PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR GREENHOUSE GAS EMISSIONS
ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-93813-GHG

PERMITTEE: Energy Transfer Partners, LP
dba Lone Star NGL, LLC
800 E. Sonterra Blvd., Suite 400
San Antonio, TX 78258

FACILITY NAME: Lone Star NGL, Mont Belvieu Gas Plant

FACILITY LOCATION: 10030 A FM 1942
Mont Belvieu, TX 77580

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to the Energy Transfer Partners, LP dba Lone Star NGL for Greenhouse Gas (GHG) emissions. The Permit authorizes the construction of a second fractionation train at the existing Mont Belvieu Gas Plant located in Mont Belvieu, Texas.

Lone Star NGL is authorized to modify the existing fractionation train (FRAC I) and construct a second fractionation train (FRAC II) at the existing gas processing plant as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) standard permit No. 93813. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve Lone Star NGL of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b), this PSD Permit becomes effective immediately upon issuance of this final decision.

Carl E. Edlund, Director
Multimedia Planning and Permitting Division

10/12/12
Date

Energy Transfer Partners, L.P. dba Lone Star NGL
Mont Belvieu Gas Plant (PSD-TX-93813-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions

PROJECT DESCRIPTION

Pursuant to the provisions of this permit, the facility will modify the existing fractionation (FRAC I) train and construct a second fractionation (FRAC II) train at the Mont Belvieu Gas Plant in Chambers County, Texas. The existing fractionation (FRAC I) train is currently authorized by 30 Texas Administrative Code (TAC) §116.620. Both FRAC I and FRAC II will fractionate Y-grade natural gas liquids (NGL) through a series of trayed columns that separate the NGL into constituent gas products, which include ethane, propane, butanes, and natural gasoline, for sale to customers. Both FRAC I and FRAC II will process approximately 100,000 barrels per day each based on a Y-grade purity feed containing 54% ethane. The fractionation trains (FRAC I and FRAC II) can process a wide range of Y-grade purity feed containing between 38% to 54% ethane. The Y-grade purity feed with 38% ethane is a heavier product which requires a higher heat duty. Therefore, the maximum firing rate of the heaters is based on the 38% ethane Y-grade feed.

The FRAC I and FRAC II trains are identical. The first stage in each fractionation train (FRAC I and FRAC II) is an amine unit. The amine unit contactors will remove CO_2 and H_2S impurities from the NGL stream. The amine unit will be a closed loop system. Waste gas from the amine unit will be routed to the thermal oxidizer (TO) for combustion of H_2S and VOC. From the Amine Unit, the NGL will be routed through a Molecular Sieve dehydration unit, where the water content of the NGL will be reduced. The Molecular Sieve will not have vents to the atmosphere. The only GHG emissions from the Molecular Sieve will be fugitive piping equipment leaks. From the Molecular Sieve dehydration unit, the NGL will be fed to a series of trayed columns for separation into constituent product gases. No GHG emissions will be generated from processes downstream from the Amine Unit, except for emissions from process heaters and fugitives, because the processes will be closed systems and most, if not all CO_2 is removed at the Amine Unit. Additionally very little, if any, methane is contained in the NGL that will enter the plant.

Both fractionation trains (FRAC I and FRAC II) will employ a hot oil system that will provide heat to the process. By using hot oil, heat can be efficiently transferred to the fractionation process with a minimum loss of heat to the oil, allowing for a quicker recovery to the desired temperature in a closed -loop system. Lone Star NGL plans to utilize the hot oil system as needed to provide heat in the Amine Regeneration unit, the Molecular Sieve regeneration unit, and as needed to various heat exchangers associated with the fractionation process (i.e., piping to

maintain desired temperatures on process streams). Both fractionation trains (FRAC I and FRAC II) will have one Hot Oil Heater rated at 270 MMBtu/hr that will support the hot oil system. Additionally, each fractionation train (FRAC I and FRAC II) will utilize a Molecular Sieve regeneration heater that will be rated at 46 MMBtu/hr. The combustion of natural gas in these two heaters will result in combustion-related GHG emissions. Both process heaters, for each fractionation train (FRAC I and FRAC II), will be ducted to a common stack that will be equipped with Selective Catalytic Reduction (SCR) technology to significantly reduce NOx emissions.

An air-assisted flare will be installed at the Mont Belvieu site to control emergency process releases and streams resulting from maintenance, startup, and shutdown (MSS) activities from both FRAC I and FRAC II. No process streams will be routed to the flare during normal operation. Combustion related GHG emissions from the flare will result from the combustion of natural gas fuel to the pilots and combustion of MSS hydrocarbon streams. The flare will have a hydrocarbon destruction and removal efficiency (DRE) of 99%.

Both of the fractionation trains (FRAC I and FRAC II) will utilize a thermal oxidizer (TO) to combust waste gas streams from the process. GHG emissions from the TO will result from waste gas and fuel gas combustion. The waste gas will be converted to CO_2 and water vapor. Both thermal oxidizers will have a hydrocarbon destruction and removal efficiency (DRE) of 99%.

Fugitive emissions of GHG pollutants, including CO_2 and methane, may result from piping equipment leaks. However, very little of these pollutants are contained in the NGL after the amine unit. The piping components that may leak include valves, flanges, pump seals, etc. Lone Star NGL will implement the TCEQ 28LAER Leak Detection and Repair (LDAR) program for the entire Mont Belvieu site.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

Emission Unit Id. No.	Description
003-HOHTR 013-HOHTR	Two Hot Oil Heater (Combustion Unit) rated at 270 MMBtu/hr.
003-RGNHTR 013-RGNHTR	Two Molecular Sieve Regeneration Heater (Combustion Unit) rated at 46 MMBtu/hr.
044-FLARE	Flare (Combustion Unit) used for control of Maintenance, Startup, and Shutdown (MSS) emissions.
012-THERMO 002-THERMO	Two Thermal Oxidizers (Combustion Unit) for control of waste gas streams.
009-FUG 019-FUG	Fugitive emissions from the FRAC I and FRAC II trains.

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or

2. is discontinued for a period of 18 months or more; or

3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;

2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and

3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification

may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and malfunction, Permittee shall maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II of this permit.

2. Within 10 days of the restoration of normal operations after any failure described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.

3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;

2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;

3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,

4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct and operate this project in compliance with this PSD Permit, the application on which this permit is based and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology
bbl	Barrel
Btu	British Thermal Unit
CAA	Clean Air Act
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CGA	Cylinder Gas Audit
CH_4	Methane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DRE	Destruction and Removal Efficiency
dscf	Dry Standard Cubic Foot
EPN	Emission Point Number
FR	Federal Register
GHG	Greenhouse Gas
gr	Grains
HHV	High Heating Value
hp	Horsepower
Hr	Hour
IFR	Internal Floating Roof
LDAR	Leak Detection and Repair
LHV	Lower Heating Value
Lb	Pound
MMBtu	Million British Thermal Units
MMSCFD	Million Standard Cubic Feet per Day
MSS	Maintenance, Start-up and Shutdown
NGL	Natural Gas Liquids
N_2O	Nitrous Oxides
NSPS	New Source Performance Standards
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RATA	Relative Accuracy Test Audit
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TO	Thermal Oxidizer
TPY	Tons per Year
VRU	Vapor Recovery Unit
USC	United States Code

II. Annual Facility Emission Limits

Annual emissions, in tons per year (TPY) on a 365-day total, rolled daily shall not exceed the following:

Table 1. Facility Emission Limits[1]

FIN	EPN	Description	GHG Mass Basis		TPY $CO_2e^{2,3}$	BACT Requirements
				TPY[2]		
003-HOHTR	003-SCR	FRAC I Hot Oil Heater	CO_2	137,943	138,078	2,759 lb CO_2/bbl of NGL processed. See permit condition III.B.2.a.
			CH_4	2.6		
			N_2O	0.26		
013-HOHTR	013-SCR	FRAC II Hot Oil Heater	CO_2	137,943	138,078	2,759 lb CO_2/bbl of NGL processed. See permit condition III.B.2.b.
			CH_4	2.6		
			N_2O	0.26		
003-RGNHTR	003-SCR	FRAC I Regenerator Heater	CO_2	23,501	23,524	470 lbs CO_2/bbl of NGL processed. See permit condition III.B.2.c.
			CH_4	0.44		
			N_2O	0.04		
013-RGNHTR	013-SCR	FRAC II Regenerator Heater	CO_2	23,501	23,524	470 lbs CO_2/bbl of NGL processed. See permit condition III.B.2.d.
			CH_4	0.44		
			N_2O	0.04		
004-FLARE	004-FLARE	Flare	CO_2	52	52	Good combustion practices. See permit condition III.D.1.f.
			CH_4	negligible		
			N_2O	negligible		
002-THERMO	002-THERMO	FRAC I Thermal Oxidizer	CO_2	36,406	42,703	Good combustion practices, and annual compliance testing. See permit conditions III.C.1.c. through III.C.1.j.
			CH_4	0.18		
			N_2O	0.02		
012-THERMO	012-THERMO	FRAC II Thermal Oxidizer	CO_2	36,406	42,703	Good combustion practices, and annual compliance testing. See permit conditions III.C.1.c. through III.C.1.j.
			CH_4	0.18		
			N_2O	0.02		
019-FUG	019-FUG	Fugitive Process Emissions	CH_4	Not Applicable	Not Applicable	Implementation of LDAR Program. See permit condition III.E.1.d.
Totals[4]			**CO_2**	**395,752**	**CO_2e 408,662**	
			CH_4	**6.44**		
			N_2O	**0.64**		

1. Compliance with the annual emission limits (tons per year) is based on a 365-day total, rolled daily.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): $CH_4 = 21$, $N_2O = 310$
4. The total emissions for CH_4 and CO_2e include the PTE for process fugitive emissions of CH_4. These totals are given for informational purposes only and do not constitute emission limits.

III. Special Permit Conditions

A. Site-wide Requirement

The Permittee shall install, operate, and maintain electric driven engines for refrigeration compression.

B. Requirements for Heaters

1. Heater Work Practice and Operational Requirements

a. Each Fractionation train has one hot oil heater rated at 270 million British thermal units per hour (MMBtu/hr) (FRAC I - 003-HOHTR and FRAC II -013-HOHTR) and a molecular sieve regenerator heater rated at 46 MMBtu (FRAC I - 003-RGNHTR and FRAC II - 013-RGNHTR). Both process heaters, in each fractionation train (FRAC I and FRAC II), will be ducted to a common stack that will be equipped with Selective Catalytic Reduction (SCR) technology (003-SCR and 013-SCR, respectively).

b. Permittee shall calculate, on a monthly basis, the amount of CO_2 emitted from combustion in tons/yr using equation C-2a in 40 CFR Part 98 Subpart C. Compliance shall be based on a 365-day rolling total.

c. Permittee shall calculate the CH_4 and N_2O emissions on a 365-day rolling basis. Permittee shall determine compliance with the CH_4 and N_2O emissions limits contained in this section using the default CH_4 and N_2O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the measured actual heat input (HHV).

d. Permittee shall calculate the CO_2e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on October 30, 2009 (74 FR 56395).

e. Fuel for the heaters shall be limited to pipeline quality natural gas with a fuel sulfur content of up to 5 grains of sulfur per 100 dry standard cubic feet (gr S/100 dscf). The fuel gross calorific value (GCV) [high heat value (HHV)] of the fuel shall be determined, at a minimum, semiannually by the procedures contained in 40 CFR Part 98.34(a)(6) and records shall be maintained of the semiannual fuel GCV for a period of five years. Upon request, Permittee shall provide a sample and/or analysis of the fuel that is fired in the heaters or shall allow a sample to be taken by EPA for analysis.

f. The flow rate of the fuel combusted in natural gas-fired combustion emission units identified in this section shall be measured and recorded using an

operational non-resettable elapsed flow meter at each inlet. The flow meters must be calibrated on an annual basis

g. Oxygen analyzers shall continuously monitor and record oxygen concentration in the hot oil and regenerator heaters. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.
h. The oxygen analyzers shall be quality-assured at least quarterly using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted).
i. The permittee shall not allow the excess air in the combustion chamber of the heaters to exceed 15%.
j. The heaters will be equipped with low-NO_x staged/quenching (flue gas recirculating) burners with burner management systems.
k. The heaters shall be tuned for thermal efficiency on an annual basis.
l. The heaters are not expected to have GHG emissions in excess of the allowed emission rates during periods of startup, shutdown, or maintenance. The fuel firing rates will be below the maximum rate and startups will be limited to 30 minutes.

2. Heater BACT Emission Limits

a. On or after the date of initial startup, the Permittee shall not discharge or cause the discharge of emissions from the hot oil heater (003-HOHTR) in excess of 2,759 lbs CO_2/barrel (bbl - a barrel contains 42 gallons) of NGL processed on a 365-day rolling average. To determine achievement of this BACT emission limit, the Permittee shall divide the value of the measured input mass rate of CO_2 from the natural gas GCV analysis required in Special Condition III.B.1.e. by the measured daily natural gas liquids processed from the FRAC I Unit (bbl) required in Special Condition IV.B.
b. On or after the date of initial startup, the Permittee shall not discharge or cause the discharge of emissions from the hot oil heater (013-HOHTR) in excess of 2,759 lbs CO_2/barrel (bbl - a barrel contains 42 gallons) of NGL processed on a 365-day rolling average. To determine achievement of this BACT emission limit, the Permittee shall divide the value of the measured input mass rate of CO_2 from the natural gas GCV analysis required in Special Condition III.B.1.e. by the measured daily natural gas liquids processed from the FRAC II Unit (bbl) required in Special Condition IV.B.

c. On or after the date of initial startup, the Permittee shall not discharge or cause the discharge of emissions from the mole sieve regeneration heater (003-RGNHTR) in excess of 470 lbs CO_2/barrel (bbl - a barrel contains 42 gallons) of NGL processed on a 365-day rolling average. To determine achievement of this BACT emission limit, the Permittee shall divide the value of the measured input mass rate of CO_2 from the natural gas GCV analysis required in Special Condition III.B.1.e by the measured daily natural gas liquids processed from the FRAC I Unit (bbl) required in Special Condition IV.B.

d. On or after the date of initial startup, the Permittee shall not discharge or cause the discharge of emissions from the molecular sieve regeneration heater (013-RGNHTR) in excess of 470 lbs CO_2/barrel (bbl - a barrel contains 42 gallons) of NGL processed on a 365-day rolling average. To determine achievement of this BACT emission limit, Permittee shall divide the value of the measured input mass rate of CO_2 from the natural gas GCV analysis required in Special Condition III.B.1.e. by the measured daily natural gas liquids processed from the FRAC II Unit (bbl) required in Special Condition IV.B.

C. Thermal Oxidizer Emission Source

1. Thermal Oxidizer Work Practice and Operational Requirements

a. Each fractionation unit (FRAC I and FRAC II) is equipped with a thermal oxidizer (002-THERMO and 012-THERMO). GHG emissions from the thermal oxidizers result from fuel gas combustion (pipeline quality natural gas) and waste gas combustion (waste gas from the amine unit).

b. The thermal oxidizer is designed to combust low-VOC concentration waste gas from the amine units and has a fuel rating of 10 MMBtu/hr when firing natural gas.

c. The thermal oxidizer shall have an initial stack test, and annual compliance testing, to verify destruction and removal efficiency (DRE) of at least 99% for VOC.

d. For burner combustion, natural gas fuel usage (scf) is recorded using an operational non-resettable elapsed flow meter at the thermal oxidizer.

e. The flow rate of the waste gas combusted shall be measured and recorded using an operational non-resettable elapsed flow meter at the thermal oxidizer.

f. Waste gas will be sampled and analyzed on a quarterly basis for composition. The sampled data will be used to calculate GHG emissions to show compliance with the limits specified in Table 1.

g. Permittee shall calculate CO_2 emissions, on a monthly basis, using equation W-3 consistent with 40 CFR Part 98, Subpart W [98.233(d)(2)].
h. Periodic maintenance will help maintain the efficiency of the thermal oxidizer and shall be performed at a minimum annually or more often as recommended by the manufacturer specifications.
i. The Permittee shall maintain the combustion temperature at a minimum of 1,400 °F at all times when processing waste gases from the amine unit in the thermal oxidizer. Temperature monitoring of the thermal oxidizer will ensure proper operation. The Permittee shall install and maintain a temperature recording device with an accuracy of the greater of ±0.75 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C.
j. The thermal oxidizers' exhaust temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizers. The temperature measurement devices shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency.
k. Oxygen analyzers shall continuously monitor and record oxygen concentration when waste gas is directed to the thermal oxidizers. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.
l. The oxygen analyzers shall be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted).

D. Flare Emission Sources

1. Flare Work Practice and Operational Requirements

a. MSS emissions from both the proposed FRAC II and the existing FRAC I trains shall be vented to a flare (004-FLARE).
b. The flare shall have a minimum destruction and removal efficiency (DRE) of 99% based on flowrate and gas composition measurements as specified in 40 CFR Part 98 Subpart W § 98.233(n).
c. The flare (004-FLARE) is an intermittent use MSS flare, not a continuous process flare. The flare, shall only combust pilot gas as a continuous stream.
d. The flare is air assisted.
e. Permittee must record the time, date, fuel heat input (HHV) in MMBtu/hr and duration of each MSS event. The records must include hourly CH_4 emission levels as measured by the in-line gas analyzer (Gas chromatograph or equivalent

with volumetric stack gas flowrate) and the calculations based on the actual heat input for the CO_2, N_2O, and CH_4 emissions during each MSS event. These records must be kept for five years following the date of each event.

f. The flare shall be designed and operated in accordance with 40 CFR 60.18 including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.

E. Fugitive Emission Sources

1. Fugitive Emission Sources Work Practice and Operational Requirements

a. The permittee shall use dry compressor seals instead of wet seals to reduce leaks.
b. The permittee shall use rod packing for reciprocating compressors and will conduct annual inspections of the packing materials.
c. The permittee shall use low-bleed gas-driven pneumatic controllers which emit less gas or compressed air-driven pneumatic controllers which do not emit GHGs.
d. The permittee shall implement the TCEQ 28LAER Leak Detection and Repair (LDAR) program for fugitive emissions of methane.

F. Continuous Emissions Monitoring Systems (CEMS)

1. As an alternative to Special Conditions III.B.2. and III.C.1.i, Permittee may install a CO_2 CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO_2 emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1.
2. Permittee shall ensure that all required CO_2 monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
3. Permittee shall ensure compliance with the specifications and test procedures for CO_2 emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.
4. Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 60, Appendix F for the CO_2 emission monitoring system.

IV. Recordkeeping Requirements

A. In order to demonstrate compliance with the GHG emission rates, the permittee will monitor the following parameters and summarize the data on a calendar month basis.

   a. Operating hours for all air emission sources;
   b. The natural gas fuel usage for all combustion sources, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate);
   c. Annual fuel sampling for natural gas, quarterly fuel sampling of waste gas; and
   d. The daily natural gas liquids processing rate for the FRAC I and FRAC II units.

B. Permittee shall maintain the daily production volumes of natural gas liquids produced for the FRAC I and FRAC II unit in barrels per day (bbl/day). Records shall be maintained for a period of five years.

C. Permitee will implement the TCEQ 28LAER leak detection and repair (LDAR) program and keep records of the monitoring results, as well as the repair and maintenance records.

D. At least once per quarter, the Permittee will obtain an updated analysis of the waste gas from the amine unit. This analysis will be considered to be representative of the gas streams for the quarter during which it was taken and will be used to estimate the amine unit waste gas vent emissions, Higher Heating Value (HHV), and Lower Heating Value (LHV).

E. For each calendar month, the Permittee will calculate the 12 month rolling GHG emission rates for comparison to the Maximum Allowable Emission Rates Table (MAERT).

F. The Permittee will also maintain site-specific procedures for best/optimum maintenance practices and vendor-recommended operating procedures and O&M manuals. These manuals must be maintained with the permit and located on-site.

G. Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the facility, including, but not limited to, the following: all records or reports pertaining to significant maintenance performed on any system or device at the facility; the occurrence and duration of any startup, shutdown, or malfunction, annual tuning of heaters; all records relating to performance tests and monitoring of combustion equipment; calibrations, checks, duration of any periods during which a monitoring device is inoperative, and corresponding emission measurements; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.

H. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an

applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:

1. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
2. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
3. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
4. Any failure to conduct any required source testing, monitoring, or other compliance activities.

I. Excess emissions shall be defined as any period in which the facility emission exceeds a maximum emission limit set forth in this permit.

J. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.

K. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reports.

V. Performance Testing Requirements:

A. The holder of this permit shall perform an initial stack test to establish the actual quantities of air contaminants being emitted into the atmosphere from emission units 003-HOHTR, 013-HOHTR, 003-RGNHTR, 013-RGNHTR, 002-THERMO, and 012-THERMO and to determine the initial compliance with the CO_2 emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO_2 for the heaters.

1. Multiply the CO_2 hourly average emission rate determined under maximum operating test conditions by 8,760 hours.
2. If the above calculated CO_2 emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
3. If the above calculated CO_2 emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall;
    a. Document the exceedance in the test report; and
    b. Explain within the report how the facility will assure compliance with the CO_2

emission limit listed in Table 1.

B. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
C. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
D. Performance testing must be conducted using a representative rate of operation.
E. Fuel sampling for emission units 002-THERMO, 012-THERMO, and 004-FLARE shall be conducted in accordance with 40 CFR Part 98.
F. The holder of this permit shall perform initial performance demonstration testing of the thermal oxidizer at the site. The thermal oxidizer shall operate at the maximum production rate during stack emissions testing. The Permittee shall measure CH_4 concentrations in the thermal oxidizer inlet and exhaust streams to demonstrate a minimum destruction efficiency of 99% by weight at a minimum combustion chamber temperature of 1,400 °F.
G. The Permittee shall record the combustion chamber temperature and combustion chamber set-point temperature during the performance test. These and any additional operational parameters shall be identified in the test protocol and recorded during testing. Following the performance test, the thermal oxidizer shall be operated at or above the combustion chamber set-point temperature used to demonstrate compliance, and at all times greater than 1,400 °F.
H. For the thermal oxidizer the sampling site and velocity traverse point shall be selected in accordance with EPA Test Method 1or 1A. The gas volumetric flow rate shall be measured in accordance with EPA Test Method 2, 2A, 2C, 2D, 2F, 2G, or 19. The dry molecular weight shall be determined in accordance with EPA Test Method 3, 3A or 3B. The stack gas moisture shall be determined in accordance with EPA Test Method 4. These methods must be performed, as applicable, during each test run.
I. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The owner or operator must make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
J. The owner or operator must provide the EPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test.
L. The owner or operator shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to this facility,
2. Safe sampling platform(s),
3. Safe access to sampling platform(s), and
4. Utilities for sampling and testing equipment.

M. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.

N. Emissions testing, as outlined above, shall be performed every three years, or more frequently if identified above, to verify continued performance at permitted emission limits.

VI. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multi Media Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202