

Special Conditions

Permit Number xxxx

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources – Maximum Allowable Emission Rates (MAERT), including planned maintenance, startup, and shutdown (MSS) activities, and those sources are limited to the emission limits on that table and other conditions specified in this permit.

Federal Applicability

2. Affected facilities shall comply with applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources, Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):
 - A. Subpart A: General Provisions
 - B. Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
 - C. Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after September 18, 2015
3. Affected facilities shall comply with applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants (HAPs) for Source Categories, 40 CFR Part 63:
 - A. Subpart A: General Provisions
 - B. Subpart HH: National Emission Standards for HAPs from Oil and Natural Gas Production Facilities
 - C. Subpart ZZZZ: National Emission Standard for HAPs for Stationary Reciprocating Internal Combustion Engines
4. If any condition of this permit is more stringent than the regulations so incorporated, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

Engine Emissions Standards and Operating Specifications

5. Emissions from each engine shall not exceed the following:
 - A. Nitrogen oxides (NO_x): x* grams per horsepower hour (g/hp-hr)

*Emission Factor may not exceed 0.70 g/hp-hr and will be determined by the manufacturer's guarantee. This condition will reflect the permit application representation.
 - B. Carbon monoxide (CO): 0.50 g/hp-hr
 - C. Volatile organic compounds (VOC): 0.03 g/hp-hr

6. During normal operations, opacity of emissions from each engine shall not exceed 5 percent averaged over a six-minute period. The permit holder shall demonstrate compliance with this Special Condition in accordance with the following procedures:
 - A. Visible emission observations shall be conducted and recorded at least once during each calendar quarter while the facilities are in operation, unless the emission unit is not operating for the entire calendar quarter.
 - B. This determination shall be made by first observing for visible emissions while each facility is in operation. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point(s). Up to three emissions points may be read concurrently, provided that all three emissions points are within a 70 degree viewing sector or angle in front of the observer such that the proper sun position (at the observer's back) can be maintained for all three emission points. A certified opacity reader is not required for these visible emission observations.
 - C. If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 hours for that emission point using Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Reference Method 9.
 - D. If the opacity limitations of this Special Condition are exceeded, corrective action to eliminate the source of visible emissions shall be taken promptly and documented within one week of first observation.
7. Fuel is limited to pipeline-quality, sweet natural gas containing no more than 0.2 grains total sulfur per 100 dry standard cubic feet (dscf) on an hourly basis.

Storage Tanks

8. Oil stored in the tanks shall be consistent with gasoline with a Reid Vapor Pressure no greater than 7 pounds per square inch (psi).
9. All outdoor storage tanks shall have uninsulated exterior surfaces that are exposed to the sun, be colored white or be aluminum specular, and be equipped with a submerged fill pipe.
10. Throughput for each storage tank shall be limited to 125 barrels (bbls) per day and 10,000 bbls per rolling 12-months.
11. All oil tanks shall be vented to the flare at all times.

Loading

12. All loading shall be submerged fill. Rolling 12-month throughput records shall be updated on a monthly basis for each product loaded.
13. All lines and connectors shall be visually inspected for any defects prior to hookup. Lines and connectors that are visibly damaged shall be removed from service. Operations shall cease immediately upon detection of any liquid leaking from the lines or connections.

Flares

14. Flares shall be designed and operated in accordance with the following requirements:

- A. The flare system shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity at all times when emissions may be vented to them.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

- B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
- C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.
- D. The permit holder shall install a continuous flow monitor that provides a record of the vent stream flow to the flare. Additionally, the vent stream to the flare shall be sampled biannually for VOC and British thermal unit (Btu) content using a portable analyzer. Any other sampling method shall be approved by the Regional Director. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings from the flow monitor shall be taken at least once every 15 minutes and the average hourly values of the flow shall be recorded each hour.

The monitors shall be calibrated or have a calibration check performed on an annual basis to meet the following accuracy specifications: the flow monitor shall be $\pm 5.0\%$ of the unit's maximum flow.

The monitor shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR §§60.18(f)(3) and 60.18(f)(4) shall be recorded at least once every hour. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit application.

Initial Determination of Compliance

15. Sampling ports and platforms shall be incorporated into the design of all exhaust stacks according to the specifications set forth in the manual entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director.
16. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the

atmosphere from the engines. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods to be determined during the pretest meeting.

The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his/her expense.

- A. The TCEQ Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.
- (6) Procedure used to determine engine loads during and after the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

A written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ or the EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures.

- B. Air contaminants and diluents to be sampled and analyzed include (but are not limited to) VOC, NO_x, CO, and oxygen (O₂).
- C. Sampling shall occur within 60 days after start-up of the engines and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office.
- D. A copy of the final sampling report shall be forwarded to the TCEQ Regional Office within 30 days after sampling is completed. Sampling reports shall comply with Chapter 14 of the TCEQ Sampling Procedures Manual.

Continuous Demonstration of Compliance

17. The holder of this permit shall perform the following for all engines:

- A. Conduct semi-annual evaluations of engine performance, based on the calendar year with at least four months between tests, by measuring the NO_x, CO, and O₂ content of the exhaust.

- B. If an engine is out of operation for more than one year, other than for maintenance and readiness checks, the performance of the engine shall be evaluated within the first 200 operating hours after returning to service.
 - C. The use of portable analyzers specifically designed for measuring the concentration of each contaminant in parts per million by volume is acceptable for the semi-annual evaluations. A hot air probe or equivalent shall be used with portable analyzers to prevent error in results due to high exhaust gas temperatures. Three sets of measurements shall be averaged to determine the concentrations. Prior to and following the measurements, the portable analyzer shall be checked for accuracy using an audit gas that conforms to the specifications in Title 40 Code of Federal Regulations Part 60, Appendix F, 5.1.2(3). Any other method must be approved by the appropriate TCEQ Regional Director.

If the portable analyzer is capable of measuring nitric oxide and nitrogen dioxide, then these measurements shall be summed to determine the NO_x emission rate.
 - D. Subsequent performance tests as required by 40 CFR Part 60, Subpart JJJJ may be substituted for one of the semi-annual tests. The annual catalyst evaluation test as required by 40 CFR Subpart 63, Subpart ZZZZ may be substituted for one of the semi-annual tests provided that NO_x and CO are evaluated.
 - E. Emissions shall be measured and recorded in the as-found operating condition, except no compliance determination shall be established during start-up, shutdown, or under breakdown conditions.
 - F. Emissions calculations based on measured concentrations and fuel flow rates shall be used to convert the portable analyzer data to g/hp-hr and pound per hour (lb/hr) to demonstrate compliance with the NO_x and CO emissions limits in this permit and on the MAERT for each engine.
 - G. Within 14 days after each occurrence of engine maintenance which is reasonably expected to affect emissions such as oxygen sensor replacement, air fuel ratio controller replacement, catalyst cleaning, or catalyst replacement, the engine shall be tested for NO_x and CO emission limits in this permit.
18. An O₂ or NO_x sensor shall be installed on each engine. The sensor shall be maintained and replaced per manufacturer recommendations. The sensor shall be connected to a visible or audible indicator of the proper O₂ or NO_x content and checks of the indicator shall be made at least once daily.
19. A non-resettable runtime meter shall be installed on each engine.
20. The holder of this permit shall install, calibrate, maintain, and operate continuous monitoring system to monitor and record the average hourly natural gas fuel gas consumption of each engine. The system shall be accurate to ± 5.0 percent of the unit's maximum flow.
21. A replacement engine shall have documentation demonstrating compliance with the emission limits of this permit. If documentation is not available, the engine shall start with the initial compliance test.

Maintenance, Startup, and Shutdown

22. Blowdowns are limited to the following:
- A. Each engine is limited to 12 hours of planned blowdown activities per rolling 12-month period.
 - B. Blowdown events shall be limited to no more than one engine per hour.
 - C. Emissions from blowdown events shall be routed back into the process or shall be routed to the flare.
23. Tanks are limited to the following:
- A. Each tank (oil or produced water) is limited to one cleanout event per year.
 - B. All degassing events are limited to four hours per year.
24. The permit holder shall sum all emissions from planned maintenance activities, identified in Attachment A, on a rolling 12-month basis for each facility to demonstrate compliance with the MAERT.

Fugitive Monitoring Program – 28VHP

25. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:
- A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (VOC) has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:
 - piping and instrumentation diagram (PID);
 - a written or electronic database or electronic file;
 - color coding;
 - a form of weatherproof identification; or
 - designation of exempted process unit boundaries.
 - B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
 - C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in Paragraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.
- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve;
or
 - (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72 hour period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.
- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The

calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shut down as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shut down or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Recordkeeping Requirements

- 26. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:
 - A. A copy of this permit.
 - B. The initial permit application and all subsequent representations submitted to the TCEQ.
 - C. A copy of the engine manufacturer's design and operation specifications and all emission-related maintenance requirements.
 - D. A complete copy of the testing reports and records of the initial performance testing completed to demonstrate initial compliance.
- 27. The following information shall be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and shall be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:

- A. Records of testing conducted including emission calculations to demonstrate compliance with emission limits in this permit and the MAERT. If these calculations are automated by a computer, sample calculations shall be kept with the records.
- B. Records of the hours of operation and quantity of natural gas for each engine, kept on a monthly and rolling 12-month basis.
- C. Records of the fuel sulfur content based on receipts or chemical analyses.
- D. Records of throughput for the oil and produced water tanks.
- E. Records of visible emissions, opacity observations and any corrective actions taken.
- F. Records of all engine maintenance activities.

Date: xxxx

Attachment A
MSS Activity Summary

Planned Maintenance Activities							
Activities	EPN	Emissions					
		NO _x	CO	VOC	PM	SO ₂	NH ₃
Engine maintenance ¹	MSS-MISC			X			
Dehydrator maintenance ²	MSS-MISC			X			
Tank cleaning	MSS-TC			X			
Tank degassing	MSS-TD			X			
Glycol reboiler maintenance	MSS-MISC			X			

Date: xxxxxx

¹ Includes: oil changes, filter changes, engine rod changes, and changing wet/dry seals.

² Includes: replacement of the glycol solution.