engines: 15 minutes
 - (c) COMAR 26.11.09.05E(2) and E(3) do not apply while maintenance, repair or testing is being performed by qualified mechanics

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

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Methods used to demonstrate compliance:

Monitoring Reference: None **Describe:**

Testing Reference: None **Describe:**

Record Keeping Reference: COMAR 26.11.03.06C(3) **Describe:**

- A. The Permittee shall maintain records demonstrating that the engine is being maintained in good operating condition.

Reporting Reference: None **Describe:**

- A. The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III -"Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-12 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92135:

General Reference: COMAR 26.11.09.08B and G

Briefly describe the Emission Standard/Limit or Operational Limitation:

B. COMAR 26.11.09.08G. Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less,

- (1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - (a) for fuel-burning equipment that operates more than 500 hours during calendar year, perform a combustion analysis and optimize the combustion at least annually;
 - (b) require each operator of the installation to attend operator training programs once every three years on combustion optimization that are sponsored by the Department, the EPA or equipment vendors.

Operator Training: For the purpose of [Regulation COMAR 26.11.09.08], the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____

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Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: COMAR 26.11.09.08G(1) Describe:

- B. If the equipment operates more than 500 hours during a calendar year, the Permittee shall perform a combustion analysis and optimize the combustion at least annually.

Record Keeping Reference: COMAR 26.11.09.08G(1)(e) and G(3), COMAR 26.11.09.08K(3), COMAR 26.11.03.06C(3) Describe:

B. The following requirements apply:

- (1) The Permittee shall maintain the results of any required combustion analysis at the site and make this data available to the Department and the EPA upon request; and
- (2) The Permittee shall prepare and maintain a record of any required training program attendance for each operator or maintenance person that would repair or make adjustments to the installation and make these records available to the Department upon request.
- (3) The Permittee shall maintain annual fuel use records on site and shall make the records available to the Department upon request.

Reporting Reference: COMAR 26.11.09.08G(1)(a) Describe:

- B. The Permittee shall provide certification of the capacity factor of the equipment to the Department in writing.

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-13 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92135

General Reference: COMAR 26.11.02.09

Briefly describe the Emission Standard/Limit or Operational Limitation:

- C. Operational Limitation: The Permittee shall burn only pipeline quality natural gas unless the Permittee applies for and receives an approval or permit from the Department.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: Describe:

- (3) The Permittee shall maintain annual fuel use records on site and shall make the records available to the Department upon request.

Reporting Reference: COMAR 26.11.03.06G(6) and (7) Describe:

- C. The Permittee shall submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.

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Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-14 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92135

General Reference: COMAR 26.11.36.03A(5)

Briefly describe the Emission Standard/Limit or Operational Limitation:

The owner or operator of an emergency generator or load shaving unit may not operate the engine for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: None Describe:

The Permittee shall maintain for at least five (5) years, the records of hours of operation, the reason for operations, and maintenance performed

Reporting Reference: None Describe:

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-15 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Eng-92135

General Reference: 40 CFR Part 63, Subpart ZZZZ

Briefly describe the Emission Standard/Limit or Operational Limitation:

Operation:

-No limitation on emergency operation. Up to 100 hours per year allowed for maintenance, testing, or emergency demand response of which 50 hours (of the 100) per year can be non-emergency operation.

-Install a non-resettable hour meter.

Startup: During startup, minimize engine idle and limit startup period to less than 30 minutes

Maintenance, Oil Filters: Change oil and filter every 500 hours of operation or annually, whichever comes first OR use oil change analysis program to extend oil change frequencies

Maintenance, Spark Plugs: Inspect spark plugs every 1000 hours or annually, whichever comes first. Replace as necessary.

Maintenance, Hoses and Belts: Inspect all hoses and belts every 500 hours or annually, whichever comes first.

Maintenance, General: Operate and maintain emergency stationary RICE according to manufacturer's instructions or implement a maintenance plan that provides for the maintenance and operation in a manner consistent with good air pollution control practices for minimizing emissions.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

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Monitoring: Reference: 40 CFR 63.6655 Describe:

The Permittee shall monitor the hours of operation for the emergency generator and the reason for operation.

Testing Reference: None Describe:

Record Keeping Reference: 40 CFR 63.6655 Describe:

The Permittee shall maintain for at least five (5) years, the records of hours of operation, the reason for operations, and maintenance performed in accordance with Table 2c of 40 CFR 63, Subpart *ZZZZ*.

Reporting Reference: None Describe:

Frequency of submittal of the compliance demonstration: Semi-annual

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SECTION 3B-16 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Htr-1 through Htr-6 (921WBH01 – 04 and 921SBH05 – 06)

General Reference: COMAR 26.11.09.05A(1) and A(3)

Briefly describe the Emission Standard/Limit or Operational Limitation:

- A. COMAR 26.11.09.05A(1). The Permittee shall not cause or permit the discharge of emissions, other than water in an uncombined form, which is greater than 20 percent opacity.

COMAR 26.11.09.05A(3) provides the following exceptions: COMAR 26.11.09.05A(1) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if: (a) the visible emissions are not greater than 40 percent opacity; (b) the visible emissions do not occur for more than 6 consecutive minutes in any sixty minute period.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
 Annual Compliance Certification: _____ ✓
 Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: COMAR 26.11.03.06C(3) Describe:

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- A. The Permittee shall maintain records demonstrating that the boilers are being maintained in good operating condition.

Reporting Reference: COMAR 26.11.01.07 and COMAR 26.11.03.06C(7) Describe:

- A. The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III -"Report of Excess Emissions and Deviations."

Frequency of submittal of the compliance demonstration: Annual

MARYLAND DEPARTMENT OF THE ENVIRONMENT

SECTION 3B-17 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Htr-1 through Htr-6 (921WBH01 – 04 and 921SBH05 – 06)

General Reference: COMAR 26.11.09.08E, COMAR 26.11.09.08E(2), COMAR
26.11.09.08E(4)

Briefly describe the Emission Standard/Limit or Operational Limitation:

B. COMAR 26.11.09.08E. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 MMBtu or less shall:

- (1) Perform a combustion analysis for each installation at least once each year and optimize the combustion based on the analysis;
- (2) Once every three years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA or equipment vendors.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

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Testing Reference: COMAR 26.11.09.08E(2) Describe:

- B. The Permittee shall perform a combustion analysis for each installation at least once each year and optimize the combustion based on the analysis.

**Record Keeping Reference: COMAR 26.11.09.08E(3) and E(5), COMAR 26.11.09.08K(3),
COMAR 26.11.03.06C(3), 40 CFR 60.48c(g) Describe:**

- B. The following requirements apply:

- (1) The Permittee shall maintain the results of the combustion analysis at the site and make this data available to the Department and the EPA upon request.
- (2) The Permittee shall prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.
- (3) The Permittee shall maintain at the site annual records of the amount and type of fuel used.

Reporting Reference: COMAR 26.11.03.06G(6) and (7) Describe:

- B. The Permittee shall submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-18 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Htr-1 through Htr-6 (921WBH01 – 04 and 921SBH05 – 06)

General Reference: COMAR 26.11.02.09

Briefly describe the Emission Standard/Limit or Operational Limitation:

C. The Permittee shall combust only natural gas in the boilers.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: None Describe:

The Permittee shall prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request.

Reporting Reference: COMAR 26.11.03.06G(6) and (7), 40 CFR 60.48c(a) Describe:

C. The Permittee shall submit annual Compliance Certification Reports in accordance with Section III, Part 9 of this permit.

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Htr-1 (921WBH01) rated at 15.0 mmBtu/hr was installed in 2009 and is subject to the following initial notification requirement under 40 CFR 60 Subpart Dc, §60.48c(a).
Htr-1 (921WBH04) rated at 15.0 mmBtu/hr was installed in 2011 and is also subject to this initial notification requirement.

“The owner or operator shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include: (1) The design heat capacity of the affected facility and fuels to be combusted in the affected facility..... (3) The annual capacity at which the owner or operator anticipates operating the affected facility based on all fuels fired.”

Frequency of submittal of the compliance demonstration: Annual

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SECTION 3B-19 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Htr-1 through Htr-4 (921WBH01 – 04)

General Reference: 40 CFR Part 63, Subpart DDDDD

Briefly describe the Emission Standard/Limit or Operational Limitation:

Tune-Ups

You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section.

If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

Monitoring Reference: 40 CFR 63.7540(a)(10)(i) – (iv) Describe:

As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment.

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Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;

Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;

Testing Reference: 40 CFR 63.7540(a)(10)(v) Describe:

Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

Record Keeping Reference: 40 CFR 63.7540(a)(10)(vi) Describe:

Maintain on-site and submit, if requested by the Administrator, an annual report containing:

- (A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
- (B) A description of any corrective actions taken as a part of the tune-up; and
- (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

Reporting Reference: 40 CFR 63.7550 and Table 9 of 40 CFR 63, Subpart DDDDD Describe:

The Permittee shall submit the applicable reports in accordance with Table 9 of 40 CFR 63, Subpart DDDDD and 40 CFR 63.7550.

Frequency of submittal of the compliance demonstration: Semi-annual

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SECTION 3B-20 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: Htr-1 through Htr-3 (921WBH01 – 03)

General Reference: 40 CFR Part 63, Subpart DDDDD

Briefly describe the Emission Standard/Limit or Operational Limitation:

Energy Assessment

For existing affected sources (as defined in § 63.7490), you must complete the initial compliance demonstration, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: _____ ✓
- Semi-Annual Monitoring Report: _____ ✓

Methods used to demonstrate compliance:

Monitoring Reference: Table 3 of 40 CFR 63, Subpart DDDDD Describe:

- c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
- d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.

e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.

Testing Reference: Table 3 of 40 CFR 63, Subpart DDDDD Describe:

- a. A visual inspection of the boiler or process heater system.
- b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.

Record Keeping Reference: Table 3 of 40 CFR 63, Subpart DDDDD Describe:

- f. A list of cost-effective energy conservation measures that are within the facility's control.
- g. A list of the energy savings potential of the energy conservation measures identified.
- h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Reporting Reference: 40 CFR 63.7530(e) and (f) Describe:

You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of your facility at the time of the assessment.

You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.7545(e).

Frequency of submittal of the compliance demonstration: Semi-annual

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SECTION 3B-21 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: PL-TL, TK-02A and TK-02B

Note: The following installations from the insignificant activities list are also subject to these requirements: ACC3A through ACC3F- Six (6) waste methanol/water tanks AST, 8450 gallons
ACCI-MeOH01 through ACCJ-MeOH04 - Four (4) methanol AST, 10,000 gallons

General Reference: COMAR 26.11.13.04D

Briefly describe the Emission Standard/Limit or Operational Limitation:

Equipment Leaks during VOC Storage and Transfer

COMAR 26.11.13.04D General Standards. A person may not cause or permit gasoline or VOC having a TVP of 1.5 psia (10.3 kilonewtons/square meter) or greater to be loaded into any tank truck, railroad tank car, or other contrivance unless the:

- (1) Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and
- (2) Equipment is maintained to prevent avoidable liquid leaks during loading and unloading operations.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: ✓

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Methods used to demonstrate compliance:

Monitoring Reference: COMAR 26.11.13.04D(2), COMAR 26.11.03.06C(3) Describe:

The Permittee shall conduct routine inspections of each tank truck loading operation to ensure that loading connections have no leaks. The inspection shall be conducted while the tank truck is being loaded or unloaded. The Permittee shall record the results of the inspections and make these results available to the Department upon request.

Testing Reference: None Describe:

Record Keeping Reference: COMAR 26.11.13.04D(2), COMAR 26.11.03.06C(3) Describe:

The Permittee shall maintain a log that includes the name of the person conducting the inspection, the date of the inspection, results of the inspection, a list of leaks, and identity of components that cannot be repaired within 48 hours. The log shall be made available to the Department upon request. The leak inspection records shall be maintained for a period of not less than 5 years from the date of their occurrence.

Reporting Reference: COMAR 26.11.03.06C(3), COMAR 26.11.19.02F(1) Describe:

The Permittee shall report the results of leak inspections to the Department upon request.

To satisfy the requirements of COMAR 26.11.19.02F, it is sufficient that the Permittee include the emissions from the storage tanks in the annual emissions certification report as required by permit condition (8) of Section III, Plant-wide Conditions.

Frequency of submittal of the compliance demonstration: Semi-Annual

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SECTION 3B-22 CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: F-1, MPV

General Reference: N/A

Briefly describe the Emission Standard/Limit or Operational Limitation:

There are no emission standards that apply to fugitive emission points from this facility.

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- Quarterly Monitoring Report: _____
- Annual Compliance Certification: ✓
- Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring Reference: None Describe:

Testing Reference: None Describe:

Record Keeping Reference: COMAR 26.11.02.19C Describe:

The Permittee shall keep the records necessary to support the VOC emissions certification from releases of natural gas from pipeline component facility fugitives and miscellaneous process vents.

Reporting Reference: COMAR 26.11.02.19D Describe:

The Permittee shall certify the emissions annually in accordance with COMAR 26.11.02.19D.

Frequency of submittal of the compliance demonstration: Annual

SECTION 3D. ALTERNATE OPERATING SCENARIOS

Emissions Unit No.: _____

Briefly describe any alternate operating scenarios. Assign a number to each scenario for identification purposes.

(None)



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**SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE
FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN
ALTERNATE OPERATING SCENARIO**

Scenario No.: (Not applicable)

Emissions Unit No.: _____ General Reference: _____

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

Compliance Demonstration

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference _____ Describe: _____

Frequency of submittal of the compliance demonstration: _____



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SECTION 4. CONTROL EQUIPMENT

<p>1. Associated Emissions Units No.: <u>Eng-92101 and Eng-92102</u></p>	<p>2. Emissions Point No.: <u>E-1 and E-2</u></p>
<p>3. <u>Type and Description of Control Equipment:</u> <u>CD-1 and CD-2: Oxidation catalysts for the control of CO, VOC, Formaldehyde and various HAPs;</u></p>	
<p>4. Pollutants Controlled:</p>	<p>Control Efficiency:</p>
<p>CO</p>	<p>58%</p>
<p>VOC</p>	<p>23%</p>
<p>Formaldehyde</p>	<p>50%</p>
<p>HAPs</p>	<p>Varies</p>
<p></p>	<p></p>
<p></p>	<p></p>
<p></p>	<p></p>
<p>5. Capture Efficiency: 100%</p>	

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SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	NO _x	VOC	SO ₂	CO	PM	PM ₁₀	PM _{2.5}
CAS Number	10102-44-0		7446-09-5	630-08-0			
Eng-92101	70.4	20.6	0.09	26.7	7.44	7.44	7.44
Eng-92102	70.4	20.6	0.09	26.7	7.44	7.44	7.44
Eng-92135	2.64	0.03	0.00	4.32	0.02	0.02	0.02
921WBH01	6.44	0.35	0.04	5.41	0.49	0.49	0.49
921WBH04	6.44	0.35	0.04	5.41	0.49	0.49	0.49
921WBH02	5.15	0.28	0.03	4.33	0.39	0.39	0.39
921WBH03	5.15	0.28	0.03	4.33	0.39	0.39	0.39
921SBH05	1.29	0.07	0.01	1.08	0.10	0.10	0.10
921SBH06	1.29	0.07	0.01	1.08	0.10	0.10	0.10
TK-02A (Pipeline Liquids Storage Tank)	--	2.42	--	--	--	--	--
TK-02B (Pipeline Liquids Storage Tank)	--	2.42	--	--	--	--	--
PL-TL (Pipeline liquids truck loading)	--	1.38	--	--	--	--	--
F-1 (Facility fugitives: blow downs and pipe components)	--	203.0	--	--	--	--	--
MPV (Miscellaneous Process Vents)	--	88.9	--	--	--	--	--
Total	169.3	340.6	0.34	79.4	16.9	16.9	16.9

Pollutant	HAPs	CO ₂	CH ₄	N ₂ O	CO ₂ e
CAS Number		124-38-9	74-82-8	10024-97-2	
Eng-92101	9.92	17,977	322.7	0.03	26,054
Eng-92102	9.92	17,977	322.7	0.03	26,054
Eng-92135	0.04	135.5	0.27	0.00	142.3
921WBH01	0.12	7,669	0.15	0.01	7,677
921WBH04	0.12	7,669	0.15	0.01	7,677
921WBH02	0.10	6,135	0.12	0.01	6,142
921WBH03	0.10	6,135	0.12	0.01	6,142
921SBH05	0.02	1,534	0.03	0.00	1,535
921SBH06	0.02	1,534	0.03	0.00	1,535
TK-02A (Pipeline Liquids Storage Tank)	0.038	--	--	--	--
TK-02B (Pipeline Liquids Storage Tank)	0.038	--	--	--	--
PL-TL (Pipeline liquids truck loading)	0.02	--	--	--	--
F-1 (Facility fugitives: blow downs and pipe components)	19.6	--	7,406	--	185,138
MPV (Miscellaneous Process Vents)	8.6	--	3,243	--	81,075
Total	48.6	66,766	11,295	0.13	349,172

SECTION 6.

**EXPLANATION OF PROPOSED EXEMPTIONS FROM
OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE
REQUIREMENTS**

Describe and cite the applicable requirements to be exempted. Complete this Section only if the facility is claiming exemptions from or the non-applicability of any federally enforceable requirements.

1. Applicable Requirement:	(Not applicable)
2. Brief Description:	
3. Reasons for Proposed Exemption or Justification of Non-applicability:	



SECTION 7. COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS
UNITS

1. Emissions Unit #	Anticipated Compliance Date
(Not applicable)	
Applicable Federally Enforceable Requirement being Violated:	

2. Description of Plan to Achieve Compliance:

Certified Progress Reports for sources in noncompliance shall be submitted at least quarterly to the Department.

(Not applicable)



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STATE ONLY ENFORCEABLE REQUIREMENTS

Facility Information:

Name of Facility:	County:
Accident Compressor Station	Garrett
Premises Number:	
00081 (AI #3223)	
Street Address:	
196 Texas Eastern Drive (Accident Friendsville Road)	
24-hour Emergency Telephone Number of Air Pollution Matters:	
(301) 746-8138	
Type of Equipment (List Significant Units):	
2 internal combustion engines, 5500 HP each; 2 water bath heaters, 15 MMBtu/hr each; 2 water bath heaters, 12 MMBTU/hr each; 2 salt bath heaters, 3 MMBtu/hr each; 2 pipeline liquids storage tanks, 12,600 gallon each; 1- 500HP emergency generator engine; miscellaneous process vents; pipeline component leaks; pipeline liquids truck loading	

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CITATION TO AND DESCRIPTION OF APPLICABLE STATE-
ONLY ENFORCEABLE REQUIREMENTS

Registration No.: _____

Emissions Unit No.: Eng-92101, Eng-92102, Eng-92135, 921WBH01, 921WBH04,
921WBH02, 921WBH03, 921SBH05, 921SBH06, TK-02A, TK-02B

General Reference: COMAR 26.11.06.08

Briefly describe the requirement and the emission limit (if applicable):

An installation may not be operated or maintained in such a manner that a nuisance or air pollution is
created.

Methods used to demonstrate compliance:

Periodic surveys in and around the premises

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CITATION TO AND DESCRIPTION OF APPLICABLE STATE-
ONLY ENFORCEABLE REQUIREMENTS

Registration No.: _____

Emissions Unit No.: Eng-92101, Eng-92102, Eng-92135, 921WBH01, 921WBH04,
921WBH02, 921WBH03, 921SBH05, 921SBH06, TK-02A, TK-02B

General Reference: COMAR 26.11.06.09

Briefly describe the requirement and the emission limit (if applicable):

A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors
beyond the property line in such a manner that a nuisance or air pollution is created.

Methods used to demonstrate compliance:

Periodic surveys in and around the premises

MARYLAND DEPARTMENT OF THE ENVIRONMENT

CITATION TO AND DESCRIPTION OF APPLICABLE STATE-
ONLY ENFORCEABLE REQUIREMENTS

Registration No.: _____

Emissions Unit No.: Eng-92101, Eng-92102, Eng-92135, 921WBH01, 921WBH04, 921WBH02,
921WBH03, 921SBH05, 921SBH06, TK-02A, TK-02B

General Reference: COMAR 26.11.15 and 16

Briefly describe the requirement and the emission limit (if applicable):

Record Keeping and Reporting:

The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

- (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or
- (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

Methods used to demonstrate compliance:

Preparation and submittal of Annual Emissions Certification.

APPENDIX B: MDE CHECKLIST OF INSIGNIFICANT ACTIVITIES

III. Check-off List of Emissions Units and Activities Exempt from the Part 70 Permit Application

Insignificant Activities

Place a check mark beside each type of emissions unit or activity that is located at the facility. Where noted, please indicate the number of that type of emissions unit or activity located at the facility.

- (1) No. ___ Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;
- (2) No. ___ Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;
- (3) No. 1 Stationary internal combustion engines with less than 500 brake horsepower (373 kilowatts) of power output
- (4) 5 Space heaters utilizing direct heat transfer and used solely for comfort heat;
- (5) ___ Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;
- (6) No. ___ Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;
- (7) ___ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;
- (8) ___ Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity, or any combination of these;
- (9) ___ Confection cookers where the products are edible and intended for human consumption;
- (10) ___ Die casting machines;
- (11) ___ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;
- (12) ___ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

- (13) ___ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;
- (14) ___ Equipment for washing or drying products fabricated from metal or glass, provided that no VOC is used in the process and that no oil or solid fuel is burned;
- (15) ___ Containers, reservoirs, or tanks used exclusively for electrolytic plating work, or electrolytic polishing, or electrolytic stripping of brass, bronze, cadmium, copper, iron, lead, nickel, tin, zinc, and precious metals;
- (16) Containers, reservoirs, or tanks used exclusively for:
- (a) ___ Dipping operations for applying coatings of natural or synthetic resins that contain no VOC;
 - (b) ___ Dipping operations for coating objects with oils, waxes, or greases, and where no VOC is used;
 - (c) ___ Storage of butane, propane, or liquefied petroleum, or natural gas;
 - (d) No. 5 Storage of lubricating oils;
 - (e) No. ___ Unheated storage of VOC with an initial boiling point of 300 °F
 - (f) No. ___ Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel,
 - (g) No. ___ Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;
 - (h) No. ___ The storage of VOC normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings and having individual capacities of 2,000 gallons (7.6 cubic meters) or less;
- (17) ___ Gaseous fuel-fired or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials;

- (18) Crucible furnaces, pot furnaces, or induction furnaces, with individual capacities of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, or any fluxing is conducted using chloride, fluoride, or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:
- (a) ___ Aluminum or any alloy containing over 50 percent aluminum, if no gaseous chloride compounds, chlorine, aluminum chloride, or aluminum fluoride is used;
 - (b) ___ Magnesium or any alloy containing over 50 percent magnesium;
 - (c) ___ Lead or any alloy containing over 50 percent lead;
 - (d) ___ Tin or any alloy containing over 50 percent tin;
 - (e) ___ Zinc or any alloy containing over 50 percent zinc;
 - (f) ___ Copper;
 - (g) ___ Precious metals;
- (19) 2 Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;
- (20) ___ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;
- (21) ___ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;
- (22) ___ Potable water treatment equipment, not including air stripping equipment;
- (23) ___ Firing and testing of military weapons and explosives;
- (24) ___ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;
- (25) ___ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;
- (26) ___ Grain, metal, or mineral extrusion presses;
- (27) ___ Breweries with an annual beer production less than 60,000 barrels;

(28) ___ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(29) ___ Laboratory fume hoods and vents;

(30) No. ___ Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

For the following, attach additional pages as necessary:

(31) any other emissions unit, not listed in this section, with a potential to emit less than the “de minimus” levels listed in COMAR 26.11.02.10X (list and describe units):

No. ___ (See attached list) _____

No. ___ _____

No. ___ _____

No. ___ _____

No. ___ _____

(32) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. ___ _____

No. ___ _____

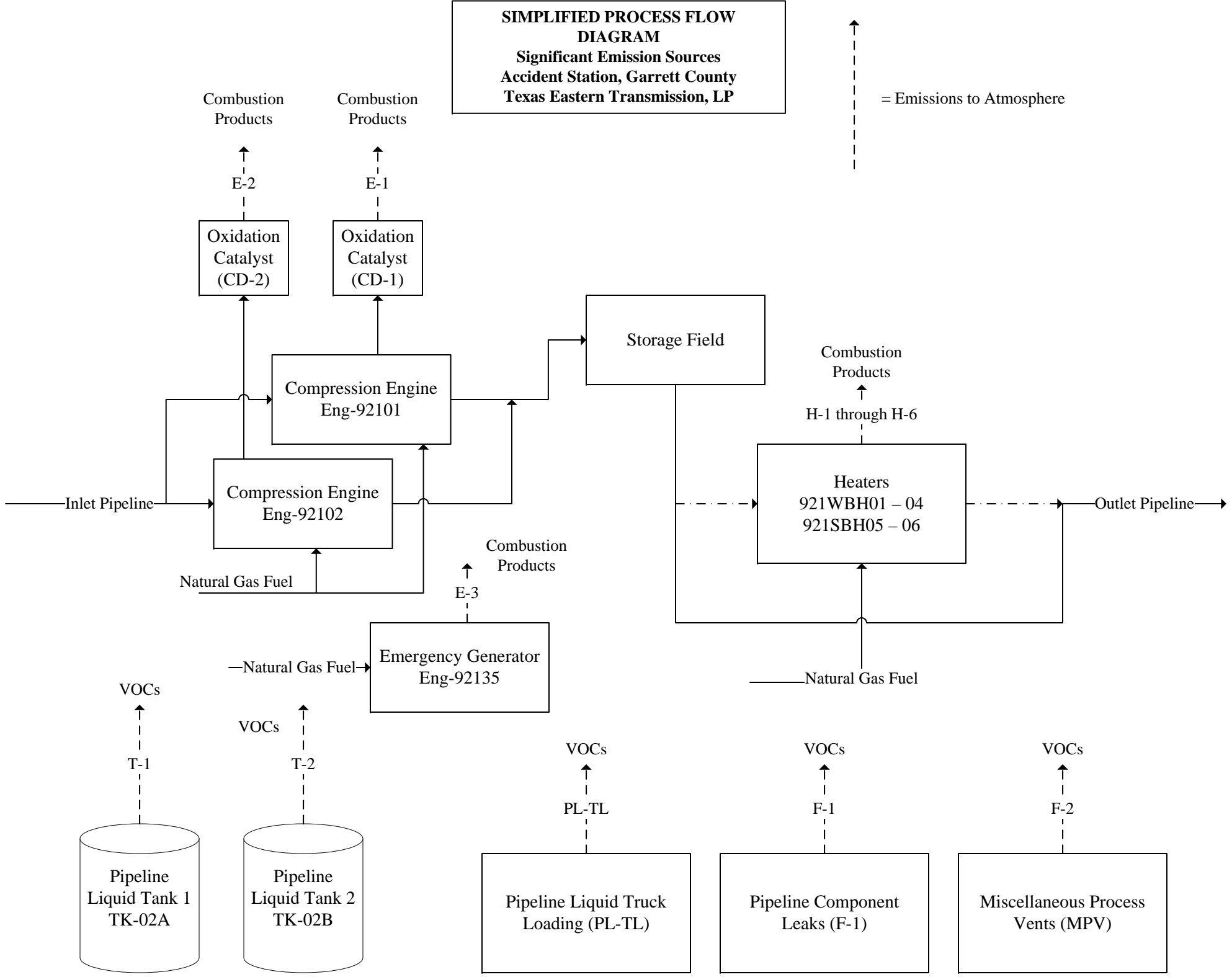
No. ___ _____

List of Additional Insignificant Activities at the Accident Compressor Station

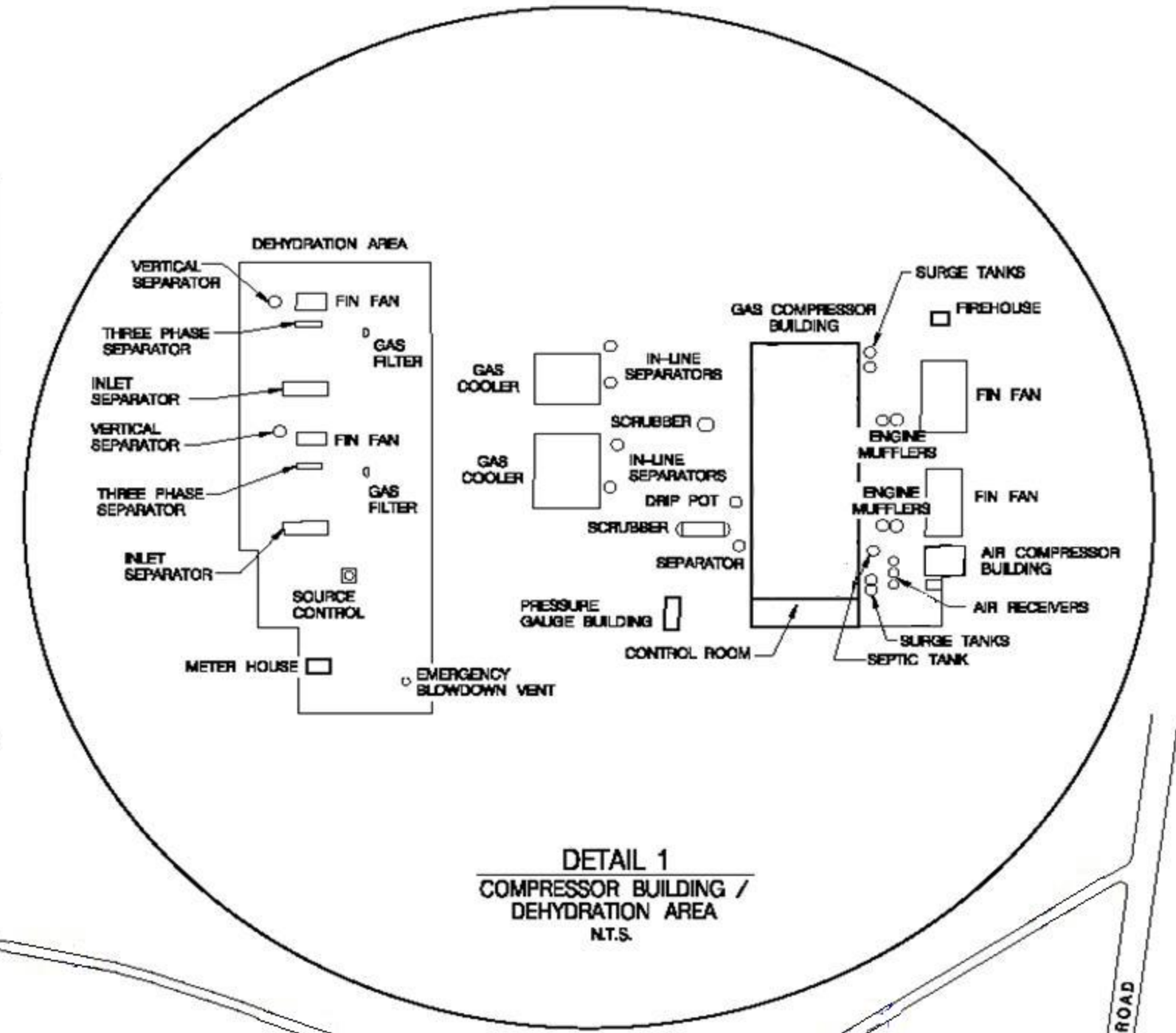
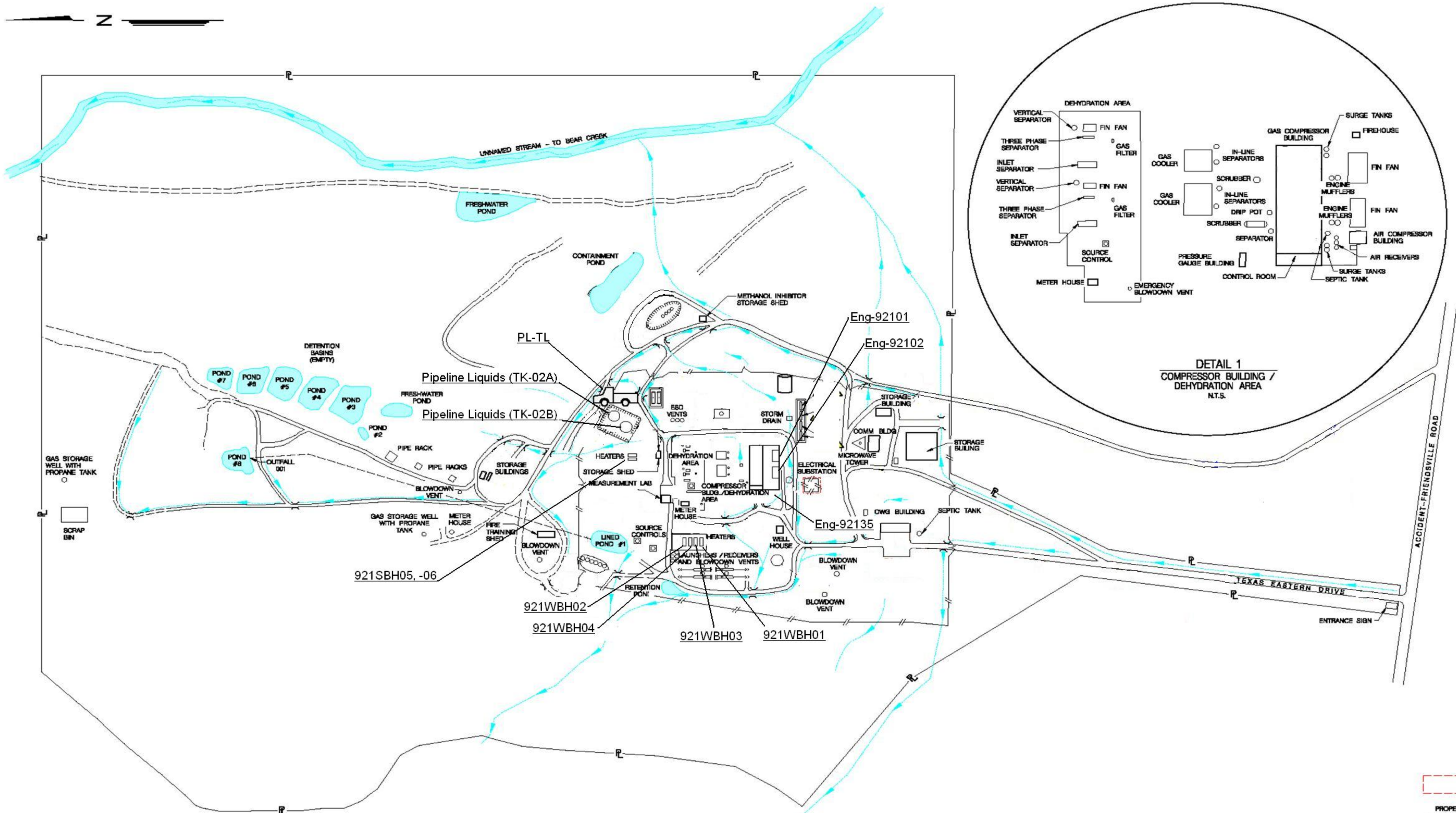
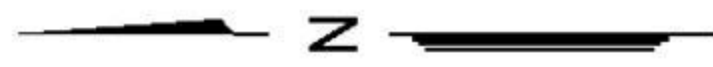
Emission Unit	Description	Size	COMAR Reference
Tank ACC1	Used Oil (AST)	2,940 gal.	26.11.03.04A(3)
Tanks ACC3-3F	Waste methanol/water (6- AST)	8,450 gal.	26.11.02.10X
Tanks ACC4A, -4B	Pipeline Liquids (2- AST)	1,500 gal.	26.11.02.10X
Tank ACC5	Scrubber Oil (AST)	345 gal.	26.11.03.04A(3)
Tank ACC6	Cylinder Oil (AST)	700 gal.	26.11.03.04A(3)
Tanks ACC7A,-7B	Lube Oil (2- AST)	3,000 gal.	26.11.03.04A(3)
Tank ACC9	Ambitrol (1 - UST)	4,200 gal.	26.11.02.10X
Tanks ACCI-MeOH 01 thru ACCI-MeOH04	Wastewater/methanol (4- AST)	10,000 gal.	26.11.02.10X
"new" (2007)	Methanol (1 - AST)	10,000 gal.	26.11.02.10X
"new" (2007)	Methanol (6- AST)	900 gal.	26.11.02.10X
T.Load	Truck loading activities	--	26.11.02.10X
PW	SafetyKleen Parts Washer	--	26.11.02.10X
Wastewater/Methanol Tank	Wastewater/methanol (1 – AST)	24,300 gal.	26.11.02.10X
Tank DEF-1	Defoamer tank (Process tank)	500 gal.	26.11.02.10X
Tank AC-1	Stores condensate from air compressor (Process tank)	500 gal.	26.11.02.10X

APPENDIX C: PROCESS FLOW DIAGRAMS FOR ACCIDENT COMPRESSOR STATION

**SIMPLIFIED PROCESS FLOW
DIAGRAM**
Significant Emission Sources
Accident Station, Garrett County
Texas Eastern Transmission, LP



APPENDIX D: ACCIDENT COMPRESSOR STATION PLOT PLAN



PROPERTY OF
ALLEGHENY POWER
(724) 836-4140

ACCIDENT COMPRESSOR STATION PLOT PLAN (OPERATIONS AREA)

APPENDIX E: MDE APPLICATION COMPLETENESS CHECKLIST

VI. Application Completeness Checklist

The purpose of this part is to list the information required to achieve a Part 70 application shield.

Cover Page – See Appendix A

- (x) Name and address of owner or operator, including telephone number.
- (x) Name and address of facility, including the plant manager's name and telephone number.
- (x) A 24-hour emergency telephone number for air pollution matters.

Section 1 CERTIFICATION STATEMENTS – See Appendix A

- (x) The certification statement completed and signed by a responsible official.

Section 2 FACILITY DESCRIPTION SUMMARY – See Appendix A

- (x) A brief description of each of the source's process(es), including all applicable SIC codes and end products.
- (x) Flow diagrams indicating all emissions units, emission points, and control devices. – **See Appendix C**
- (x) A plot plan of the entire facility. – **See Appendix D**
- (x) Emission Certification Report. – **See Appendix H**
- (x) General Emissions Information. – **See Appendix F**

Section 3 EMISSIONS UNIT DESCRIPTIONS – See Appendix A

This section must be completed for each emissions unit.

Part A

- (x) Emissions unit number.
- (x) Detailed description of unit, including all emission points.
- (x) Federally enforceable limit(s) on the operating schedule.

- (x) Fuel consumption information for any emissions unit that consumes fuel including the type of fuel, percent sulfur, and annual usage of fuel.

Part B

- (x) A citation and description of each federally enforceable requirement, including all emission standards, for each emissions unit.
- (x) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.
- (x) The frequency of submittal of the compliance demonstration during the permit term.

Part C

- (N/A) Emissions unit number.
- (N/A) Permit to construct number.
- (N/A) Emissions point number(s).
- (N/A) Date(s) the permit to construct was issued.
- (N/A) Condition number(s) as indicated on the permit to construct.
- (N/A) Description of the permit condition(s) and the reason(s) why they are believed to be obsolete, extraneous, or insignificant.

Part D

- (N/A) Description of all alternate operating scenarios that apply to an emissions unit.
- (N/A) Number assigned to each scenario.
- (N/A) Emissions unit number.
- (N/A) Description of the operating parameters for the emissions unit and other information which describes the how the operation of the unit will change under the different scenario.

Part E

- (N/A) A citation and description of each federally enforceable requirement triggered by an operating scenario, including all emission standards, for each emissions unit.

(N/A) As an attachment, the date and results of the most recent compliance demonstration for each emission standard and/or emissions certification report with relevant supporting documentation.

(N/A) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.

(N/A) The frequency of submittal of the compliance demonstration during the permit term.

Section 4 CONTROL EQUIPMENT – See Appendix A

(x) The type of each piece of air pollution control equipment

(x) The capture and control efficiencies of the control equipment.

Section 5 SUMMARY SHEET OF POTENTIAL EMISSIONS – See Appendix A

(x) Quantity of potential emissions for criteria pollutants and HAPs emitted in tons per year for each emissions unit.

(x) Fugitive emission estimations for the entire facility for criteria pollutants and HAPs emitted in tons per year.

(x) Basis for all emission calculations.

**Section 6 AN EXPLANATION OF PROPOSED EXEMPTIONS FROM
OTHERWISE APPLICABLE FEDERALLY
ENFORCEABLE REQUIREMENTS – See Appendix A**

(N/A) An explanation of the proposed exemption.

**Section 7 COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS
UNITS – See Appendix A**

(N/A) Identification of emissions unit(s) not in compliance, including the requirement being violated and the effective compliance date.

(N/A) Detailed description of methods to be used to achieve compliance.

(N/A) A schedule of remedial measures, including an enforceable sequence of actions with milestones.

Attachment

- (x) Checklist of Insignificant Activities – **See Appendix B**
- (N/A) CAM Plan (If Applicable) – **See Section 2 of the Report**

APPENDIX F: POTENTIAL TO EMIT EMISSIONS CALCULATIONS

**Summary of Potential to Emit
Accident Compressor Station
Significant Emission Units**

Source	92101	92102	92135	921SBH05	921SBH06	921WBH01	921WBH02	921WBH03	921WBH04	TK-02A:02B	PL-TL	MVP	FUG	Total
NO _x	70.42 tpy	70.42 tpy	2.64 tpy	1.29 tpy	1.29 tpy	6.44 tpy	5.15 tpy	5.15 tpy	6.44 tpy					169.24 tpy
CO	26.71 tpy	26.71 tpy	4.32 tpy	1.08 tpy	1.08 tpy	5.41 tpy	4.33 tpy	4.33 tpy	5.41 tpy					79.38 tpy
SO ₂	0.09 tpy	0.09 tpy	0.00 tpy	0.01 tpy	0.01 tpy	0.04 tpy	0.03 tpy	0.03 tpy	0.04 tpy					0.34 tpy
PM ₁₀	7.44 tpy	7.44 tpy	0.02 tpy	0.10 tpy	0.10 tpy	0.49 tpy	0.39 tpy	0.39 tpy	0.49 tpy					16.86 tpy
TOC (Total)	358.51 tpy	358.51 tpy	0.42 tpy	0.14 tpy	0.14 tpy	0.71 tpy	0.57 tpy	0.57 tpy	0.71 tpy			3,481.77	7,950.75 tpy	12,152.80 tpy
Methane	322.69 tpy	322.69 tpy	0.27 tpy	0.03 tpy	0.03 tpy	0.15 tpy	0.12 tpy	0.12 tpy	0.15 tpy			3,243.00	7,405.50 tpy	11,294.73 tpy
Ethane	15.46 tpy	15.46 tpy	0.08 tpy	0.04 tpy	0.04 tpy	0.20 tpy	0.16 tpy	0.16 tpy	0.20 tpy			149.90	342.30 tpy	524.00 tpy
VOC (Total)	20.56 tpy	20.56 tpy	0.03 tpy	0.07 tpy	0.07 tpy	0.35 tpy	0.28 tpy	0.28 tpy	0.35 tpy	4.83 tpy	1.38 tpy	88.88 tpy	202.95 tpy	340.62 tpy
CO ₂	17,976.73 tpy	17,976.73 tpy	135.54 tpy	1,533.86 tpy	1,533.86 tpy	7,669.29 tpy	6,135.43 tpy	6,135.43 tpy	7,669.29 tpy					66,766.16 tpy
N ₂ O	0.03 tpy	0.03 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.01 tpy	0.01 tpy	0.01 tpy	0.01 tpy					0.13 tpy
CO ₂ e	26,053.96 tpy	26,053.96 tpy	142.29 tpy	1,535.46 tpy	1,535.46 tpy	7,677.30 tpy	6,141.84 tpy	6,141.84 tpy	7,677.30 tpy			81,074.97 tpy	185,137.57 tpy	349,171.96 tpy
HAP (Total)	9.92 tpy	9.92 tpy	0.04 tpy	0.02 tpy	0.02 tpy	0.12 tpy	0.10 tpy	0.10 tpy	0.12 tpy	0.07 tpy	0.02 tpy	8.57 tpy	19.56 tpy	48.57 tpy
Acetaldehyde	1.04 tpy	1.04 tpy	0.00 tpy											2.08 tpy
Acrolein	1.30 tpy	1.30 tpy	0.00 tpy											2.60 tpy
Benzene	0.30 tpy	0.30 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.02 tpy	0.01 tpy	0.35 tpy	0.80 tpy	1.78 tpy
Butadiene (1,3-)	0.14 tpy	0.14 tpy	0.00 tpy											0.28 tpy
Carbon Tetrachloride	0.01 tpy	0.01 tpy	0.00 tpy											0.03 tpy
Chlorobenzene	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Chloroethane														0.00 tpy
Chloroform	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Dichloroethane (1,2-)	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Dichloropropane (1,2-)	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Dichloropropene (1,3-)	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Ethylbenzene	0.02 tpy	0.02 tpy	0.00 tpy									0.02 tpy	0.05 tpy	0.11 tpy
Ethylene Dibromide	0.01 tpy	0.01 tpy	0.00 tpy											0.03 tpy
Formaldehyde	6.14 tpy	6.14 tpy	0.02 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy					12.33 tpy
Hexane (n-)	0.08 tpy	0.08 tpy		0.02 tpy	0.02 tpy	0.12 tpy	0.09 tpy	0.09 tpy	0.12 tpy	0.04 tpy	0.01 tpy	4.79 tpy	10.93 tpy	16.39 tpy
Methanol	0.39 tpy	0.39 tpy	0.00 tpy											0.78 tpy
Methylene Chloride	0.03 tpy	0.03 tpy	0.00 tpy											0.07 tpy
Methylnaphthalene (2-)	0.00 tpy	0.00 tpy												0.01 tpy
Naphthalene	0.02 tpy	0.02 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy			0.03 tpy	0.06 tpy	0.12 tpy
PAH	0.02 tpy	0.02 tpy	0.00 tpy											0.05 tpy
Phenol	0.01 tpy	0.01 tpy												0.01 tpy
Propylene Oxide														0.00 tpy
Styrene	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Tetrachloroethane (1,1,2,2-)	0.01 tpy	0.01 tpy	0.00 tpy											0.03 tpy
Toluene	0.13 tpy	0.13 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.00 tpy	0.01 tpy	0.00 tpy	0.35 tpy	0.80 tpy	1.42 tpy
Trichloroethane (1,1,2-)	0.01 tpy	0.01 tpy	0.00 tpy											0.02 tpy
Trimethylpentane (2,2,4-)	0.14 tpy	0.14 tpy										0.19 tpy	0.44 tpy	0.92 tpy
Vinyl Chloride	0.01 tpy	0.01 tpy	0.00 tpy											0.01 tpy
Xylenes	0.05 tpy	0.05 tpy	0.00 tpy							0.00 tpy	0.00 tpy	0.11 tpy	0.26 tpy	0.46 tpy

TABLE A-1
2-Stroke Lean-Burn Reciprocating Engines
Hourly and Annual Emission Estimates

Source	92101, 92102					
Type	2slb					
Make	Clark					
Model	TCV-16					
Fuel	Natural Gas					
Fuel Higher Heating Value (HHV)		1,020 BTU/scf			1,020 BTU/scf	
Ambient Temperature		80 °F			80 °F	
Power Output		5,500 bhp (mech.)			5,500 bhp (mech.)	
		4,101 kW (elec.)			4,101 kW (elec.)	
Heat Rate at HHV		8,000 BTU/hp-hr			8,000 BTU/hp-hr	
Operating Hours		7,000 hrs/yr				
Fuel Consumption		43,137 scfh			43,137 scfh	
		301,961 MMscf/yr				
Heat Input at HHV		44.00 MMBTU/hr			44.00 MMBTU/hr	
		308,000 MMBTU/yr	Controlled			Controlled
Pollutant	Control Efficiency	Uncontrolled	Avg. Hourly	Max. Annual	Uncontrolled	Max. Hourly
NO _x		466.42 lb/MMscf	20.1200 lb/hr	70.4200 tpy	466.42 lb/MMscf	20.1200 lb/hr
CO	58.00% by weight	421.21 lb/MMscf	7.6314 lb/hr	26.7099 tpy	421.21 lb/MMscf	7.6314 lb/hr
SO ₂		0.60 lb/MMscf	0.0259 lb/hr	0.0906 tpy	0.60 lb/MMscf	0.0259 lb/hr
PM ₁₀		49.28 lb/MMscf	2.1256 lb/hr	7.4397 tpy	49.28 lb/MMscf	2.1256 lb/hr
TOC (Total)	1.77% by weight	2,417.32 lb/MMscf	102.4326 lb/hr	358.5142 tpy	2,417.32 lb/MMscf	102.4326 lb/hr
Methane	0.00% by weight	2,137.27 lb/MMscf	92.1958 lb/hr	322.6854 tpy	2,137.27 lb/MMscf	92.1958 lb/hr
Ethane	2.00% by weight	104.50 lb/MMscf	4.4179 lb/hr	15.4626 tpy	104.50 lb/MMscf	4.4179 lb/hr
VOC (Total)	23.00% by weight	176.88 lb/MMscf	5.8751 lb/hr	20.5629 tpy	176.88 lb/MMscf	5.8751 lb/hr
CO ₂		53.06 kg/MMBtu	5,136.2080 lb/hr	17,976.7280 tpy	53.06 kg/MMBtu	5,136.2080 lb/hr
N ₂ O		1.00E-04 kg/MMBtu	0.0097 lb/hr	0.0339 tpy	1.00E-04 kg/MMBtu	0.0094 lb/hr
CO ₂ e				26,053.9597 tpy		
HAP (Total)	43.98% by weight	117.23 lb/MMscf	2.8329 lb/hr	9.9152 tpy	117.23 lb/MMscf	2.8329 lb/hr
Acetaldehyde	40.00% by weight	1.14E+01 lb/MMscf	0.2960 lb/hr	1.0362 tpy	1.14E+01 lb/MMscf	0.2960 lb/hr
Acrolein	25.00% by weight	1.15E+01 lb/MMscf	0.3710 lb/hr	1.2985 tpy	1.15E+01 lb/MMscf	0.3710 lb/hr
Benzene	30.00% by weight	2.86E+00 lb/MMscf	0.0863 lb/hr	0.3022 tpy	2.86E+00 lb/MMscf	0.0863 lb/hr
Butadiene (1,3-)	23.00% by weight	1.21E+00 lb/MMscf	0.0401 lb/hr	0.1405 tpy	1.21E+00 lb/MMscf	0.0401 lb/hr
Carbon Tetrachloride	0.00% by weight	8.95E-02 lb/MMscf	0.0039 lb/hr	0.0135 tpy	8.95E-02 lb/MMscf	0.0039 lb/hr
Chlorobenzene	0.00% by weight	6.54E-02 lb/MMscf	0.0028 lb/hr	0.0099 tpy	6.54E-02 lb/MMscf	0.0028 lb/hr
Chloroethane						
Chloroform	0.00% by weight	6.94E-02 lb/MMscf	0.0030 lb/hr	0.0105 tpy	6.94E-02 lb/MMscf	0.0030 lb/hr
Dichloroethane (1,2-)	0.00% by weight	6.22E-02 lb/MMscf	0.0027 lb/hr	0.0094 tpy	6.22E-02 lb/MMscf	0.0027 lb/hr
Dichloropropane (1,2-)	0.00% by weight	6.57E-02 lb/MMscf	0.0028 lb/hr	0.0099 tpy	6.57E-02 lb/MMscf	0.0028 lb/hr
Dichloropropene (1,3-)	0.00% by weight	6.46E-02 lb/MMscf	0.0028 lb/hr	0.0097 tpy	6.46E-02 lb/MMscf	0.0028 lb/hr
Ethylbenzene	23.00% by weight	1.59E-01 lb/MMscf	0.0053 lb/hr	0.0185 tpy	1.59E-01 lb/MMscf	0.0053 lb/hr
Ethylene Dibromide	23.00% by weight	1.08E-01 lb/MMscf	0.0036 lb/hr	0.0126 tpy	1.08E-01 lb/MMscf	0.0036 lb/hr
Formaldehyde	50.00% by weight	8.14E+01 lb/MMscf	1.7549 lb/hr	6.1422 tpy	8.14E+01 lb/MMscf	1.7549 lb/hr
Hexane (n-)	23.00% by weight	6.56E-01 lb/MMscf	0.0218 lb/hr	0.0763 tpy	6.56E-01 lb/MMscf	0.0218 lb/hr
Methanol	30.00% by weight	3.66E+00 lb/MMscf	0.1104 lb/hr	0.3863 tpy	3.66E+00 lb/MMscf	0.1104 lb/hr
Methylene Chloride	0.00% by weight	2.17E-01 lb/MMscf	0.0093 lb/hr	0.0327 tpy	2.17E-01 lb/MMscf	0.0093 lb/hr
Methylnaphthalene (2-)	23.00% by weight	3.15E-02 lb/MMscf	0.0010 lb/hr	0.0037 tpy	3.15E-02 lb/MMscf	0.0010 lb/hr
Naphthalene	18.00% by weight	1.42E-01 lb/MMscf	0.0050 lb/hr	0.0176 tpy	1.42E-01 lb/MMscf	0.0050 lb/hr
PAH	23.00% by weight	1.98E-01 lb/MMscf	0.0066 lb/hr	0.0230 tpy	1.98E-01 lb/MMscf	0.0066 lb/hr
Phenol	23.00% by weight	6.21E-02 lb/MMscf	0.0021 lb/hr	0.0072 tpy	6.21E-02 lb/MMscf	0.0021 lb/hr
Propylene Oxide						
Styrene	0.00% by weight	8.08E-02 lb/MMscf	0.0035 lb/hr	0.0122 tpy	8.08E-02 lb/MMscf	0.0035 lb/hr
Tetrachloroethane (1,1,2,2-)	0.00% by weight	9.77E-02 lb/MMscf	0.0042 lb/hr	0.0148 tpy	9.77E-02 lb/MMscf	0.0042 lb/hr
Toluene	40.00% by weight	1.42E+00 lb/MMscf	0.0367 lb/hr	0.1286 tpy	1.42E+00 lb/MMscf	0.0367 lb/hr
Trichloroethane (1,1,2-)	0.00% by weight	7.77E-02 lb/MMscf	0.0034 lb/hr	0.0117 tpy	7.77E-02 lb/MMscf	0.0034 lb/hr
Trimethylpentane (2,2,4-)	23.00% by weight	1.25E+00 lb/MMscf	0.0414 lb/hr	0.1450 tpy	1.25E+00 lb/MMscf	0.0414 lb/hr
Vinyl Chloride	0.00% by weight	3.64E-02 lb/MMscf	0.0016 lb/hr	0.0055 tpy	3.64E-02 lb/MMscf	0.0016 lb/hr
Xylenes	23.00% by weight	3.95E-01 lb/MMscf	0.0131 lb/hr	0.0459 tpy	3.95E-01 lb/MMscf	0.0131 lb/hr

NOTES

- Fuel higher heating value selected to correspond to AP-42 emissions factors, but representative of gas in Maryland.
- Manufacturer provided data on power output and heat rate.
- Runtime is based on half of the runtime cap for both engines combined. 14,084 hrs/yr
- Maximum hourly emissions based on 100% of rated capacity.
- NO_x, CO and VOC emissions based on data provided by manufacturer. Since the NO_x guarantee is 125 ppmvd at 15% O₂, the NO_x mass flow rate is estimated based on exhaust characteristic determined during stack testing on 12/10/03.
- All other emissions based on data provided in Table 3.2-1 of AP-42 (dated 7/00).
- Methane, Ethane, TOC, HAP, and Speciate TAP AP-42 emission factors were scaled based on manufacturer's data for VOC:
 $EF_{Scaled} = (EF_{AP42})(EF_{VOC}/EF_{VOC-AP42})$
- Oxidation catalyst reduction efficiencies based on information provided by vendor.
- CO₂ and N₂O emission factors from 40 CFR Part 98, Subpart C, Table C-1 and C-2. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR Part 98, Subpart A, Table A-1.

Global Warming Potentials:	CO ₂	1
	CH ₄	25
	N ₂ O	298

**TABLE A-2
4-Stroke Rich-Burn Reciprocating Engines
Hourly and Annual Emission Estimates**

Source	92135			92135	
Type	4srb			4srb	
Make	Caterpillar			Caterpillar	
Model	G398			G398	
Fuel	Natural Gas			Natural Gas	
Fuel Higher Heating Value (HHV)	1,020 BTU/scf			1,020 BTU/scf	
Ambient Temperature	80 °F			80 °F	
Power Output	500 bhp (mech.)			550 bhp (mech.)	
	373 kW (elec.)			410 kW (elec.)	
Heat Rate at HHV	9,289 BTU/hp-hr			9,289 BTU/hp-hr	
Operating Hours	500 hrs/yr				
Fuel Consumption	4,553 scfh			5,009 scfh	
	2.277 MMBTU/yr				
Heat Input at HHV	4.64 MMBTU/hr			5.11 MMBTU/hr	
	2,322 MMBTU/yr	Avg. Hourly	Max. Annual		Max. Hourly
NO _x	2,315.40 lb/MMscf	10.5429 lb/hr	2.6357 tpy	2,315.40 lb/MMscf	11.5972 lb/hr
CO	3,794.40 lb/MMscf	17.2773 lb/hr	4.3193 tpy	3,794.40 lb/MMscf	19.0051 lb/hr
SO ₂	0.60 lb/MMscf	0.0027 lb/hr	0.0007 tpy	0.60 lb/MMscf	0.0030 lb/hr
PM ₁₀	19.80 lb/MMscf	0.0901 lb/hr	0.0225 tpy	19.80 lb/MMscf	0.0992 lb/hr
TOC (Total)	365.16 lb/MMscf	1.6627 lb/hr	0.4157 tpy	365.16 lb/MMscf	1.8290 lb/hr
Methane	234.60 lb/MMscf	1.0682 lb/hr	0.2671 tpy	234.60 lb/MMscf	1.1750 lb/hr
Ethane	71.81 lb/MMscf	0.3270 lb/hr	0.0817 tpy	71.81 lb/MMscf	0.3597 lb/hr
VOC (Total)	30.19 lb/MMscf	0.1375 lb/hr	0.0344 tpy	30.19 lb/MMscf	0.1512 lb/hr
CO ₂	53.06 kg/MMBtu	542.1553 lb/hr	135.5388 tpy	53.06 kg/MMBtu	596.3708 lb/hr
N ₂ O	1.00E-04 kg/MMBtu	0.0010 lb/hr	0.0003 tpy	1.00E-04 kg/MMBtu	0.0011 lb/hr
CO ₂ e			142.2913 tpy		
HAP (Total)	33.07 lb/MMscf	0.1506 lb/hr	0.0376 tpy	33.07 lb/MMscf	0.1656 lb/hr
Acetaldehyde	2.85E+00 lb/MMscf	1.30E-02 lb/hr	3.24E-03 tpy	2.85E+00 lb/MMscf	1.43E-02 lb/hr
Acrolein	2.68E+00 lb/MMscf	1.22E-02 lb/hr	3.05E-03 tpy	2.68E+00 lb/MMscf	1.34E-02 lb/hr
Benzene	1.61E+00 lb/MMscf	7.34E-03 lb/hr	1.83E-03 tpy	1.61E+00 lb/MMscf	8.07E-03 lb/hr
Butadiene (1,3-)	6.76E-01 lb/MMscf	3.08E-03 lb/hr	7.70E-04 tpy	6.76E-01 lb/MMscf	3.39E-03 lb/hr
Carbon Tetrachloride	1.81E-02 lb/MMscf	8.22E-05 lb/hr	2.06E-05 tpy	1.81E-02 lb/MMscf	9.04E-05 lb/hr
Chlorobenzene	1.32E-02 lb/MMscf	5.99E-05 lb/hr	1.50E-05 tpy	1.32E-02 lb/MMscf	6.59E-05 lb/hr
Chloroethane					
Chloroform	1.40E-02 lb/MMscf	6.36E-05 lb/hr	1.59E-05 tpy	1.40E-02 lb/MMscf	7.00E-05 lb/hr
Dichloroethane (1,2-)	1.15E-02 lb/MMscf	5.25E-05 lb/hr	1.31E-05 tpy	1.15E-02 lb/MMscf	5.77E-05 lb/hr
Dichloropropane (1,2-)	1.33E-02 lb/MMscf	6.04E-05 lb/hr	1.51E-05 tpy	1.33E-02 lb/MMscf	6.64E-05 lb/hr
Dichloropropene (1,3-)	1.30E-02 lb/MMscf	5.90E-05 lb/hr	1.47E-05 tpy	1.30E-02 lb/MMscf	6.49E-05 lb/hr
Ethylbenzene	2.53E-02 lb/MMscf	1.15E-04 lb/hr	2.88E-05 tpy	2.53E-02 lb/MMscf	1.27E-04 lb/hr
Ethylene Dibromide	2.17E-02 lb/MMscf	9.89E-05 lb/hr	2.47E-05 tpy	2.17E-02 lb/MMscf	1.09E-04 lb/hr
Formaldehyde	2.09E+01 lb/MMscf	9.52E-02 lb/hr	2.38E-02 tpy	2.09E+01 lb/MMscf	1.05E-01 lb/hr
Hexane (n-)					
Methanol	3.12E+00 lb/MMscf	1.42E-02 lb/hr	3.55E-03 tpy	3.12E+00 lb/MMscf	1.56E-02 lb/hr
Methylene Chloride	4.20E-02 lb/MMscf	1.91E-04 lb/hr	4.78E-05 tpy	4.20E-02 lb/MMscf	2.10E-04 lb/hr
Methylnaphthalene (2-)					
Naphthalene	9.90E-02 lb/MMscf	4.51E-04 lb/hr	1.13E-04 tpy	9.90E-02 lb/MMscf	4.96E-04 lb/hr
PAH	1.44E-01 lb/MMscf	6.55E-04 lb/hr	1.64E-04 tpy	1.44E-01 lb/MMscf	7.20E-04 lb/hr
Phenol					
Propylene Oxide					
Styrene	1.21E-02 lb/MMscf	5.53E-05 lb/hr	1.38E-05 tpy	1.21E-02 lb/MMscf	6.08E-05 lb/hr
Tetrachloroethane (1,1,2,2-)	2.58E-02 lb/MMscf	1.18E-04 lb/hr	2.94E-05 tpy	2.58E-02 lb/MMscf	1.29E-04 lb/hr
Toluene	5.69E-01 lb/MMscf	2.59E-03 lb/hr	6.48E-04 tpy	5.69E-01 lb/MMscf	2.85E-03 lb/hr
Trichloroethane (1,1,2-)	1.56E-02 lb/MMscf	7.11E-05 lb/hr	1.78E-05 tpy	1.56E-02 lb/MMscf	7.82E-05 lb/hr
Trimethylpentane (2,2,4-)					
Vinyl Chloride	7.32E-03 lb/MMscf	3.33E-05 lb/hr	8.34E-06 tpy	7.32E-03 lb/MMscf	3.67E-05 lb/hr
Xylenes	1.99E-01 lb/MMscf	9.06E-04 lb/hr	2.26E-04 tpy	1.99E-01 lb/MMscf	9.96E-04 lb/hr

NOTES

- Fuel higher heating value selected to correspond to AP-42 emissions factors, but representative of gas in Maryland.
- Manufacturer provided data on power output and heat rate.
- Maximum hourly emissions based on 110% of rated capacity.
- All emissions based on data provided in Table 3.2-3 of AP-42 (dated 7/00).
- CO₂ and N₂O emission factors from 40 CFR Part 98, Subpart C, Table C-1 and C-2. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR Part 98, Subpart A, Table A-1.

Global Warming Potentials:	CO ₂	1
	CH ₄	25
	N ₂ O	298

**TABLE A-3
Gas-Fired Boilers, Heaters, and Furnaces
Hourly and Annual Emission Estimates**

Source	921SBH05, 921SBH06			921SBH05, 921SBH06	
Type	small boiler - uncontrolled			small boiler - uncontrolled	
Make	Black, Sivalls, & Bryson			Black, Sivalls, & Bryson	
Model	3000SBH			3000SBH	
Fuel	Natural Gas			Natural Gas	
Fuel Higher Heating Value (HHV)	1,020 BTU/scf			1,020 BTU/scf	
Heat Output at HHV	2.40 MMBTU/hr			2.88 MMBTU/hr	
Thermal Efficiency	80%			80%	
Operating Hours	8,760 hrs/yr				
Fuel Consumption	2,941 scfh			3,529 scfh	
	25.765 MMscf/yr				
Heat Input at HHV	3.00 MMBTU/hr			3.60 MMBTU/hr	
	26,280 MMBTU/yr	Avg. Hourly	Max. Annual		Max. Hourly
NO _x	100.00 lb/MMscf	0.2941 lb/hr	1.2882 tpy	100.00 lb/MMscf	0.3529 lb/hr
CO	84.00 lb/MMscf	0.2471 lb/hr	1.0821 tpy	84.00 lb/MMscf	0.2965 lb/hr
SO ₂	0.60 lb/MMscf	0.0018 lb/hr	0.0077 tpy	0.60 lb/MMscf	0.0021 lb/hr
PM ₁₀	7.60 lb/MMscf	0.0224 lb/hr	0.0979 tpy	7.60 lb/MMscf	0.0268 lb/hr
TOC (Total)	11.00 lb/MMscf	0.0324 lb/hr	0.1417 tpy	11.00 lb/MMscf	0.0388 lb/hr
Methane	2.30 lb/MMscf	0.0068 lb/hr	0.0296 tpy	2.30 lb/MMscf	0.0081 lb/hr
Ethane	3.10 lb/MMscf	0.0091 lb/hr	0.0399 tpy	3.10 lb/MMscf	0.0109 lb/hr
VOC (Total)	5.50 lb/MMscf	0.0162 lb/hr	0.0709 tpy	5.50 lb/MMscf	0.0194 lb/hr
CO ₂	53.06 kg/MMBtu	350.1960 lb/hr	1,533.8585 tpy	53.06 kg/MMBtu	420.2352 lb/hr
N ₂ O	1.00E-04 kg/MMBtu	0.0007 lb/hr	0.0029 tpy	1.00E-04 kg/MMBtu	0.0008 lb/hr
CO ₂ e			1,535.4607 tpy		
HAP (Total)	1.88 lb/MMscf	0.0055 lb/hr	0.0242 tpy	1.88 lb/MMscf	0.0066 lb/hr
Acetaldehyde					
Acrolein					
Benzene	2.10E-03 lb/MMscf	0.000062 lb/hr	0.000027 tpy	2.10E-03 lb/MMscf	0.000074 lb/hr
Butadiene (1,3-)					
Carbon Tetrachloride					
Chlorobenzene					
Chloroethane					
Chloroform					
Dichloroethane (1,2-)					
Dichloropropane (1,2-)					
Dichloropropene (1,3-)					
Ethylbenzene					
Ethylene Dibromide					
Formaldehyde	7.50E-02 lb/MMscf	0.00022 lb/hr	0.0010 tpy	7.50E-02 lb/MMscf	0.00026 lb/hr
Hexane (n-)	1.80E+00 lb/MMscf	0.0053 lb/hr	0.0232 tpy	1.80E+00 lb/MMscf	0.0064 lb/hr
Methanol					
Methylene Chloride					
Methylnaphthalene (2-)					
Naphthalene	6.10E-04 lb/MMscf	0.000018 lb/hr	0.0000079 tpy	6.10E-04 lb/MMscf	0.000022 lb/hr
PAH					
Phenol					
Propylene Oxide					
Styrene					
Tetrachloroethane (1,1,2,2-)					
Toluene	3.40E-03 lb/MMscf	0.000010 lb/hr	0.000044 tpy	3.40E-03 lb/MMscf	0.000012 lb/hr
Trichloroethane (1,1,2-)					
Trimethylpentane (2,2,4-)					
Vinyl Chloride					
Xylenes					

NOTES

- Fuel higher heating value selected to correspond to AP-42 emissions factors, but representative of gas in Maryland.
- Manufacturer provided data on rated capacity. Maximum hourly output is assumed to be 120% of rated capacity.
- Thermal efficiency is best guess.
- All emission factors were extracted from Section 1 of AP-42 (date 7/98): Tables 1.4-1, 1.4-2, and 1.4-3.
- CO₂ and N₂O emission factors from 40 CFR Part 98, Subpart C, Table C-1 and C-2. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR Part

Global Warming Potentials:	CO ₂	1
	CH ₄	25
	N ₂ O	298

**TABLE A-4
Gas-Fired Boilers, Heaters, and Furnaces
Hourly and Annual Emission Estimates**

Source	921WBH01, 921WBH04			921WBH01, 921WBH04	
Type	small boiler - uncontrolled			small boiler - uncontrolled	
Make	Black, Sivalls, & Bryson			Black, Sivalls, & Bryson	
Model	59158-01-01, 60108-01-01			59158-01-01, 60108-01-01	
Fuel	Natural Gas			Natural Gas	
Fuel Higher Heating Value (HHV)	1,020 BTU/scf			1,020 BTU/scf	
Heat Output at HHV	12.00 MMBTU/hr			14.40 MMBTU/hr	
Thermal Efficiency	80%			80%	
Operating Hours	8,760 hrs/yr				
Fuel Consumption	14,706 scfh			17,647 scfh	
	128.824 MMscf/yr				
Heat Input at HHV	15.00 MMBTU/hr			18.00 MMBTU/hr	
	131,400 MMBTU/yr	Avg. Hourly	Max. Annual		Max. Hourly
NO _x	100.00 lb/MMscf	1.4706 lb/hr	6.4412 tpy	100.00 lb/MMscf	1.7647 lb/hr
CO	84.00 lb/MMscf	1.2353 lb/hr	5.4106 tpy	84.00 lb/MMscf	1.4824 lb/hr
SO ₂	0.60 lb/MMscf	0.0088 lb/hr	0.0386 tpy	0.60 lb/MMscf	0.0106 lb/hr
PM ₁₀	7.60 lb/MMscf	0.1118 lb/hr	0.4895 tpy	7.60 lb/MMscf	0.1341 lb/hr
TOC (Total)	11.00 lb/MMscf	0.1618 lb/hr	0.7085 tpy	11.00 lb/MMscf	0.1941 lb/hr
Methane	2.30 lb/MMscf	0.0338 lb/hr	0.1481 tpy	2.30 lb/MMscf	0.0406 lb/hr
Ethane	3.10 lb/MMscf	0.0456 lb/hr	0.1997 tpy	3.10 lb/MMscf	0.0547 lb/hr
VOC (Total)	5.50 lb/MMscf	0.0809 lb/hr	0.3543 tpy	5.50 lb/MMscf	0.0971 lb/hr
CO ₂	53.06 kg/MMBtu	1,750.9800 lb/hr	7,669.2924 tpy	53.06 kg/MMBtu	2,101.1760 lb/hr
N ₂ O	1.00E-04 kg/MMBtu	0.0033 lb/hr	0.0145 tpy	1.00E-04 kg/MMBtu	0.0040 lb/hr
CO ₂ e			7,677.3034 tpy		
HAP (Total)	1.88 lb/MMscf	0.0277 lb/hr	0.1212 tpy	1.88 lb/MMscf	0.0332 lb/hr
Acetaldehyde					
Acrolein					
Benzene	2.10E-03 lb/MMscf	0.0000309 lb/hr	0.000135 tpy	2.10E-03 lb/MMscf	0.0000371 lb/hr
Butadiene (1,3-)					
Carbon Tetrachloride					
Chlorobenzene					
Chloroethane					
Chloroform					
Dichloroethane (1,2-)					
Dichloropropane (1,2-)					
Dichloropropene (1,3-)					
Ethylbenzene					
Ethylene Dibromide					
Formaldehyde	7.50E-02 lb/MMscf	0.00110 lb/hr	0.0048 tpy	7.50E-02 lb/MMscf	0.00132 lb/hr
Hexane (n-)	1.80E+00 lb/MMscf	0.0265 lb/hr	0.1159 tpy	1.80E+00 lb/MMscf	0.0318 lb/hr
Methanol					
Methylene Chloride					
Methylnaphthalene (2-)					
Naphthalene	6.10E-04 lb/MMscf	0.0000090 lb/hr	0.0000393 tpy	6.10E-04 lb/MMscf	0.0000108 lb/hr
PAH					
Phenol					
Propylene Oxide					
Styrene					
Tetrachloroethane (1,1,2,2-)					
Toluene	3.40E-03 lb/MMscf	0.000050 lb/hr	0.000219 tpy	3.40E-03 lb/MMscf	0.000060 lb/hr
Trichloroethane (1,1,2-)					
Trimethylpentane (2,2,4-)					
Vinyl Chloride					
Xylenes					

NOTES

- Fuel higher heating value selected to correspond to AP-42 emissions factors, but representative of gas in Maryland.
- Manufacturer provided data on rated capacity. Maximum hourly output is assumed to be 120% of rated capacity.
- Thermal efficiency is best guess.
- All emission factors were extracted from Section 1 of AP-42 (date 7/98): Tables 1.4-1, 1.4-2, and 1.4-3.
- CO₂ and N₂O emission factors from 40 CFR Part 98, Subpart C, Table C-1 and C-2. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR Part
Global Warming Potentials: CO₂ 1
 CH₄ 25
 N₂O 298

**TABLE A-5
Gas-Fired Boilers, Heaters, and Furnaces
Hourly and Annual Emission Estimates**

Source	921WBH02, 921WBH03			921WBH02, 921WBH03	
Type	small boiler - uncontrolled			small boiler - uncontrolled	
Make	BS&B			BS&B	
Model	20611, 16090160			20611, 16090160	
Fuel	Natural Gas			Natural Gas	
Fuel Higher Heating Value (HHV)	1,020 BTU/scf			1,020 BTU/scf	
Heat Output at HHV	9.60 MMBTU/hr			11.52 MMBTU/hr	
Thermal Efficiency	80%			80%	
Operating Hours	8,760 hrs/yr				
Fuel Consumption	11,765 scfh			14,118 scfh	
	103.059 MMscf/yr				
Heat Input at HHV	12.00 MMBTU/hr			14.40 MMBTU/hr	
	105,120 MMBTU/yr	Avg. Hourly	Max. Annual		Max. Hourly
NO _x	100.00 lb/MMscf	1.1765 lb/hr	5.1529 tpy	100.00 lb/MMscf	1.4118 lb/hr
CO	84.00 lb/MMscf	0.9882 lb/hr	4.3285 tpy	84.00 lb/MMscf	1.1859 lb/hr
SO ₂	0.60 lb/MMscf	0.0071 lb/hr	0.0309 tpy	0.60 lb/MMscf	0.0085 lb/hr
PM ₁₀	7.60 lb/MMscf	0.0894 lb/hr	0.3916 tpy	7.60 lb/MMscf	0.1073 lb/hr
TOC (Total)	11.00 lb/MMscf	0.1294 lb/hr	0.5668 tpy	11.00 lb/MMscf	0.1553 lb/hr
Methane	2.30 lb/MMscf	0.0271 lb/hr	0.1185 tpy	2.30 lb/MMscf	0.0325 lb/hr
Ethane	3.10 lb/MMscf	0.0365 lb/hr	0.1597 tpy	3.10 lb/MMscf	0.0438 lb/hr
VOC (Total)	5.50 lb/MMscf	0.0647 lb/hr	0.2834 tpy	5.50 lb/MMscf	0.0776 lb/hr
CO ₂	53.06 kg/MMBtu	1,400.7840 lb/hr	6,135.4339 tpy	53.06 kg/MMBtu	1,680.9408 lb/hr
N ₂ O	1.00E-04 kg/MMBtu	0.0026 lb/hr	0.0116 tpy	1.00E-04 kg/MMBtu	0.0032 lb/hr
CO ₂ e			6,141.8427 tpy		
HAP (Total)	1.88 lb/MMscf	0.0221 lb/hr	0.0970 tpy	1.88 lb/MMscf	0.0266 lb/hr
Acetaldehyde					
Acrolein					
Benzene	2.10E-03 lb/MMscf	0.0000247 lb/hr	0.000108 tpy	2.10E-03 lb/MMscf	0.0000296 lb/hr
Butadiene (1,3-)					
Carbon Tetrachloride					
Chlorobenzene					
Chloroethane					
Chloroform					
Dichloroethane (1,2-)					
Dichloropropane (1,2-)					
Dichloropropene (1,3-)					
Ethylbenzene					
Ethylene Dibromide					
Formaldehyde	7.50E-02 lb/MMscf	0.00088 lb/hr	0.0039 tpy	7.50E-02 lb/MMscf	0.00106 lb/hr
Hexane (n-)	1.80E+00 lb/MMscf	0.0212 lb/hr	0.0928 tpy	1.80E+00 lb/MMscf	0.0254 lb/hr
Methanol					
Methylene Chloride					
Methylnaphthalene (2-)					
Naphthalene	6.10E-04 lb/MMscf	0.0000072 lb/hr	0.0000314 tpy	6.10E-04 lb/MMscf	0.0000086 lb/hr
PAH					
Phenol					
Propylene Oxide					
Styrene					
Tetrachloroethane (1,1,2,2-)					
Toluene	3.40E-03 lb/MMscf	0.000040 lb/hr	0.000175 tpy	3.40E-03 lb/MMscf	0.000048 lb/hr
Trichloroethane (1,1,2-)					
Trimethylpentane (2,2,4-)					
Vinyl Chloride					
Xylenes					

NOTES

- Fuel higher heating value selected to correspond to AP-42 emissions factors, but representative of gas in Maryland.
- Manufacturer provided data on rated capacity. Maximum hourly output is assumed to be 120% of rated capacity.
- Thermal efficiency is best guess.
- All emission factors were extracted from Section 1 of AP-42 (date 7/98): Tables 1.4-1, 1.4-2, and 1.4-3.
- CO₂ and N₂O emission factors from 40 CFR Part 98, Subpart C, Table C-1 and C-2. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR
Global Warming Potentials: CO₂ 1
 CH₄ 25
 N₂O 298

TABLE B-1
Volatile Organic Liquids Storage Tanks
Maximum Hourly and Annual Emission Estimates

Source		TK02A or TK02B				
Service		Pipeline Liquids				
Molecular Weight	Liquid	M_L	92.00 lb/lb-mol			
	Vapor	M_V	62.00 lb/lb-mol			
Vapor Pressure	Monthly (Max.)	P_{max}	10.7470 psia			
	Annual (Avg.)	P_{avg}	6.8405 psia			
Capacity		V	12,600 gal			
Maximum Pumping Rate		Q_{pump}	150 gal/min			
		$Q_{m-h} = \min(V, Q_{pump})$	9,000 gal/hr			
Annual Throughput		N	16.00 turnover/yr			
		$Q_{m-a} = Q_a / (12 \text{ months/year})$	16,800 gal/month			
		$Q_a = V(N)$	201,600 gal/yr			
Standing Losses	Monthly (Max.)		July			
		HRS_{m-m}	744 hrs/month			
		SL_{m-m}	446.42 lbs/month			
	Annual (Avg.)	$SL_{m-h} = SL_{m-m} / HRS_{m-m}$	0.6000 lb/hr			
		SL_a	2,798.53 lb/yr			
Working Losses	Monthly (Max)	WL_{m-m}	213.44 lbs/month			
		$WL_{m-h} = WL_{m-m} / Q_{m-a}$	0.0127 lb/gal			
	Annual (Avg.)	WL_a	2,035.74 lb/yr			
		$WL_{a-a} = WL_a / Q_a$	0.0101 lb/gal			
		Emissions				
			lb/hr	tpy		
			(Max)	(Avg)	(Annual)	
Total Losses	VOC (Total)		100.00% by weight	114.9423 lb/hr	0.5519 lb/hr	2.4171 tpy
	Benzene		0.44% by weight	0.5044 lb/hr	0.0024 lb/hr	0.0106 tpy
	Hexane (n-)		0.92% by weight	1.0617 lb/hr	0.0051 lb/hr	0.0223 tpy
	Methanol					
	Toluene		0.17% by weight	0.1955 lb/hr	0.0009 lb/hr	0.0041 tpy
	Xylenes		0.04% by weight	0.0472 lb/hr	0.0002 lb/hr	0.0010 tpy

NOTES

- USEPA TANKS 4.09b (data from output file is listed in **bold**).
- Emissions are estimated as follows:
 - Hourly = wt%($SL_{m-h} + Q_{m-h}WL_{m-h}$)
 - Annual = wt%($SL_a + WL_a$)/(2000 lb/ton)
- In an effort to be conservative, the physical properties of gasoline (RVP 13) are used to estimate emissions.

TABLE B-2
Volatile Organic Liquids Loading (Tanker Trucks)
Maximum Hourly and Annual Emission Estimates

Source		PL-TL				
Tanker Truck Supply Vessel	ID	TK02 & TK-04				
	Service	Pipeline Liquids				
	Capacity	V	28,200 gal			
	Turnovers	N	16.00 turnover/yr			
	% Trucked-off	TL%	100% by volume			
Tanker Truck Service			Dedicated Normal			
Loading Method			Submerged			
Saturation Factor		S	0.60 n.d.			
Molecular Weight	Liquid	M_L	92.00 lb/lb-mol			
	Vapor	M_V	62.00 lb/lb-mol			
Average Bulk Liquid Temperature	Monthly (Max.)	$T_{m-h} = T_{m-h} - 460$	84.46 °F			
		T_{m-h}	544.46 R			
	Annual (Avg.)	$T_{a-a} = T_{a-a} - 460$	58.50 °F			
		T_{a-a}	518.50 R			
Maximum Vapor Pressure	Monthly (Max.)	P_{max}	10.7470 psia			
	Annual (Avg.)	P_{avg}	6.8405 psia			
Loading Loss Factor	Monthly (Max.)	$LL_{m-h} = 12.46[(S)M_V P_{max}/T_{m-h}]$	9.1492 lb/kgal			
	Annual (Avg.)	$LL_{a-a} = 12.46[(S)M_V P_{avg}/T_{a-a}]$	6.1151 lb/kgal			
Maximum Pumping Rate		Q_{pump}	150 gal/min	Emissions		
		$Q_{m-h} = \min(V, Q_{pump})$	9,000 gal/hr	lb/hr		tpy
Annual Throughput		$Q_a = TL\%(V)(N)$	451,200 gal/yr	(Max)	(Avg)	(Annual)
Loading Losses	VOC (Total)	100.00% by weight	82.3426 lb/hr	0.3150 lb/hr	1.3796 tpy	
	Benzene	0.44% by weight	0.3613 lb/hr	0.0014 lb/hr	0.0061 tpy	
	Hexane (n-)	0.92% by weight	0.7606 lb/hr	0.0029 lb/hr	0.0127 tpy	
	Methanol					
	Toluene	0.17% by weight	0.1401 lb/hr	0.00054 lb/hr	0.0023 tpy	
	Xylenes	0.04% by weight	0.0338 lb/hr	0.00013 lb/hr	0.00057 tpy	

NOTES

1. Emissions calculated using methods provided in USEPA, AP-42 Section 5.2 dated 1/95.
2. Physical property, throughput and speciation data based data from storage tank emission calculation spreadsheet.
3. USEPA TANKS 4.09b (data from output file is listed in **bold**).
4. Emissions are estimated as follows:
 - a. Hourly = (wt%) $LL_{m-h}[Q_{m-h}/(1000 \text{ gal/kgal})]$
 - b. Annual = (wt%) $LL_{a-a}[Q_a/(1000 \text{ gal/kgal})]/(2000 \text{ lb/ton})$

**TABLE C-1
Piping Components
Hourly and Annual Emission Estimates**

Source		F-1				
Service		Gas				
		Natural Gas				
Gas Density		0.0447 lb/scf				
Historical Gas Release Data	Monthly	Maximum	18,581,000 scf/mth			
		Average	15,370,038 scf/mth			
		Median	16,242,000 scf/mth			
	12-Month Period	Maximum	332,636,000 scf/12-mth			
		Average	189,751,838 scf/12-mth			
		Median	185,688,000 scf/12-mth			
Potential Gas Release Data	Hourly	Maximum	18,581,000 scf/hr			
		Average	41,769 scf/hr			
	Annual	365,900,000 scf/yr	Avg. Hourly	Max. Hourly	Max. Annual	
Speciation	TOC (Total)		97.26% by weight	1,815.240 lb/hr	807,504 lb/hr	7,950.7527 tpy
	Methane		90.59% by weight	1,690.7540 lb/hr	752,127 lb/hr	7,405.5026 tpy
	Ethane		4.19% by weight	78.1501 lb/hr	34,765 lb/hr	342.2975 tpy
	VOC (Total)		2.48% by weight	46.3362 lb/hr	20,613 lb/hr	202.9526 tpy
	CO ₂ e			42,268.8506 lb/hr	18,803,176 lb/hr	185,137.5658 tpy
	HAP (Total)		0.24% by weight	4.4656 lb/hr	1,987 lb/hr	19.5595 tpy
	Benzene		0.010% by weight	0.1826 lb/hr	81 lb/hr	0.8000 tpy
	Ethylbenzene		0.001% by weight	0.0117 lb/hr	5 lb/hr	0.0512 tpy
	Hexane (n-)		0.134% by weight	2.4960 lb/hr	1,110 lb/hr	10.9323 tpy
	Naphthalene		0.001% by weight	0.0141 lb/hr	6 lb/hr	0.0618 tpy
	Toluene		0.010% by weight	0.1826 lb/hr	81 lb/hr	0.8000 tpy
	Trimethylpentane (2,2,4-)		0.005% by weight	0.1006 lb/hr	45 lb/hr	0.4408 tpy
	Xylenes		0.003% by weight	0.0585 lb/hr	26 lb/hr	0.2560 tpy

NOTES

1. Historical data release data extracted from gas loss database (01/1998 through 07/2004).
2. Weight percents based on extended gas analysis.
3. Potential maximum hourly gas release is based on the historical maximum monthly gas release data.
4. Potential maximum annual gas release is based on 110% of the historical maximum 12-month gas release data.
5. Potential average hourly gas release is the potential maximum annual gas release divided by 8,760 hrs/yr.
6. Piping component counts are in the process of being obtained for all liquid and gas streams. An addendum to the renewal application will be submitted once all of the data is collected and compiled.
7. CO₂ Equivalent (CO₂e) calculated using Global Warming Potentials from 40 CFR Part 98, Subpart A, Table A-1.

Global Warming Potentials:	CO ₂	1
	CH ₄	25
	N ₂ O	298

**TABLE D-1
Natural Gas Releases
Hourly and Annual Emission Estimates**

Source		MPV				
Service		Gas				
		Natural Gas				
Gas Density		0.0447 lb/scf				
Historical Gas Release Data	Monthly	Maximum	32,816,000 scf/mth			
		Average	6,778,563 scf/mth			
		Median	5,335,000 scf/mth			
	12-Month Period	Maximum	145,667,000 scf/12-mth			
		Average	83,635,599 scf/12-mth			
		Median	82,563,500 scf/12-mth			
Potential Gas Release Data	Hourly	Maximum	32,816,000 scf/hr			
		Average	18,292 scf/hr			
	Annual	160,234,000 scf/yr	Avg. Hourly	Max. Hourly	Max. Annual	
Speciation	TOC (Total)	97.26% by weight	794.9254 lb/hr	1,426,138 lb/hr	3,481.7735 tpy	
	Methane	90.59% by weight	740.4107 lb/hr	1,328,335 lb/hr	3,242.9989 tpy	
	Ethane	4.19% by weight	34.2233 lb/hr	61,398 lb/hr	149.8981 tpy	
	VOC (Total)	2.48% by weight	20.2914 lb/hr	36,404 lb/hr	88.8765 tpy	
	CO _{2e}		18,510.2679 lb/hr	33,208,387 lb/hr	81,074.9733 tpy	
	HAP (Total)	0.24% by weight	1.9556 lb/hr	3,508 lb/hr	8.5655 tpy	
	Benzene	0.010% by weight	0.0800 lb/hr	143 lb/hr	0.3503 tpy	
	Ethylbenzene	0.001% by weight	0.0051 lb/hr	9 lb/hr	0.0224 tpy	
	Hexane (n-)	0.134% by weight	1.0930 lb/hr	1,961 lb/hr	4.7874 tpy	
	Naphthalene	0.001% by weight	0.0062 lb/hr	11 lb/hr	0.0271 tpy	
	Toluene	0.010% by weight	0.0800 lb/hr	143 lb/hr	0.3503 tpy	
	Trimethylpentane (2,2,4-)	0.005% by weight	0.0441 lb/hr	79 lb/hr	0.1930 tpy	
	Xylenes	0.003% by weight	0.0256 lb/hr	46 lb/hr	0.1121 tpy	

NOTES

- Historical data release data extracted from gas loss database (01/1998 through 07/2004).
- Weight percents based on extended gas analysis.
- Potential maximum hourly gas release is based on the historical maximum monthly gas release data.
- Potential maximum annual gas release is based on 110% of the historical maximum 12-month gas release data.
- Potential average hourly gas release is the potential maximum annual gas release divided by 8,760 hrs/yr.
- Gas releases occur on an unscheduled basis and are vented through various vessel or valves, including:
 - V1-921 Compressor Blowdowns/Purges
 - V2-921 Dehydration distillate and blowdown
 - V4S-921 ESD, Shaffer operators 16" line, Shaffer operators for second cut regulators vents
 - V4D-921 Shaffer valve operator vents
 - V1-308 Compressor Blowdowns/Purges
 - V1B-102 Compressor Blowdowns/Purges
 - V2-322 Salt water, methanol and possibly distillate diffuser
 - V2C Blowdown for packing drains and dog house vents, also purge if station yard is going down
- CO₂ Equivalent (CO_{2e}) calculated using Global Warming Potentials from 40 CFR Part 98, Subpart A, Table A-1.

Global Warming Potentials:	CO ₂	1
	CH ₄	25
	N ₂ O	298
- Estimates of fugitive emissions from sources of this type are difficult to accurately quantify. Potential emissions presented here represent best estimates for Title V permitting purposes only.

APPENDIX G: MARYLAND TAX FORM

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Suite 720 • Baltimore, Maryland 21230-1720

410-537-3000. 800-633-6101 • <http://www.mde.state.md.us>

Air and Radiation Management Administration • Air Quality Permits Program

**Budget Reconciliation and Financing Act of 2003
(Commonly referred as Maryland House Bill 935)**

On July 1, 2003, House Bill 935, Chapter 203 amended § 1-203 of the Environment Article, Annotated Code of Maryland, as follows:

Section 1-203(b).

(1) A license or permit is considered renewed for purposes of this subsection if the license or permit is issued by a unit of State government to a person for the period immediately following a period for which the person previously possessed the same or a substantially similar license.

(2) Before any license or permit may be renewed under this article, **the issuing authority shall verify through the office of the Comptroller (emphasis added)** that the applicant has paid all undisputed taxes and the unemployment insurance contributions payable to the Comptroller or the Secretary of Labor, Licensing, and Regulation or that the applicant has provided for payment in a manner satisfactory to the unit responsible for collection.

In order for the Maryland Department of the Environment (MDE) to verify this compliance, we would need you to provide the following information before we can process or issue your renewal license, permit, or certification:

Current MDE License/Permit No.: 24-023-00081

Name of Licensee or Permit Holder: Texas Eastern Transmission, LP.

Address: P.O. Box 1642
Houston, Texas 77251-1642

Contact Name: Reagan Mayces **Title:** EHS Manager

Contact Telephone Number: (713) 627-4790

Privacy Act Notice: This Notice is provided pursuant to the Federal Privacy Act of 1974, 5 U.S.C. § 552a. Disclosure of your Social Security or Federal Tax Identification on this form is mandatory pursuant to the provisions of § 1-203 (2003) of Environment Article, Annotated Code of Maryland, which requires MDE to verify that an applicant for a permit or license has paid all undisputed taxes and unemployment insurance. Social Security and Federal Tax Identification Nos. will not be used for any purposes other than those described in this Notice.

Federal Employer Identification Number (FEIN): 72-0378240

Certification: I certify that the above information is true and correct to the best of my knowledge.

Signature

Date

Complete and return this form to Jeanette Wolfe at the above address. If you have any questions, please contact Ms. Wolfe at (410) 537-4417.

APPENDIX H: ANNUAL EMISSIONS REPORT (2013)

TEXAS EASTERN TRANSMISSION, LP
5400 Westheimer Court
Houston, TX 77056-5310
713.627.5400 main

Mailing Address:
P.O. Box 1642
Houston, TX 77251-1642



March 26, 2014

Laramie Daniel, Compliance Program
Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, Suite 715
Baltimore, Maryland 21230-1720

**RE: 2013 EMISSIONS CERTIFICATION REPORT
TEXAS EASTERN TRANSMISSION, LP
ACCIDENT COMPRESSOR STATION
FACILITY NUMBER 023-00081**

Dear Mr. Daniel:

Texas Eastern Transmission, LP is submitting the 2013 Emissions Certification Report for the Accident Compressor Station located in Garrett County. Please feel free to contact me at (713) 989-8342 if you have any questions regarding this submission.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sabino Gomez'.

Sabino Gomez
Sr. Technical Advisor
EHS – US Operations

Enclosures

MARYLAND DEPARTMENT OF THE ENVIRONMENT
 1800 Washington Boulevard, Suite 715 • Baltimore, Maryland 21230-1720
 410-537-3000 • 1-800-633-6101 • <http://www.mdc.state.md.us>
 Air and Radiation Management Administration
 Air Quality Compliance Program
 410-537-3220

FORM 1:

**GENERAL FACILITY INFORMATION
 EMISSIONS CERTIFICATION REPORT**

Calendar Year 2013

A. FACILITY IDENTIFICATION				Do Not Write in This Space	
Facility Name: Accident Compressor Station				Date Received Regional	
Address Friendsville Road				Date Received State	
City	Accident	County	Garret	Zip Code	21520
B. Briefly describe the major function of the facility				AIRS Code	
Natural gas pipeline compression and storage facility.				FINDS Code	
				SIC Code	
				Facility Number:	
				TEMPO ID:	
				Reviewed by:	
C. SEASONAL PRODUCTION (% if applicable)					
<u>Winter (Dec - Feb)</u>		<u>Spring (Mar - May)</u>		<u>Summer (Jun - Aug)</u>	
<u>19.17</u>		<u>20.90</u>		<u>44.99</u>	
				<u>Fall (Sept - Nov)</u>	
				<u>14.94</u>	
				Name	
				Date	
D. Explain any increases or decreases in emissions from the previous calendar year for each registration at this facility					
Any increases or decreases from 2013 emissions are due to either an increase or decrease in operation hours and/or test results.					
E. CONTROL DEVICE INFORMATION (for NOx and VOC sources only)					
Control Device		Capture Efficiency		Removal Efficiency	
A/F & IR on reciprocating engines				10% NO _x reduction	
Oxidation catalyst (reciprocating eng's)				58% CO/various % for VOC and HAPs/ 50% Formaldehyde	

I am familiar with the facility and the installations and sources for which this report is submitted. I have personally examined the information in this report, which consists of ___ pages (including attachments), and certify that the information is correct to the best of my knowledge.

Thomas V. Wooden, Jr Vice President-Field Operations 3/25/2014
 Name (Print/Type) Title Date
[Signature] 713/627/5300
 Signature Telephone

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Carbon Monoxide (CO)

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			Operating Schedule			Emissions Methods	
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr	Days/Yr	Lbs/Dy	Hrs/Dy		Start
IC Engine #1 - 92101 9-0026	2-02-002- 52	Nat gas	8.31	121.27	9	3	20	137				C1
IC Engine #1 - 92102 9-0027	2-02-002- 52	Nat gas	5.68	88.12	9	3	19	129				C1
921SBH05	1-02-006- 03	Nat gas	0.60	11.82	7	2	15	101				C3
921SBH06	1-02-006- 03	Nat gas	0.72	10.56	9	3	20	137				C3
921WBH01	1-02-006- 03	Nat gas	0.59	9.64	9	3	18	122				C3
921WBH02	1-02-006- 03	Nat gas	0.47	8.48	8	3	16	111				C3
921WBH03	1-02-006- 03	Nat gas	0.47	9.41	7	2	15	100				C3
921WBH4	1-02-006- 03	Nat gas	0.60	8.33	10	3	21	144				C3
Eng-92135	2-02-002- 53	Nat gas	0.09	174.54	1	1	1	1				C3
Eng-92136	2-02-002- 53	Nat gas	0.06	113.83	1	1	1	1				C3
Small Misc. Space Htrs*	2-02-002- 53	Nat gas	0.15	0.32	129	38	140	975				C3
921HTRS			17.74	556.32								

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S - Stack Emissions
F - Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

IOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April - September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

- A1 - US EPA Reference Method
- A2 - Other Particulate Sampling Train
- A3 - Liquid Absorption Technique
- A4 - Solid Absorption Technique
- A5 - Freezing Out Technique
- A9 - Other, Specify

- C1 - User calculated based on source test or other measurement
- C2 - User calculated based on material balance using engineering knowledge of the process
- C3 - User calculated based on AP-42
- C4 - User calculated by best guess/engineering judgment

- C5 - User calculated based on a State or local agency emission factor
- C6 - New Construction, not operational
- C7 - Source closed, operation ceased
- C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Nitrogen Oxides (NO_x)

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TOSD Lbs/Dy	Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr		Days/Yr	Hrs/Dy	
IC Engine #1 - 92101 9-0026	2-02-002-52	Nat gas	20.88	304.77	9	3	20	199.96			C1
IC Engine #1 - 92102 9-0027	2-02-002-52	Nat gas	12.79	198.32	9	3	19	104.74			C1
921SBH05 5-0022	1-02-006-03	Nat gas	0.71	14.07	7	2	15	4.04			C3
921SBH06 5-0023	1-02-006-03	Nat gas	0.86	12.57	9	3	20	4.92			C3
921WBH01 5-0013	1-02-006-03	Nat gas	0.70	11.48	9	3	18	1.57			C3
921WBH02 5-0018	1-02-006-03	Nat gas	0.56	10.09	8	3	16	1.25			C3
921WBH03 5-0019	1-02-006-03	Nat gas	0.56	11.20	7	2	15	1.25			C3
921WBH4 5-0014	1-02-006-03	Nat gas	0.71	9.91	10	3	21	1.72			C3
Eng-92135 9-0000	2-02-002-53	Nat gas	0.05	103.69	1	1	1	0.41			C3
Eng-92136 n/a	2-02-002-53	Nat gas	0.03	67.63	1	1	1	0.21			C3
Small Misc. Space Htrs* 921HTRS	2-02-002-53	Nat gas	0.18	0.38	129	38	140	1.01			C3
TOTAL								321.08			

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S – Stack Emissions
F – Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April – September). This section needs to be completed only for VOC and NO_x sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

- Emission Estimation Method
 A1 - US EPA Reference Method
 A2 - Other Particulate Sampling Train
 A3 - Liquid Absorption Technique
 A4 - Solid Absorption Technique
 A5 - Freezing Out Technique
 A9 - Other, Specify

- C1 - User calculated based on source test or other measurement
 C2 - User calculated based on material balance using engineering knowledge of the process
 C3 - User calculated based on AP-42
 C4 - User calculated by best guess/engineering judgment

- C5 - User calculated based on a State or local agency emission factor
 C6 - New Construction, not operational
 C7 - Source closed, operation ceased
 C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Particulate Matter (PM/PM₁₀/PM_{2.5})

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TOSD		Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr	Days/Yr	Lbs/Dy	Hrs/Dy	Start	
IC Engine #1 - 92101 9-0026	2-02-002- 52	Nat gas	2.77	40.38	9	3	20	137				C3
IC Engine #1 - 92102 9-0027	2-02-002- 52	Nat gas	2.64	40.88	9	3	19	129				C3
921S3H05 5-0022	1-02-006- 03	Nat gas	0.05	1.07	7	2	15	101				C3
921S3H06 5-0023	1-02-006- 03	Nat gas	0.07	0.96	9	3	20	137				C3
921WBH01 5-0013	1-02-006- 03	Nat gas	0.05	0.87	9	3	18	122				C3
921WBH02 5-0018	1-02-006- 03	Nat gas	0.04	0.77	8	3	16	111				C3
921WBH03 5-0019	1-02-006- 03	Nat gas	0.04	0.85	7	2	15	100				C3
921WBH4 5-0014	1-02-006- 03	Nat gas	0.05	0.75	10	3	21	144				C3
Eng-92135 9-0000	2-02-002- 53	Nat gas	4.55e-04	0.91	1	1	1	1				C3
Eng-92136 n/a	2-02-002- 53	Nat gas	2.97e-04	0.59	1	1	1	1				C3
Small Misc. Space Htrs* 921HTRS	2-02-002- 53	Nat gas	0.01	0.03	129	38	140	975				C3
TOTAL			5.72	88.06								

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S - Stack Emissions

F - Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April - September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

- A1 - US EPA Reference Method
- A2 - Other Particulate Sampling Train
- A3 - Liquid Absorption Technique
- A4 - Solid Absorption Technique
- A5 - Freezing Out Technique
- A9 - Other, Specify

- C1 - User calculated based on source test or other measurement
- C2 - User calculated based on material balance using engineering knowledge of the process
- C3 - User calculated based on AP-42
- C4 - User calculated by best guess/engineering judgment

- C5 - User calculated based on a State or local agency emission factor
- C6 - New Construction, not operational
- C7 - Source closed, operation ceased
- C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Sulfur Oxides (SO_x)

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TOSD Lbs/Dy	Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr		Days/Yr	Hrs/Dy	
IC Engine #1 - 92101 9-0026	2-02-002-52	Nat gas	0.03	0.49	9	3	20				C3
IC Engine #1 - 92102 9-0027	2-02-002-52	Nat gas	0.03	0.50	9	3	19				C3
921SBH05 5-0022	1-02-006-03	Nat gas	0.004	0.08	7	2	15				C3
921SBH06 5-0023	1-02-006-03	Nat gas	0.005	0.08	9	3	20				C3
921WBH01 5-0013	1-02-006-03	Nat gas	0.004	0.07	9	3	18				C3
921WBH02 5-0018	1-02-006-03	Nat gas	0.003	0.06	8	3	16				C3
921WBH03 5-0019	1-02-006-03	Nat gas	0.003	0.07	7	2	15				C3
921WBH4 5-0014	1-02-006-03	Nat gas	0.004	0.06	10	3	21				C3
Eng-92135 9-0000	2-02-002-53	Nat gas	0.00001	0.03	1	1	1				C3
Eng-92136 n/a	2-02-002-53	Nat gas	0.00001	0.02	1	1	1				C3
Small Misc. Space Htrs* 921HTRS	2-02-002-53	Nat gas	0.0011	0.002	129	38	140			975	C3
TOTAL			0.09	1.46							

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S – Stack Emissions
F – Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

TOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April – September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

- A1 - US EPA Reference Method
- A2 - Other Particulate Sampling Train
- A3 - Liquid Absorption Technique
- A4 - Solid Absorption Technique
- A5 - Freezing Out Technique
- A9 - Other, Specify

- C1 - User calculated based on source test or other measurement
- C2 - User calculated based on material balance using engineering knowledge of the process
- C3 - User calculated based on AP-42
- C4 - User calculated by best guess/engineering judgment

- C5 - User calculated based on a State or local agency emission factor
- C6 - New Construction, not operational
- C7 - Source closed, operation ceased
- C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Volatile Organic Compounds (VOC) Pg 1 of 3

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TODS Lbs/Dy	Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr		Days/Yr	Hrs/Dy	
IC Engine #1 - 92101 9-0026	2-02-002- 52	Nat gas	6.07	88.68	9	3	20	58.18			C1
IC Engine #1 - 92102 9-0027	2-02-002- 52	Nat gas	4.61	71.44	9	3	19	37.73			C1
921SBH05	1-02-006- 03	Nat gas	0.04	0.77	7	2	15	0.22			C3
921SBH06	1-02-006- 03	Nat gas	0.05	0.69	9	3	20	0.27			C3
921WBH01	1-02-006- 03	Nat gas	0.04	0.63	9	3	18	0.09			C3
921WBH02	1-02-006- 03	Nat gas	0.03	0.56	8	3	16	0.07			C3
921WBH03	1-02-006- 03	Nat gas	0.03	0.62	7	2	15	0.07			C3
921WBH4	1-02-006- 03	Nat gas	0.04	0.55	10	3	21	0.09			C3
Eng-92135 9-0000	2-02-002- 53	Nat gas	0.0007	1.39	1	1	1	5.44E-03			C3
Eng-92136 n/a	2-02-002- 53	Nat gas	0.0005	0.91	1	1	1	2.80E-03			C3
Small Misc. Space Htrs* 921HTRS	2-02-002- 53	Nat gas	0.01	0.02	129	38	140	0.06			C3
TOTAL			See Page 3	See Page 3	See Page 3			See Page 3			

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S - Stack Emissions
F - Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source

IOSD: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April - September). This section needs to be completed only for VOC and NOx sources.

Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

Emission Estimation Method

- A1 - US EPA Reference Method
- A2 - Other Particulate Sampling Train
- A3 - Liquid Absorption Technique
- A4 - Solid Absorption Technique
- A5 - Freezing Out Technique
- A9 - Other, Specify
- C1 - User calculated based on source test or other measurement
- C2 - User calculated based on material balance using engineering knowledge of the process
- C3 - User calculated based on AP-42
- C4 - User calculated by best guess/engineering judgment
- C5 - User calculated based on a State or local agency emission factor
- C6 - New Construction, not operational
- C7 - Source closed, operation ceased
- C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Volatile Organic Compounds (VOC) Pg 2 of 3

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TODS Lbs/Dy	Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr		Days/Yr	Hrs/Dy	
921-TK01A Used oil storage tank		S			24	7	52	3.34E-03			A9 - EPA TANKS
921-TK02A Pipeline liquid storage tank		F	4.05E-04	2.22E-03	24	7	52	12.55			A9 - EPA TANKS
921-TK02B Pipeline liquid storage tank		S	1.57	8.62	24	7	52	12.55			A9 - EPA TANKS
921-TK03A-F Water/Methanol storage tanks		F	1.57	8.62	24	7	52	0.77			A9 - EPA TANKS
921-TK04A Pipeline liquid storage tank		S	0.09	0.52	24	7	52	4.64			A9 - EPA TANKS
921-TK04B Pipeline liquid storage tank		F	0.55	3.02	24	7	52	4.64			A9 - EPA TANKS
921-TK06 Lube oil storage tank		S	0.55	3.02	24	7	52	1.50E-03			A9 - EPA TANKS
921-K07A Engine Oil storage tank		F	1.85E-04	1.01E-03	24	7	52	4.09E-03			A9 - EPA TANKS
921-K07B Engine Oil storage tank		S	4.95E-04	2.71E-03	24	7	52	4.09E-03			A9 - EPA TANKS
921-K08A-E Water/Methanol storage tanks		F	4.95E-04	2.71E-03	24	7	52	0.73			A9 - EPA TANKS
921-K09 Glycol storage tank		S	0.09	0.49	24	7	52	8.73E-04			A9 - EPA TANKS
921-KUO Engine Oil tank		F	9.50E-05	5.21E-04	24	7	52	3.34E-03			A9 - EPA TANKS
TOTAL			See Page 3	See Page 3	24	7	52	See Page 3			

S - Stack Emissions
F - Fugitive Emissions
Daily emissions (lbs/day) are lbs/operating day of the source
TODS: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April - September). This section needs to be completed only for VOC and NOx sources.
Fuel: include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.
Emission Estimation Method
A1 - US EPA Reference Method
A2 - Other Particulate Sampling Train
A3 - Liquid Absorption Technique
A4 - Solid Absorption Technique
A5 - Freezing Out Technique
A9 - Other, Specify

C1 - User calculated based on source test or other measurement
C2 - User calculated based on material balance using engineering knowledge of the process
C3 - User calculated based on AP-42
C4 - User calculated by best guess/engineering judgment

C5 - User calculated based on a State or local agency emission factor
C6 - New Construction, not operational
C7 - Source closed, operation ceased
C8 - Computer calculated based on standard

FORM 2:

**CRITERIA AIR POLLUTANTS
EMISSIONS CERTIFICATION REPORT**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Volatile Organic Compounds (VOC) Pg 3 of 3

Equipment Description / Registration No.	SCC Number	Fuel	Actual Emissions		Operating Schedule (Actual)			TODS Lbs/Dy	Operating Schedule		Emissions Methods
			Tons/Yr	Lbs/Day	Hrs/Dy	Dys/Wk	Wk/Yr		Days/Yr	Hrs/Dy	
MPV Gas Releases		S	11.32	62.03	24	7	52	62.03			C2
Piping Components		S	16.19	88.73	24	7	52	88.73			C2
PL-TL - Pipeline Liquids Truck Loading*		S	0.02	0.10	24	7	52	0.12			C2
921-PW Parts Washer		F	0.40	2.20	24	7	52	2.20			C2
		S									
		F									
		S									
		F									
		S									
		F									
		S									
		F									
		S									
		F									
TOTAL**			43.27**	343.62**				285.77**			

*Emissions from truck loading of all material with VOC content included.
 **Totals of VOC from Pages 1, 2 and 3.
 S - Stack Emissions F - Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

TODS: Typical Ozone Season Day means a typical day of that period of the year during which conditions for photochemical conditions are most favorable, which is generally during sustained periods of direct sunlight and warm temperatures (April - September). This section needs to be completed only for VOC and NOx sources.
 Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

- Emission Estimation Method
 A1 - US EPA Reference Method
 A2 - Other Particulate Sampling Train
 A3 - Liquid Absorption Technique
 A4 - Solid Absorption Technique
 A5 - Freezing Out Technique
 A9 - Other, Specify
- C1 - User calculated based on source test or other measurement
 C2 - User calculated based on material balance using engineering knowledge of the process
 C3 - User calculated based on AP-42
 C4 - User calculated by best guess/engineering judgment
 C5 - User calculated based on a State or local agency emission factor
 C6 - New Construction, not operational
 C7 - Source closed, operation ceased
 C8 - Computer calculated based on standard

FORM 3:

EMISSIONS CERTIFICATION REPORT
Particulate Matter

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: PM

Equipment Description / Registration No.	SCC Number	Fuel	PM - Filterable		PM ₁₀ - Filterable		PM _{2.5} - Filterable		PM Condensable		Operation Days/Yr	Emissions Methods
			Tons/Yr	Lbs/Day	Tons/Yr	Lbs/Day	Tons/Yr	Lbs/Day	Tons/Yr	Lbs/Day		
IC Engine #1 - 92101	2-02-002-52	Nat gas	2.20	32.09	2.20	32.09	2.20	32.09	0.57	8.28	137	C3
IC Engine #1 - 92102	2-02-002-52	Nat gas	2.10	32.49	2.10	32.49	2.10	32.49	0.54	8.38	129	C3
921SBH05	1-02-006-03	Nat gas	0.01	0.27	0.01	0.27	0.01	0.27	0.04	0.80	101	C3
921SBH06	1-02-006-03	Nat gas	0.02	0.24	0.02	0.24	0.02	0.24	0.05	0.72	137	C3
921WBH01	1-02-006-03	Nat gas	0.01	0.22	0.01	0.22	0.01	0.22	0.04	0.65	122	C3
921WBH02	1-02-006-03	Nat gas	0.01	0.19	0.01	0.19	0.01	0.19	0.03	0.58	111	C3
921WBH03	1-02-006-03	Nat gas	0.01	0.21	0.01	0.21	0.01	0.21	0.03	0.64	100	C3
921WBH4	1-02-006-03	Nat gas	0.01	0.19	0.01	0.19	0.01	0.19	0.04	0.57	144	C3
Eng-92135	2-02-002-53	Nat gas	0.0002	0.45	0.0002	0.45	0.0002	0.45	0.0002	0.46	1	C3
Eng-92136	2-02-002-53	Nat gas	0.0001	0.29	0.0001	0.29	0.0001	0.29	0.0002	0.30	1	C3
n/a												
Small Misc. Space Htrs*	2-02-002-53	Nat gas	0.003	0.01	0.003	0.01	0.003	0.01	0.01	0.02	975	C3
TOTAL			4.37	66.65	4.37	66.65	4.37	66.65	1.35	20.40		

*For 921HTRS, the operating schedule is calculated for 10 space heater units.

S - Stack Emissions
 F - Fugitive Emissions

Daily emissions (lbs/day) are lbs/operating day of the source
 Fuel: Include emissions for each fuel used. If more than one fuel is used, calculate and list emissions separately for each fuel.

- Emission Estimation Method
 A1 - US EPA Reference Method
 A2 - Other Particulate Sampling Train
 A3 - Liquid Absorption Technique
 A4 - Solid Absorption Technique
 A5 - Freezing Out Technique
 A9 - Other, Specify

- C1 - User calculated based on source test or other measurement
 C2 - User calculated based on material balance using engineering knowledge of the process
 C3 - User calculated based on AP-42
 C4 - User calculated by best guess/engineering judgment

- C5 - User calculated based on a State or local agency emission factor
 C6 - New Construction, not operational
 C7 - Source closed, operation ceased
 C8 - Computer calculated based on standard

FORM 4:

**EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: 1,3 - Butadiene *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0026	5.22E-02	7.63E-01	3.18E-02	O - Catalyst Oxidation	23
IC Engine #1 - 92102 9-0027	4.98E-02	7.72E-01	3.23E-02	O - Catalyst Oxidation	23
Eng-92135 9-0000	1.56E-05	3.11E-02	5.18E-03		
Eng-92136 n/a	1.01E-05	2.03E-02	5.07E-03		
TOTAL	1.02E-01	1.59E+00	7.44E-02		

* Please attach all calculations
* See Attachment 1 for the minimum reporting values
**Control Device
S = Scrubber
B = Bag house
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

**EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Acetaldehyde *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0025	3.85E-01	5.62E+00	2.35E-01	O - Catalyst Oxidation	40
IC Engine #1 - 92102 9-0027	3.67E-01	5.69E+00	2.38E-01	O - Catalyst Oxidation	40
Eng-92135 9-0000	6.55E-05	1.31E-01	2.18E-02		
Eng-92136 n/a	4.27E-05	8.54E-02	2.13E-02		
TOTAL	7.52E-01	1.15E+01	5.16E-01		

* Please attach all calculations
 * See Attachment 1 for the minimum reporting values
 **Control Device
 S = Scrubber
 B = Bag house
 ESP = Electrostatic Precipitator
 A = Afterburner
 C = Condenser
 AD = Adsorption
 O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 4:

**EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Acrolein

*

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0026	4.83E-01	7.05E+00	2.94E-01	O - Catalyst Oxidation	25
IC Engine #1 - 92102 9-0027	4.60E-01	7.13E+00	2.99E-01	O - Catalyst Oxidation	25
Eng-92135 9-0003	6.17E-05	1.23E-01	2.06E-02		
Eng-92136 n/a	4.02E-05	8.05E-02	2.01E-02		
TOTAL	9.43E-01	1.44E+01	6.34E-01		

* Please attach all calculations
* See Attachment 1 for the minimum reporting values
**Control Device
S = Scrubber
B = Bag house
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Benzene Pg 1 of 2

*

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0025	1.12E-01	1.64E+00	6.85E-02	O - Catalyst Oxidation	30
IC Engine #1 - 92102 9-0027	1.07E-01	1.66E+00	6.95E-02	O - Catalyst Oxidation	30
921SBH05 5-0022	1.49E-05	2.95E-04	1.24E-05		
921SBH06 5-0023	1.81E-05	2.64E-04	1.11E-05		
921WBH01 5-0013	1.47E-05	2.41E-04	1.01E-05		
921WBH02 5-0018	1.18E-05	2.12E-04	8.86E-06		
921WBH03 5-0019	1.18E-05	2.35E-04	9.84E-06		
921WBH4 5-0014	1.50E-05	2.08E-04	8.72E-06		
Eng-92135 9-0000	3.71E-05	7.41E-02	1.24E-02		
Eng-92136 n/a	2.42E-05	4.83E-02	1.21E-02		
Small Misc. Space Htrs 921HTRS	3.86E-06	7.92E-06	3.30E-07		
921-TK02A Pipeline liquid storage tank	6.92E-03	3.79E-02	1.58E-03		
921-TK02B Pipeline liquid storage tank	6.92E-03	3.79E-02	1.58E-03		
921-TK04A Pipeline liquid storage tank	2.43E-03	1.33E-02	5.55E-04		
921-TK04B Pipeline liquid storage tank	2.43E-03	1.33E-02	5.55E-04		
TOTAL	See Page 2	See Page 2	See Page 2		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

**Control Device

S = Scrubber

B = Bag house

ESP = Electrostatic Precipitator

A = Afterburner

C = Condenser

AD = Adsorption

O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Benzene Pg 2 of 2 *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
Piping Components	2.58E-02	1.42E-01	5.90E-03		
PL-TL - Pipeline Liquids Truck Loading*	0.00E+00	0.00E+00	0.00E+00		
Pipeline liquid storage tank					
TOTAL*	2.64E-01	3.67E+00	1.73E-01		

* Please attach all calculations
* See Attachment 1 for the minimum reporting values
**Control Device
S = Scrubber
B = Bag house
ESP = Electrostatic Precipitator
A = Afterburner
C = Condenser
AD = Adsorption
O = Other

¹Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)
*Emissions from truck loading of all material with VOC content included. **Totals of Benzene from Pages 1 and 2.

**Totals of Benzene from Pages 1 and 2.

FORM 4:

**EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Ethylene Dibromide *

Equipment Description / Registration Number ¹	Actual Emissions			Control Device **	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0026	4.68E-03	6.83E-02	2.85E-03	O - Catalyst Oxidation	23
IC Engine #1 - 92102 9-0027	4.46E-03	6.91E-02	2.89E-03	O - Catalyst Oxidation	23
Eng-92135 9-0003	5.00E-07	9.99E-04	1.67E-04		
Eng-92136 n/a	3.26E-07	6.52E-04	1.63E-04		
TOTAL	9.14E-03	1.39E-01	6.07E-03		

* Please attach all calculations
 * See Attachment 1 for the minimum reporting values
 **Control Device
 S = Scrubber
 B = Bag house
 ESP = Electrostatic Precipitator
 A = Afterburner
 C = Condenser
 AD = Adsorption
 O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

**EMISSIONS CERTIFICATION REPORT
TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station

Facility ID: 24-023-00081

Pollutant: Formaldehyde

*

Equipment Description / Registration Number ¹	Actual Emissions			Control Device**	% Efficiency
	Tons/Yr	Lbs/Day	Lbs/Hour		
IC Engine #1 - 92101 9-0026	2.28E+00	3.33E+01	1.39E+00	O - Catalyst Oxidation	50
IC Engine #1 - 92102 9-0027	2.18E+00	3.37E+01	1.41E+00	O - Catalyst Oxidation	50
921SBH05 5-0022	5.33E-04	1.06E-02	4.44E-04		
921SBH06 5-0023	6.46E-04	9.43E-03	3.95E-04		
921WBH01 5-00-3	5.25E-04	8.61E-03	3.59E-04		
921WBH02 5-00-8	4.20E-04	7.57E-03	3.17E-04		
921WBH03 5-0019	4.20E-04	8.40E-03	3.52E-04		
921WBH4 5-0014	5.35E-04	7.44E-03	3.11E-04		
Eng-92135 9-0000	4.81E-04	9.62E-01	1.60E-01		
Eng-92136 n/a	3.14E-04	6.27E-01	1.57E-01		
Small Misc. Space Htrs 921HTRS	1.38E-04	2.83E-04	1.18E-05		
Pipeline liquid storage tank					
TOTAL	4.46E+00	6.87E+01	3.12E+00		

* Please attach all calculations

* See Attachment 1 for the minimum reporting values

**Control Device

S = Scrubber

B = Bag house

ESP = Electrostatic Precipitator

A = Afterburner

C = Condenser

AD = Adsorption

O = Other

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 5:

**EMISSIONS CERTIFICATION REPORT
BILLABLE TOXIC AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081

Chemical Name	CAS Number	Actual Emissions			Estimation Method
		Tons/Year	Lbs/Day	Lbs/Hour	
Carbon disulfide	75-15-0	S			
		F			
Carbonyl sulfide	463-58-1	S			
		F			
Chlorine	7782-50-5	S			
		F			
Cyanide compounds	57-12-5	S			
		F			
Hydrochloric acid	7647-01-0	S			
		F			
Hydrogen fluoride	7664-39-3	S			
		F			
Methyl chloroform	71-55-6	S			
		F			
Methylene chloride*	75-09-2	S	3.60E-01	1.56E-02	C3, C4
		F	2.38E-02		
Perchloroethylene	127-18-4	S			
		F			
Phosphine	7803-51-2	S			
		F			
Titanium tetrachloride	7550-45-0	S			
		F			
TOTAL					

Emission Estimation Method

- A1 – US EPA Reference Method
- A2 – Other Particulate Sampling Train
- A3 – Liquid Absorption Technique
- A4 – Solid Absorption Technique
- A5 – Freezing Out Technique
- A9 – Other, Specify
- C1 – User calculated based on source test or other measurement
- C2 – User calculated based on material balance using engineering knowledge of the process
- C3 – User calculated based on AP-42
- C4 – User calculated by engineering judgment
- C5 – User calculated based on a State or local agency factor
- C6 – New construction, not operations
- C7 – Source closed, operation ceased
- C8 – Computer calculated based on standards

This form is to include only the chemicals identified.

S – Stack Emissions F – Fugitive Emissions Daily emissions (lbs/day) are lbs/operating day of the source

PLEASE NOTE: Be sure to attach all data and calculations necessary to support the emissions figures shown above.

*Total Plant-Level emissions did not exceed threshold, so no Form 4 was completed for this pollutant.

FORM 6:

**EMISSIONS CERTIFICATION REPORT
GREENHOUSE GAS AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Carbon Dioxide (CO₂) *

Equipment Description / Registration Number ¹	Actual Emissions		
	Tons/Yr	Lbs/Day	Lbs/Hour
IC Engine #1 - 92101 9-0026	6,736.28	98,339.85	4,104.98
IC Engine #1 - 92102 9-0027	6,421.35	99,555.87	4,169.71
921SBH05 5-0022	852.66	16,884.44	710.26
921SBH06 5-0023	1,033.23	15,083.65	632.14
921WBH01 5-0013	840.18	13,773.48	575.27
921WBH02 5-0018	672.28	12,113.11	506.61
921WBH03 5-0019	672.28	13,445.56	562.58
921WBH4 5-0014	856.68	11,898.40	498.36
Eng-92135 9-0000	2.76	5,520.80	920.13
Eng-92136 n/a	1.80	3,600.52	900.13
Small Misc. Space Htrs 921HTRS	220.8	452.92	18.89
Piping Components	0.34	1.85	0.08
MPV Gas Releases	9.26	50.74	2.11
TOTAL	18,319.90	290,721.19	13,601.25

This form must be used to report Greenhouse gas emissions:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

* Use a separate form for each pollutant.

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 6:

**EMISSIONS CERTIFICATION REPORT
GREENHOUSE GAS AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Methane (CH₄) *

Equipment Description / Registration Number ¹	Actual Emissions		
	Tons/Yr	Lbs/Day	Lbs/Hour
IC Engine #1 - 92101 9-0026	0.13	1.85	0.08
IC Engine #1 - 92102 9-0027	0.12	1.88	0.08
921SBH05 5-0022	0.02	0.32	0.01
921SBH06 5-0023	0.02	0.28	0.01
921WBH01 5-0013	0.02	0.26	0.01
921WBH02 5-0018	0.01	0.23	0.01
921WBH03 5-0019	0.01	0.25	0.01
921WBH4 5-0014	0.02	0.22	0.01
Eng-92135 9-0000	5.20E-05	1.04E-01	1.73E-02
Eng-92136 n/a	3.39E-05	6.79E-02	1.70E-02
Small Misc. Space Htrs 921HTRS	4.16E-03	8.54E-03	3.56E-04
Piping Components	24.77	135.71	5.65
MPV Gas Releases	678.38	3,717.16	154.88
TOTAL	703.50	3858.34	160.79

This form must be used to report
Greenhouse gas emissions:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

* Use a separate form for each pollutant.

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)

FORM 6:

**EMISSIONS CERTIFICATION REPORT
GREENHOUSE GAS AIR POLLUTANTS**

Calendar Year: 2013

Facility Name: Accident Compressor Station Facility ID: 24-023-00081 Pollutant: Nitrous Oxide (N₂O) *

Equipment Description / Registration Number ¹	Actual Emissions		
	Tons/Yr	Lbs/Day	Lbs/Hour
IC Engine #1 - 92101 9-0026	1.27E-02	1.85E-01	7.74E-03
IC Engine #1 - 92102 9-0027	1.21E-02	1.88E-01	7.86E-03
921SBH05 5-0022	1.61E-03	3.18E-02	1.34E-03
921SBH06 5-0023	1.95E-03	2.84E-02	1.19E-03
921WBH01 5-0013	1.58E-03	2.60E-02	1.08E-03
921WBH02 5-0018	1.27E-03	2.28E-02	9.55E-04
921WBH03 5-0019	1.27E-03	2.53E-02	1.06E-03
921WBH4 5-0014	1.61E-03	2.24E-02	9.39E-04
Eng-92135 9-0000	5.20E-06	1.04E-02	1.73E-03
Eng-92136 n/a	3.39E-06	6.79E-03	1.70E-03
Small Misc. Space Htrs 921HTRS	4.16E-04	8.54E-04	3.56E-05
TOTAL	3.45E-02	5.48E-01	2.56E-02

This form must be used to report
Greenhouse gas emissions:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

* Use a separate form for each pollutant.

¹ Emissions must be broken down by equipment registration number (ex. 9-0076, 9-0077)