

January 10, 2017

U.S. EPA Region 8 Air Program, 8P-AR

Attn: Ms. Claudia Smith

1595 Wynkoop Street

Denver, CO 80202

*Re: Arrow Pipeline, LLC, Arrow Pipeline Stations 1-6
Fort Berthold Indian Reservation (FBIR)
McKenzie and Dunn County, North Dakota
Request for Administrative Permit Revision
Permit # SMNSR-TAT-000367-2014.002*

Dear Ms. Smith:

Arrow Pipeline, LLC (Arrow) currently operates a Crude Oil and Natural Gas Gathering Facility ("Stations 1-6") located on the Fort Berthold Indian Reservation in McKenzie and Dunn County, North Dakota. The facility is currently permitted under Air Pollution Control Synthetic Minor Source Permit to Construct Number: SMNSR-TAT-000367-2014.002 issued by the Environmental Protection Agency (EPA) Region VIII on February 26, 2016.

Arrow is submitting this letter to request that selected permit language regarding engines be revised as an administrative permit revision per 40 CFR Part §49.159(f) in order to better accommodate future equipment changes at Stations 1-6.

Specifically, Arrow would like to revise or retain the following permit conditions:

1. Remove language describing construction limits of total maximum engine capacity of 21,000 hp [Permit Condition I.C.2.(b)]; but, retain individual Station maximum engine capacity of 9,100 hp [I.C.2.(c)].
2. Remove language describing individual engines approved for installation [I.C.2.(e)].
3. Remove language describing individual engine g/hp-hr emission limits by horsepower/type and replace with general CO, NO_x, VOC, and CH₂O g/hp-hr emission limits for rich burn and for lean burn engines [I.D.1.].
4. Retain total facility-wide synthetic minor emission limits described in the current permit [I.C.1.].
5. Retain all other construction, monitoring and recordkeeping requirements as described in the current permit.

Arrow does not believe any of the requested revisions provided in this letter trigger a permit modification pursuant to 40 CFR Part §49.153(a)(1)(ii).

Arrow understands that once the synthetic minor NSR permit is revised as requested herein, future equipment changes at Stations 1-6 can be made without pre-authorization from the EPA provided that the source-wide synthetic minor emission limits are met and notwithstanding any notifications or approvals required by any independently applicable regulations such as NSPS or NESHAP.¹ For the Part 71 operating permit, Arrow further understands that such equipment changes will necessitate an application update (if the Part 71 permit is not yet issued), or an off-permit change notification or minor modification application (if the Part 71 permit is issued), both of which allow the change to be made concurrently with

¹ Per e-mail correspondence between Ms. Claudia Smith (EPA) and Mr. Jeff Stovall (Arrow) on November 1, 2016.

submittal and do not require pre-approval from the EPA.² Arrow will continue to maintain a monthly and consecutive 12-month total VOC, NO_x, CO, CO₂e, and HAP emissions, in tons per year (tpy), for Stations 1-6 to ensure that actual emissions remain below the synthetic minor limits, as required by Permit Condition I.C.5.(e).

Accordingly, please find the following attachments:

- Attachment 1: Redlined Version of Current Permit SMNSR-TAT-000367-2014.002
- Attachment 2: Administrative Permit Amendment Request (Form AMEND)

Thank you for your consideration of this request. Please feel free to contact me at (817) 339-5474 or Jeff.Stovall@Crestwoodlp.com should you have any questions or if you require additional information.

Sincerely,



Jeff Stovall, P.E.
Air Quality Manager
Arrow Pipeline, LLC

alm: attachments

² Ibid.

ATTACHMENT 1: REDLINED VERSION OF CURRENT PERMIT

United States Environmental Protection Agency
Region 8, Air Program
1595 Wynkoop Street
Denver, CO 80202



**Air Pollution Control
Synthetic Minor Source Permit to Construct**

40 CFR 49.151

#SMNSR-TAT-000367-2014.002003

Synthetic Minor Permit to Construct to establish emission limits to avoid the requirements of the Prevention of Significant Deterioration Permitting (PSD) Program at 40 CFR Part 52 with respect to volatile organic compound (VOC), nitrogen oxide (NO_x), and carbon monoxide (CO) emissions and greenhouse gas emissions (GHG, expressed as dioxide equivalent (CO_{2e})) and to ensure the construction of this current project remains a minor source of hazardous air pollutants (HAPs).

Permittee:

Arrow Pipeline, LLC

Permitted Facility/Source:

Arrow Pipeline Stations 1-6

Fort Berthold Indian Reservation
McKenzie and Dunn County, North Dakota

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I. Conditional Permit to Construct

A. General Information

<u>Facility/source:</u>	Arrow Pipeline Stations 1-6
<u>Permit number:</u>	SMNSR-TAT-000367-2014. 002 003
<u>SIC Code and SIC Description:</u>	4922 – Pipeline Transportation of Natural Gas 4612 – Crude Petroleum Pipelines
<u>Site Location:</u>	<u>Corporate Office Location:</u>
Fort Berthold Indian Reservation McKenzie and Dunn County, ND	Arrow Pipeline LLC 10702 Highway 73 Keene, ND 58847

The equipment listed in this permit shall be operated by Arrow Pipeline, LLC, at the following locations:

Station-1 - Latitude 47.759800N, Longitude -102.725922W
Station-2 - Latitude 47.723781N, Longitude -102.694333W
Station-3 - Latitude 47.729061N, Longitude -102.590211W
Station-4 - Latitude 47.667064N, Longitude -102.545058W
Station-5 - Latitude 47.666366N, Longitude -102.72803W
Station-6 - Latitude 47.730086N, Longitude -102.356544W

The locations indicated above are approximate and the final location may be within 1,200 feet of these coordinates. Any adjustment to the station locations must comply with the Endangered Species Act and National Historic Preservation Act.

B. Applicability

1. This Federal Permit to Construct is being issued under authority of the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR).
2. The requirements in this permit have been created, at the Permittee's request, to establish legally and practically enforceable restrictions on VOC, NO_x, CO, CO_{2e}, and HAP emission limits to avoid the requirements of the PSD regulations, and major source requirements of the National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAPs) found at 40 CFR Part 63 (NESHAPs).
3. Any conditions established for Stations 1-6 pursuant to any Conditional Permit to Construct issued under the authority of the PSD or TMNSR regulations shall continue to apply.
4. By issuing this permit, the EPA does not assume any risk of loss which may occur as a result of the operation of the permitted units by the Permittee, Owner, and/or Operator, if the conditions of this permit are not met by the Permittee, Owner, and/or Operator.

C. Requirements for Emission Limits, Construction, and Operation

1. Emission Limits

- (a) Total VOC emissions for the Stations 1-6 operation not exceed 245 tons during any consecutive 12-month period.
- (b) Total NO_x emissions for the Stations 1-6 operation shall not exceed 245 tons during any consecutive 12-month period.
- (c) Total CO emissions for the Stations 1-6 operation shall not exceed 245 tons during any consecutive 12-month period.
- (d) Total CO_{2e} emissions for the Stations 1-6 operation shall not exceed 98,000 tons during any consecutive 12-month period.
- (e) Total HAP emissions for the Stations 1-6 operation shall not exceed 24.5 tons during any consecutive 12-month period.
- (f) Individual HAP emissions for the Stations 1-6 operation shall not exceed 9.8 tons during any consecutive 12-month period.
- (g) Emission limits shall apply at all times, unless otherwise specified in this permit.

2. Construction and Operational Limits

- (a) The Permittee shall only construct at the locations specified in this permit.
- ~~(b) — The Permittee shall limit the total maximum engine capacity of the Stations 1-6 operation to 21,100 horsepower (hp).~~
- ~~(c) — Each station may have a combined maximum engine capacity of up to 9,100 hp, provided the total maximum engine capacity for the Stations 1-6 operation is not exceeded.~~
- ~~(d)~~(b) All engine capacities shall be based on the manufacturer's maximum site-rated hp of each engine.
- ~~(e) — The follow reciprocating internal combustion engines have been approved for installation and operation:~~
 - ~~(i) — Eleven (11), 4-stroke rich-burn engines, with a maximum rating of 1,480 hp each;~~
 - ~~(ii) — Two (2), 4-stroke rich-burn engines, with a maximum rating of 740 hp each;~~
 - ~~(iii) — One (1) 4-stroke lean-burn engine, with a maximum rating of 530 hp;~~
 - ~~(iv) — Three (3), 4-stroke rich-burn engines, with a maximum rating of 530 hp each;~~
 - ~~(v) — One (1), 4-stroke rich-burn engine, with a maximum rating of 293 hp; and~~
 - ~~(vi) — Four (4), 4-stroke rich-burn engines, with a maximum rating of 220 hp each.~~
- ~~(f)~~(c) The Permittee shall only install engines that are operated and controlled as specified in this permit.

~~(g)~~(d) The Permittee shall only install natural gas condensate storage tanks operated and controlled as specified in this permit.

~~(h)~~(e) The Permittee shall only install produced water tanks operated and controlled as specified in this permit.

~~(i)~~(f) All natural gas condensate, produced water, and natural gas collection, storage, and handling operations, regardless of size, shall be designed, operated and maintained by the Permittee so as to minimize leakage of hydrocarbon emissions to the atmosphere.

3. Testing Requirements

Within 1 year of the first day that operations begin at each station, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station to confirm the accuracy of the emissions estimates provided in the application for this permit. Thereafter, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station every 5 years and use the new data for emissions calculations required in this permit.

4. Monitoring Requirements

(a) The Permittee shall monitor the maximum engine capacity at each station ~~and the total maximum engine capacity for the Stations 1-6 operation~~ upon commencement of operations, at the end of each calendar year, and any time an engine is installed, moved or replaced. All engine capacities shall be based on the maximum site-rated hp of each engine.

(b) The Permittee shall measure the throughput volume of produced water and natural gas condensate processed through the station as specified in this permit.

(c) The Permittee shall calculate, at the end of each calendar month, the total VOC, NO_x, CO, CO_{2e}, and HAP emissions for the Stations 1-6 operation, beginning with the first calendar month that permitted operations commence. Prior to 12 full months of operation, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since operations commenced and record the total. Thereafter, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for the preceding 11 months and calculate a new 12-month total.

(d) Emissions from all controlled and uncontrolled emission sources shall be included in the monthly and consecutive 12-month calculations, including, but not limited to: the natural gas condensate storage tanks; produced water storage tanks; truck loadout operations; natural gas condensate, produced water, and natural gas system receivers; fuel gas coalescers; slug catchers; filter separators; pig launchers and receivers; pneumatic pumps; pneumatic controls; compressor blowdowns; engines; equipment leaks; enclosed combustors; utility flares; or any other EPA approved control device.

(e) Emissions from each approved emitting unit shall be calculated by the Permittee as specified in this permit.

- (f) Where sufficient to meet the monitoring requirements of this permit, the Permittee may use a Supervisory Control and Data Acquisition (SCADA) system to monitor the needed data in this permit.
- (g) Alternative monitoring methods may be used by the Permittee upon EPA approval.

5. Recordkeeping Requirements

- (a) The Permittee shall maintain a record of the location of each engine at each station upon commencement of operations and any time an engine is installed, moved or replaced. The records shall include the type of engine (i.e., 4-stroke rich-burn, 4-stroke lean-burn), and maximum hp rating.
- (b) The Permittee shall maintain a record of the location of the natural gas condensate storage tanks and produced water storage tanks upon commencement of operations and any time a natural gas condensate storage tank or produced water storage tank is installed, moved or replaced. The records shall include the type and size of the tank.
- (c) The Permittee shall maintain a record of the monthly and consecutive 12-month barrels of natural gas condensate received at each station.
- (d) The Permittee shall maintain a record of the total monthly and consecutive 12-month barrels of natural gas condensate received by the Stations 1-6 operation.
- (e) The Permittee shall maintain a record of the monthly and consecutive 12-month total VOC, NO_x, CO, CO₂e, and HAP emissions, in tons per year (tpy), for the Stations 1-6 operation.
- (f) The Permittee shall maintain a record of the results of each extended laboratory analysis of the natural gas condensate and produced water received at each station.
- (g) The Permittee shall maintain a record of all input parameters and calculations used to determine the monthly emissions from all controlled and uncontrolled emission sources.
- (h) The Permittee shall maintain a record of all deviations from the requirements of this permit.
- (i) Where sufficient to meet all the recordkeeping requirements of this permit, the Permittee may use a SCADA system to record the needed data in this permit.
- (j) Alternative methods of recordkeeping may be used by the Permittee upon EPA approval.

D. Requirements for Engines

1. Emission Limits

- (a) Emissions from ~~each the one (1)~~ natural gas-fired, ~~530 hp, 4-stroke~~ lean-burn engine shall not exceed the following:

- (i) NO_x: 2.0 grams/horse power-hour (g/hp-hr);
 - (ii) CO: 1.3 g/hp-hr;
 - (iii) VOC: 0.3 g/hp-hr; and
 - (iv) Formaldehyde (CH₂O): 0.2 g/hp-hr.
- (b) Emissions from each ~~of the 11~~ natural gas-fired, ~~1,480 hp, 4-stroke~~ rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- ~~(c) Emissions from each of the two (2) natural gas-fired, 740 hp, 4-stroke rich-burn engines shall not exceed the following:~~
- ~~(i) NO_x: 1.0 g/hp-hr;~~
 - ~~(ii) CO: 2.0 g/hp-hr;~~
 - ~~(iii) VOC: 0.7 g/hp-hr; and~~
 - ~~(iv) CH₂O: 0.1 g/hp-hr.~~
- ~~(d) Emissions from each of the three (3) natural gas-fired, 530 hp, 4-stroke rich-burn engines shall not exceed the following:~~
- ~~(i) NO_x: 1.0 g/hp-hr;~~
 - ~~(ii) CO: 2.0 g/hp-hr;~~
 - ~~(iii) VOC: 0.7 g/hp-hr; and~~
 - ~~(iv) CH₂O: 0.1 g/hp-hr.~~
- ~~(e) Emissions from the one (1) natural gas-fired, 293 hp, 4-stroke rich-burn engine shall not exceed the following:~~
- ~~(i) NO_x: 1.0 g/hp-hr;~~
 - ~~(ii) CO: 2.0 g/hp-hr;~~
 - ~~(iii) VOC: 0.7 g/hp-hr; and~~
 - ~~(iv) CH₂O: 0.1 g/hp-hr.~~
- ~~(f) Emissions from each of the four (4) natural gas-fired, 220 hp, 4-stroke rich-burn engines shall not exceed the following:~~
- ~~(i) NO_x: 1.0 g/hp-hr;~~
 - ~~(ii) CO: 2.0 g/hp-hr;~~
 - ~~(iii) VOC: 0.7 g/hp-hr; and~~
 - ~~(iv) CH₂O: 0.1 g/hp-hr.~~

2. Construction and Operational Requirements

- (a) The Permittee shall ensure that rich burn engines are equipped with a catalytic control system capable of reducing uncontrolled emissions, at the maximum operating rate (90% to 110% of the maximum engine capacity at site elevation), as follows:
 - (i) NO_x: 95%;
 - (ii) CO: 90%;
 - (iii) VOC: 80%; and
 - (iv) CH₂O: 90%.
- (b) The Permittee shall install temperature sensing devices (e.g., thermocouple or resistance temperature detectors) before the catalytic control system on each engine in order to continuously monitor the exhaust temperature to the inlet of the catalyst bed. Each temperature sensing device shall be calibrated and operated by the Permittee according to manufacturer specifications.
- (c) The engine exhaust temperature at the inlet to each catalyst bed shall be maintained at all times the engines operate with an inlet temperature of at least 700 °F and no more than 1,250 °F and in accordance with manufacturer specifications.
- (d) If the exhaust temperature at the inlet to the catalyst bed deviates from the ranges required by this permit, then the Permittee shall take the following actions:
 - (i) Immediately upon determining a deviation of the inlet temperature, corrective action shall be taken on that engine to assess performance problems and/or tuning issues and the catalytic control system shall be inspected for possible damage and problems affecting catalyst effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the temperature sensing devices.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system manufacturer recommended procedures (or equivalent procedures provided they bring the inlet temperature to the catalyst bed back within the acceptable temperature range), then the Permittee shall correct the problem within 24 hours of inspecting the engine and catalyst control system.
 - (iii) If the problem cannot be corrected using the manufacturer's recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the inlet temperature to the catalyst bed is measured and found to be within the acceptable temperature range for that engine. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (e) The Permittee shall monitor the pressure drop across each catalyst bed during normal operations on a monthly basis.

- (f) During operation the pressure drop across the catalyst bed on each engine shall be maintained to within two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test.
- (g) If the pressure drop exceeds two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test, then the following actions shall be taken by the Permittee:
 - (i) Immediately upon determining a deviation of the pressure drop, corrective action shall be taken to assess performance problems for possible damage and problems affecting catalytic control systems effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst in the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the pressure transducers. If the cause is determined to be the catalyst, then the catalyst shall be inspected and cleaned or replaced, if necessary.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system's manufacturer recommended procedures, or equivalent procedures provided they bring the pressure drop across the catalyst bed back to within two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.
 - (iii) If the problem cannot be corrected using manufacturer recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the pressure drop across the catalyst bed is measured and found to be within the acceptable pressure drop range. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (h) The Permittee shall only fire the engines covered by this permit with natural gas, except that propane may be used as an alternative fuel solely during emergency operations for a maximum of 100 hours in any consecutive 12-month period.
- (i) The Permittee shall follow, for each engine and any respective catalytic control system, manufacturer recommended maintenance schedules and procedures to ensure optimum performance of each engine and its respective catalytic control system.
- (j) The Permittee may overhaul or replace an existing permitted engine with an engine of the same hp rating, and configured to operate in the same manner as the engine being replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engines that are replaced shall also apply to the replacement engines.
- (k) The Permittee may resume operation without the catalytic control system during an engine "break-in" period, not to exceed 5 days, for overhauled and replacement engines.

3. Testing Requirements

- (a) Performance tests shall be conducted on each engine for measuring NO_x, CO, VOC, and CH₂O emissions to demonstrate compliance with each emission limit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR Part 63, Appendix A and 40 CFR Part 60, Appendix A. The Permittee may submit to the EPA a written request for approval of an alternate test method, but shall only use that alternate test method after obtaining approval from the EPA.
 - (i) The initial performance test shall be conducted within 90 calendar days of startup of an engine.
 - (ii) Subsequent performance tests for CH₂O emissions shall be performed every calendar year.
 - (iii) Performance tests for NO_x, CO, and VOC, and CH₂O emissions shall be conducted within 90 calendar days of startup of all overhauled engines, replacement engines, catalyst replacement, and engines restarted after correction of a deviation of the temperature to the inlet of the catalyst or pressure drop across the catalyst that resulted in a required shut down according to this permit.
- (b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters the day of the engine testing or during the engine testing for the purpose of passing a performance test. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid. The Permittee shall record the reason for and result of any adjustments made on the day of or during any performance test. Artificially increasing an engine load to meet testing requirements is not considered engine tuning or adjustments.
- (c) All performance tests performed for NO_x, CO, VOC, and CH₂O emissions shall meet the following requirements:
 - (i) The pressure drop across each catalyst and the inlet temperature to the catalyst shall both be measured during all performance tests.
 - (ii) All tests for CO and NO_x emissions shall be performed simultaneously.
 - (iii) All tests shall be performed at maximum operating rate (90% to 110% of the maximum engine capacity at site elevation). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing, but shall only test at that alternate load level after obtaining approval from the EPA.
 - (iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).
 - (v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits.

- (vi) Performance test plans for NO_x, CO, VOC, and CH₂O shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned. The plans shall include and address the following elements:
 - (A) Purpose of the test;
 - (B) Engines and catalytic control systems to be tested;
 - (C) Expected engine operating rate(s) during test;
 - (D) Schedule/dates for the test;
 - (E) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
 - (F) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
 - (G) Data processing and reporting (description of data handling and quality control procedures, report content).
- (d) The Permittee shall notify the EPA in writing at least 30 calendar days prior to scheduled performance testing.
- (e) If the permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct a performance test. The Permittee may conduct the performance test when the engine is started up again.

4. Monitoring Requirements

- (a) The Permittee shall measure NO_x, CO, and VOC emissions from each engine at least quarterly, and every time the catalyst is changed out, to demonstrate compliance with each engine's emission limits. To meet this requirement, the Permittee shall:
 - (i) Measure NO_x, CO, and VOC emissions using a portable analyzer and a monitoring protocol approved by EPA.
 - (ii) Submit the analyzer specifications and monitoring protocol to EPA for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring.
 - (iii) Commence monitoring for NO_x, CO, and VOC emissions during the first calendar quarter following the submittal of the initial performance test results for NO_x, CO, and VOC emissions to the EPA.
- (b) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the CO emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the CO emission limit, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the CO emission limit, the required test frequency shall change back to quarterly.
- (c) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the NO_x emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the NO_x emission limit, the required monitoring frequency shall change from semi-annual to annual. If results of any

single portable analyzer measurement are more than 80% of the NO_x emission limit, the required test frequency shall change back to quarterly.

- (d) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the VOC emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the VOC emission limits, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the VOC emission limit, the required test frequency shall change back to quarterly.
- (e) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.
- (f) Engine emissions shall be calculated based on the following:
 - (i) The most recent performance test or portable analyzer results;
 - (ii) The greenhouse gas emission factors provided in 40 CFR Part 98 Subpart C, Tables C-1 and C-2, for the combustion of natural gas;
 - (iii) The maximum site-rated hp of each engine; and
 - (iv) Assuming full-time operation of 8,760 hours per year for each engine.

5. Recordkeeping Requirements

- (a) Records shall be kept of manufacturer specifications for each engine, catalytic control system, temperature sensing device, and pressure measuring device.
- (b) Records shall be kept of all calibration and maintenance conducted in accordance with manufacturer recommendations for each engine, catalytic control system, temperature sensing device, and pressure measuring device.
- (c) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (d) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (e) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:
 - (i) The date, place, and time of sampling or measurements;
 - (ii) The date(s) analyses were performed;
 - (iii) The company or entity that performed the analyses;
 - (iv) The analytical techniques or methods used;
 - (v) The results of such analyses or measurements; and
 - (vi) The operating conditions as existing at the time of sampling or measurement.

- (f) Records shall be kept of all catalytic control system replacements or repairs, engine overhauls and engine replacements.
- (g) Records shall be kept of each overhauled or replaced engine “break-in” period, pursuant to the requirements of this permit.
- (h) Records shall be kept of each time an engine is shut down due to a deviation in the inlet temperature to the catalyst or pressure drop across a catalyst. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.
- (i) Records shall be kept of the VOC, NO_x, CO, CO_{2e}, and CH₂O emission calculations for each engine.
- (j) Records shall be kept that are sufficient to demonstrate that the fuel for the engines are natural gas or propane for a maximum of 100 hours per year per engine when natural gas is unavailable. Records of propane use shall include the total hours used in each consecutive 12-month period.

E. Requirements for Tanks

1. All natural gas condensate storage tanks and produced water storage tanks are covered by this permit.
2. The Permittee shall follow, for each tank, manufacturer recommended maintenance schedule and operating procedures to ensure good air pollution control practices for minimizing emissions.
3. The Permittee shall install, maintain, and operate each tank such that all the emission limits in this permit will be met.
4. The Permittee shall limit the tank emissions using one or more of the following techniques:
 - (a) Route all working, breathing, and flashing losses through a closed-vent system to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose; and/or
 - (b) Route all working, breathing, and flashing losses through a closed-vent system to a control device as specified in this permit.
5. Covers: The Permittee shall equip all openings on each tank with a cover to ensure that all hydrocarbon emissions are efficiently being routed through a closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this permit.
 - (a) The Permittee shall ensure that each cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves, and gauge wells) form a continuous impermeable barrier over the entire surface area of the tanks.

- (b) Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in a tank on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the tank (this includes openings necessary to equalize or balance the internal pressure of the tank following changes in the level of the material in the tank);
 - (ii) To inspect or sample the material in the tank; or
 - (iii) To inspect, maintain, repair, or replace equipment located inside the tank.
- (c) Each thief hatch cover shall be weighted and properly seated.
- (d) Pressure relief valves shall be set to release at a pressure that will ensure that all hydrocarbon emissions are routed through the closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this permit under normal operating conditions.

6. Monitoring Requirements

- (a) The Permittee shall perform quarterly visual inspections of tank thief hatches, covers, seals, pressure relief valves, and closed vent systems to ensure proper condition and functioning, and repair any damaged equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (b) The Permittee shall perform quarterly visual inspections of the peak pressure and vacuum values in each closed vent system and control device of each tank as specified in this permit to ensure that the pressure and vacuum relief set-points are not being exceeded in a way that has resulted, or may result, in venting and possible damage to equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (c) The Permittee shall calculate the VOC, CO₂e, and HAP emissions from each tank. The VOC and HAP emissions at each station shall be determined using: the measured monthly volume of produced water and natural gas condensate routed to the tanks; the most recent extended laboratory analysis of the produced water and natural gas condensate entering the station as required in this permit; E&P Tanks V2.0 and/or EPA Tanks 4.0.9d, as appropriate; and the most recent tested control efficiency of the control device being used, as required in this permit. Other calculation methods may be used upon prior written approval by the EPA.

7. Record Keeping Requirements

- (a) The Permittee shall maintain records of the monthly volume of produced water and natural gas condensate handled by each tank.
- (b) The Permittee shall maintain a record of all quarterly inspections. All inspection records shall include, at a minimum, the following information:
 - (i) The date of the inspection;
 - (ii) The findings of the inspection;

- (iii) Any required repairs; and
 - (iv) The inspector's name and signature.
- (c) The Permittee shall maintain records of the date of installation of each tank, the manufacturer specifications, and all scheduled maintenance and repairs.
- (d) The Permittee shall maintain records of the VOC, CO₂e, and HAP emission calculations for each tank.

F. Requirements for Control Systems for Hydrocarbon Emissions

1. Closed-Vent Systems: The Permittee shall meet the following requirements for closed-vent systems:

- (a) Each closed-vent system shall route all hydrocarbon emissions from the natural gas condensate storage tanks and produced water storage tanks to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit.
- (b) All vent lines, connections, fittings, valves, pressure relief valves, or any other appurtenance employed to contain and collect hydrocarbon emissions to transport them to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit shall be maintained and operated properly at all times.
- (c) Each closed-vent system shall be designed to operate with no detectable hydrocarbon emissions, as required in this permit.
- (d) If any closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the hydrocarbon emissions, from entering a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit, the Permittee shall meet one of following requirements for each bypass device:
 - (i) At the inlet to the bypass device that could divert the hydrocarbon emissions away from a natural gas pipeline or a control device and into the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking continuous readings and sounding an alarm when the bypass device is open such that hydrocarbon emissions are being, or could be, diverted away from a natural gas pipeline or a control device and into the atmosphere; or
 - (ii) Secure the bypass device valve installed at the inlet in the non-diverting position using a car-seal or a lock-and-key type configuration.
- (e) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements applicable to bypass devices.

2. Enclosed Combustors and Utility Flares: The Permittee shall meet the following requirements for enclosed combustors and utility flares:

- (a) Follow, for each enclosed combustor or utility flare, manufacturer written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
- (b) Ensure, for each enclosed combustor or utility flare, that there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon emissions routed to it by at least 95% for the minimum and maximum volumetric flow rate and BTU content routed to the device;
- (c) Operate each enclosed combustor or utility flare such that the mass content of VOCs in the hydrocarbon gas emissions routed to it are reduced by at least 95%; and
- (d) Ensure that each utility flare is designed and operated in accordance with requirements of the General Provisions for the New Source Performance Standards (NSPS A) at §60.18(b), for such flares except for §§60.18(c)(2) and 60.18(f)(2) for those utility flares operated with an auto ignition system.
- (e) The Permittee shall ensure that each enclosed combustor is:
 - (i) A model demonstrated by a manufacturer to meet the 95% VOC destruction efficiency requirements of the New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission and Distribution at 40 CFR Part 60, Subpart OOOO (NSPS OOOO), using the procedure specified in §60.5413(d), by the due date of the first annual report; or
 - (ii) Demonstrated to meet the 95% VOC destruction efficiency requirements of NSPS OOOO using EPA approved performance test methods specified in §60.5413(b).
- (f) The Permittee shall ensure that each enclosed combustor and utility flare is:
 - (i) Operated properly at all times that hydrocarbon emissions are routed to it;
 - (ii) Operated with a liquid knock-out system to collect any condensable vapors (to prevent liquids from going through the control device);
 - (iii) Equipped with a flash-back flame arrestor;
 - (iv) Equipped with one of the following:
 - (A) A continuous burning pilot flame, a thermocouple, and a malfunction alarm and notification system if the pilot flame fails; or
 - (B) An electronically controlled auto-ignition system with a malfunction alarm and notification system if the flame fails while hydrocarbon gas emissions are flowing to the enclosed combustor or utility flare;
 - (v) Equipped with a continuous recording device, such as a chart recorder, data logger or similar device, or connected to a SCADA system, to monitor and document proper operation of the enclosed combustor or utility flare;

- (vi) Maintained in a leak-free condition; and
 - (vii) Operated with no visible smoke emissions, as defined in EPA Reference Method 22 of 40 CFR Part 60, Appendix A.
3. Other Control Devices: Upon written approval by the EPA, the Permittee may use control devices other than those listed above that are capable of reducing the mass content of VOCs in the hydrocarbon gas routed to it by at least 95%, provided that:
- (a) In operating such control devices, the Permittee shall follow the manufacturer's written operating instructions, procedures, and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
 - (b) The Permittee shall ensure there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon gas emissions routed to such other control devices by at least 95% for the minimum and maximum natural gas volumetric flow rate and BTU content routed to each device; and
 - (c) The Permittee shall operate such a control device to reduce the mass content of VOCs in the produced natural gas and natural gas emissions routed to it by at least 95%.
4. Testing Requirements:
- Within 180 days after initial startup at each station, and every 5 years thereafter, the Permittee shall conduct a performance test of the closed-vent system to demonstrate that it is operating in a leak-free condition, and a performance test of the control device to which hydrocarbon emissions are routed, to demonstrate 95% destruction efficiency.
- (a) Testing of the closed vent system shall be conducted in accordance with EPA Reference Method 21, listed in 40 CFR Part 60, Appendix A.
 - (b) Testing of the enclosed combustor VOC destruction efficiency shall be conducted in accordance with EPA Reference Method 25A, listed in 40 CFR Part 60, Appendix A.
 - (c) A 95% destruction efficiency can be assumed for utility flares provide they are designed and operated in accordance with §60.18(b) of NSPS A.
 - (d) The Permittee may submit a written request to the EPA for an alternate testing method, but shall only use that test method upon receipt of written approval by the EPA.
5. Monitoring Requirements:
- (a) The Permittee shall monitor the operation of each enclosed combustor and utility flare to confirm proper operation as follows:
 - (i) Continuously monitor the enclosed combustor and utility flare operation, using a malfunction alarm and notification system for failures, and checking the alarm and notification system for proper operation whenever an operator is on site, at a minimum quarterly;

- (ii) Monitor for visible smoke during operation of any enclosed combustor, utility flare, or pit flare each time an operator is on site, at a minimum quarterly. Upon observation of visible smoke, use EPA Reference Method 22 of 40 CFR Part 60, Appendix A, to confirm that no visible smoke emissions are present. The observation period shall be 1 hour. Visible smoke emissions are present if smoke is observed emitting from the enclosed combustor, utility flare, or pit flare for more than two (2) minutes in any one (1) hour; and
 - (iii) Respond to any observation of improper monitoring equipment operation or any malfunction and notification alarm system to ensure the monitoring equipment is returned to proper operation as soon as practicable and safely possible after an observation or an alarm sounds.
- (b) Where sufficient to meet the monitoring requirements the Permittee may use a SCADA system to monitor and record the required data.
 - (c) The Permittee shall calculate VOC, NO_x, CO, CO_{2e}, and HAP emissions from each enclosed combustor and utility flare using the following:
 - (i) The monitored volume of standing, working, breathing, and flashing gases from the natural gas condensate storage tanks and produced water storage tanks, as required in this permit;
 - (ii) The most recent extended laboratory analysis of the natural gas condensate received at each station;
 - (iii) The most recent performance test results of the closed-vent system and control device;
 - (iv) The emission factors in AP-42 Chapter 1.4, Natural Gas Combustion; and
 - (v) The emission factors provided in 40 CFR Part 98, Subpart C, Tables C-1 and C-2, for the combustion of natural gas.

6. Recordkeeping Requirements

The Permittee shall keep records of the following:

- (a) The site-specific design input parameters provided by the manufacturer or vendor and used to properly size each control device to assure the minimum 95% reduction requirements;
- (b) All required monitoring of the control device operations;
- (c) Any deviations from the operating parameters specified in the manufacturer or vendor site-specific designs. The records shall include the control's total operating time during the calendar month in which the exceedance occurred, the date, time and length of time that the parameters were exceeded, and the corrective actions taken and any preventative measures adopted to operate the controls within that operating parameter;
- (d) Any instances in which any closed-vent system or control device was bypassed or down in each calendar month, the reason for each incident, its duration, and the corrective actions taken and any preventative measures adopted to avoid such bypasses or downtimes;

- (e) Any instances in which the pilot flame is not present in an enclosed combustor or the utility flare while hydrocarbon emissions are vented to it, the date and times that the pilot was not present and the corrective actions taken or any preventative measures adopted to improve the operation of the pilot flame;
- (f) Any instances in which the thermocouple (or other heat sensing monitoring device) installed to detect the presence of a flame in an enclosed combustor or engineered flare while hydrocarbon emissions are vented to it is not operational, the time period during which it was not operational, and the corrective measures taken;
- (g) Any instances in which the recording device installed to record data from the thermocouple is not operational;
- (h) Any time periods in which visible emissions are observed emanating from a control system; and
- (i) The VOC, NO_x, CO, CO₂e, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

G. Requirements for Truck Loading Operations

1. The Permittee shall operate truck loading operations such that the emission limits in this permit are met.
2. The Permittee shall install, operate and maintain a piping system designed for submerged loading by either bottom loading or loading through a submerged fill pipe. The submerged fill pipe shall be no more than 12 inches from the bottom of the truck tank. The Permittee shall not conduct truck loading operations unless submerged loading is used.
3. Monitoring Requirements: VOC, CO₂e, and HAP emissions from the truck loading operations for each calendar month shall be calculated by the Permittee using the following:
 - (a) The total measured volume of natural gas condensate, in barrels, loaded for the month;
 - (b) The actual physical and chemical properties of the liquid and its associated vapors from the most recent semiannual extended laboratory analysis of the natural gas condensate and produced water received at the station;
 - (c) The procedures outlined in AP-42 Chapter 5.2, Transportation and Marketing of Petroleum Liquids for the actual method of truck loading for VOC, and HAP emissions; and
 - (d) The procedures outlined in 40 CFR Part 98 – Mandatory Green House Gas Reporting - for CO₂e emissions.
4. Recordkeeping Requirements
 - (a) Records shall be kept by the Permittee of the manufacturer specifications and all scheduled maintenance and repairs on the truck-loading equipment.

- (b) Records shall be kept of the VOC, CO₂e, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

H. Requirements for Pneumatic Pumps, Pneumatic Controllers, Compressor Blowdowns

1. Pneumatic Pumps and Controllers

- (a) The Permittee shall install, maintain, and operate any pneumatic pumps and controllers such that the consecutive 12-month emission limit requirements in this permit will be met. This shall be achieved by meeting one or more of the following emission control techniques:
 - (i) Operate air-actuated controllers and pneumatic pumps;
 - (ii) Operate solar or electric-actuated controllers and pneumatic pumps;
 - (iii) Operate low-bleed with natural gas actuated controllers (6 standard cubic feet per hour);
 - (iv) Operate no-bleed with natural gas actuated controllers;
 - (v) Route the emissions discharge streams to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose, such as fuel supply; and/or
 - (vi) Route the discharge stream to a control device as specified in this permit.
- (b) Each natural gas actuated pneumatic pump and controller shall be operated and maintained according to the manufacturer specifications.
- (c) Records shall be kept of the date of installation, the manufacturer specifications and all scheduled maintenance and repairs for each natural gas actuated pneumatic pump and controller.
- (d) Records shall be kept of a description of the steps taken to minimize the emissions from any natural gas actuated pneumatic pump and controller, and a description of emission estimation methods used to calculate VOC, CO₂e, and HAP emissions.
- (e) Emissions from all natural gas actuated pneumatic pumps and controllers shall be included in the entire Stations 1-6 operation's consecutive 12-month total.

2. Compressor Blowdowns

- (a) During manual and automated blow down episodes associated with maintenance or repair, hydrate clearing, emergency operations, equipment depressurization, etc., the Permittee shall limit emissions such that the emission limits in this permit are met.
- (b) The Permittee's personnel shall remain on site during manual blow downs.
- (c) The Permittee shall keep a record of the date and time of each compressor blowdown event; the volume of gas released during the episode, calculated based on a representative emission factor; and a description of emission estimation methods used to calculate the VOC, CO₂e, and HAP emissions.

- (d) Compressor blowdown emissions shall be included in the consecutive 12-month total of all units covered by this permit.

I. Requirements for Equipment Leaks from Closed-Vent Systems

- 1. The Permittee shall minimize leaks of hydrocarbon gases from each connector, valve, pump, flange, open ended line, or any other appurtenance employed to contain and collect vapors and transport them such that the emission limits in this permit are met.
- 2. The Permittee shall develop a written inspection protocol, approved by the EPA, based on audio, visual, and olfactory inspection.
- 3. The Permittee shall visit each station on a quarterly basis to inspect all closed-vent systems for leaks using the EPA approved inspection protocol, and document the inspection.
- 4. Any leaks detected in any closed-vent system shall be addressed immediately unless the repair requires resources not currently available. If the resources are not available, the leak shall be addressed as soon as practical, but no longer than before the next quarterly inspection.
- 5. Emissions from equipment leaks shall be determined by assuming 8,760 hours of operation in a year and with maximum leakage of all components. The annual VOC emissions rate from equipment leaks shall be no more than 9.4 tpy.

J. Requirements for Minimizing Fugitive Dust

1. Work Practice and Operational Requirements

- (a) The Permittee shall take all reasonable precautions to prevent fugitive dust emissions at each station and shall construct, maintain, and operate each station to minimize fugitive dust emissions. Reasonable precautions include, but are not limited to the following:
 - (i) Use, where possible, of water or chemicals for control of dust during construction and operations, grading of roads, or clearing of land;
 - (ii) Application of asphalt, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces, located at the facilities, that can create airborne dust;
 - (iii) The prompt removal from paved surfaces, located at the station, of earth or other material that does or may become airborne; or
 - (iv) Restricting vehicle speeds.
- (b) The Permittee shall prepare and implement a written fugitive dust emission prevention plan, approved by EPA, that specifies the reasonable precautions to be taken and the procedures to be followed to prevent fugitive dust emissions.

2. Monitoring Requirements

- (a) The Permittee shall survey the station during construction and operation to determine if there are obvious visible dust plumes. This survey must be done at a minimum once per week in all active areas and during daylight hours.

- (b) The Permittee shall document the results of the survey, including the date and time of the survey, identification of the cause of any visible dust plumes observed, and the precautions taken to prevent continued fugitive dust emissions.

3. Recordkeeping Requirements

The Permittee shall maintain records for 5 years that document the fugitive dust prevention plan, the periodic surveys, and the reasonable precautions that were taken to prevent fugitive dust emissions.

K. Requirements for Records Retention

1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.
2. Records shall be kept at each station and/or the location that has day-to-day operational control over the operations.

L. Requirements for Reporting

1. Annual Emission Reports

- (a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports must be certified to truth and accuracy by the person responsible for CAA compliance for the Permittee.
- (b) The report shall include NO_x, CO, and CH₂O emissions.
- (c) The report shall be submitted via electronic mail to R8AirPermitting@epa.gov.

2. All other documents required to be submitted under this permit, with the exception of the **Annual Emission Reports**, shall be submitted to:

U.S. Environmental Protection Agency
Region 8 Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street
Denver, Colorado 80202

All documents may be submitted electronically to R8AirReportEnforcement@epa.gov.

3. The Permittee shall submit a written LDAR monitoring report each year no later than April 1st. The annual report shall include the semi-annual LDAR monitoring results for the previous calendar year.
4. The Permittee shall promptly submit to the EPA a written report of any deviations of emission or operational limits and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:

- (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed the emission limits or operational limits if left un-corrected for more than 5 days after discovering the deviation;
 - (b) Within 30 days from the discovery of an equipment leak as a result of the semi-annual LDAR monitoring; and
 - (c) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee's ability to meet the emission limits.
5. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.
 6. The Permittee shall submit any record or report required by this permit upon EPA request.

II. General Provisions

A. Conditional Approval

Pursuant to the authority of 40 CFR Part 49.151, the EPA hereby conditionally grants this permit to construct. This authorization is expressly conditioned as follows:

1. *Document Retention and Availability:* This permit and any required attachments shall be retained and made available for inspection upon request at the location set forth herein.
2. *Permit Application:* The Permittee shall abide by all representations, statements of intent and agreements contained in the application submitted by the Permittee. The EPA shall be notified 10 days in advance of any significant deviation from the permit application as well as any plans, specifications or supporting data furnished.
3. *Permit Deviations:* The issuance of this permit may be suspended or revoked if the EPA determines that a significant deviation from the permit application, specifications, and supporting data furnished has been or is to be made. If the source is constructed, operated, or modified not in accordance with the terms of this permit, the Permittee will be subject to appropriate enforcement action.
4. *Compliance with Permit:* The Permittee shall comply with all conditions of this permit, including emission limitations that apply to the affected emissions units at the permitted facility/source. Noncompliance with any permit term or condition is a violation of the permit and may constitute a violation of the Clean Air Act and is grounds for enforcement action and for a permit termination or revocation.
5. *Fugitive Emissions:* The Permittee shall take all reasonable precautions to prevent and/or minimize fugitive emissions during the construction period.
6. *National Ambient Air Quality Standard and PSD Increment:* The permitted source shall not cause or contribute to a National Ambient Air Quality Standard violation or a PSD increment violation.

7. *Compliance with Federal and Tribal Rules, Regulations, and Orders:* Issuance of this permit does not relieve the Permittee of the responsibility to comply fully with all other applicable Federal and Tribal rules, regulations, and orders now or hereafter in effect.
8. *Enforcement:* It is not a defense, for the Permittee, in an enforcement action, to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
9. *Facility/Source Modifications:* For proposed modifications, as defined in the TMNSR rule at §49.152(d), that would increase an emissions unit allowable emissions of a PSD, TMNSR, or hazardous pollutants above its existing permitted annual allowable emissions limit, the Permittee shall first obtain a permit modification pursuant to the TMNSR regulations approving the increase. For a proposed modification that is not otherwise subject to review under the PSD or TMNSR regulations, such proposed increase in the annual allowable emissions limit shall be approved through an administrative permit revision as provided in the TMNSR rule at §49.159(f).
10. *Relaxation of Legally and Practically Enforceable Limits:* At such time that a new or modified source within the permitted facility/source or modification of the permitted facility/source becomes a major stationary source or major modification solely by virtue of a relaxation in any legally and practically enforceable limitation which was established after August 7, 1980, on the capacity of the permitted facility/source to otherwise emit a pollutant, such as a restriction on hours of operation, then the requirements of the PSD regulations shall apply to the source or modification as though construction had not yet commenced on the source or modification.
11. *Revise, Reopen, Revoke and Reissue, or Terminate for Cause:* The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee, for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. The EPA may reopen a permit for a cause on its own initiative, e.g., if the permit contains a material mistake or the Permittee fails to assure compliance with the applicable requirements.
12. *Severability Clause:* The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.
13. *Property Rights:* The permit does not convey any property rights of any sort or any exclusive privilege.
14. *Information Requests:* The Permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. For any such information claimed to be confidential, you shall also submit a claim of confidentiality in accordance with 40 CFR Part 2, Subpart B.
15. *Inspection and Entry:* The EPA or its authorized representatives may inspect the permitted facility/source during normal business hours for the purpose of ascertaining compliance with all conditions of this permit. Upon presentation of proper credentials, the Permittee shall allow the EPA or its authorized representative to:

- (a) Enter upon the premises where a permitted facility/source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
 - (b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - (c) Inspect, during normal business hours or while the permitted facility/source is in operation, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
 - (e) Record any inspection by use of written, electronic, magnetic and photographic media.
16. *Permit Effective Date:* This permit shall be effective immediately upon issuance unless comments resulted in a change in the draft permit, in which case the permit is effective 30 days after issuance. The Permittee may notify the EPA, in writing, that this permit or a term or condition of it is rejected. Such notice should be made within 30 days of receipt of the permit and should include the reason or reasons for rejection.
17. *Permit Transfers:* Permit transfers shall be made in accordance with the Tribal MNSR rule at §49.159(f). The Air Program Director shall be notified in writing at the address shown below if the company is sold or changes its name.
- U.S. Environmental Protection Agency, Region 8
C/o Tribal Air Permitting, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202
18. *Invalidation of Permit:* Unless the permitted source of emissions is an existing source, this permit becomes invalid if construction is not commenced within 18 months after the effective date of the permit, construction is discontinued for 18 months or more, or construction is not completed within a reasonable time. The EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between the construction of the approved phases of a phased construction project. Permittee shall commence construction of each such phase within 18 months of the projected and approved commencement date.

19. *Notification of Start-Up:* The Permittee shall submit a notification of the date of initial start-up of the permitted source to the EPA no later than 60 days of such date, unless the permitted source of emissions is an existing source.

B. Authorization:

Authorized by the United States Environmental Protection Agency, Region 8

Carl Daly, Director
Air Program

Date

Unofficial Draft

ATTACHMENT 2: ADMINISTRATIVE PERMIT AMENDMENT REQUEST (FORM)



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN
COUNTRY**

**Administrative Permit Amendment Request
(Form AMEND)**

Please check box to show how you are using this form

- Correction to a Typographical Error**
- Incorporation of More Frequent Monitoring or Reporting**
- Increase in Allowable Emissions (SEE INSTRUCTIONS!)**
- Other**

Use of this information request form is voluntary and not yet approved by the Office of Management and Budget. The following is a check list of the type of information that Region 8 will use to process information on your proposed permit amendment. While submittal of this form is not required, it does offer details on the information we will use to complete your requested approval and providing the information requested may help expedite the process. Use of application forms for this program is currently under Office of Management and Budget review and these information request forms will be replaced/updated after that review is completed.

Please submit information to following two entities:

Federal Minor NSR Permit
Coordinator
U.S. EPA, Region 8
1595 Wynkoop Street, 8P-AR
Denver, CO 80202-1129
R8airpermitting@epa.gov

The Tribal Environmental Contact for the specific reservation:

If you need assistance in identifying the appropriate Tribal Environmental Contact and address, please contact:

R8airpermitting@epa.gov

For more information, visit:
<http://www.epa.gov/caa-permitting/tribal-nsr-permitting-region-8>

A. COMPANY INFORMATION

Company Name (Who owns this facility?) Arrow Pipeline, LLC	
Company Contact (Who is the <u>primary</u> contact at the company that owns this facility?) Jeff Stovall	Title Air Quality Manager
Mailing Address 1200 Summit Ave., Suite 320 Fort Worth, TX 76102	
Email Address Jeff.Stovall@Crestwoodlp.com	
Telephone Number 817-339-5474	Facsimile Number 817-339-5401

B. FACILITY INFORMATION

Facility Name on the Permit to Be Amended Arrow Pipeline Stations 1-6
Minor Source Permit To Construct Number (MC-xxx-xxxx-xx.xx) SMNSR-TAT-000367-2014.002
Date of Most Recent Permit Action (this should be the same permit to which you are requesting the amendment) 02/26/2016

C. DESCRIPTION OF THE PROPOSED AMENDMENT

Provide a narrative description of the requested amendment to the permit and the following:

- Why the proposed change can be made through this form. (See instructions).
Requested change is considered an administrative permit revision. Form is used at the request of EPA.
- Information presented in enough detail to document how the facility is currently operating and how it is proposed to operate. A narrative description of all of the facility processes along with a process flow diagram to enable EPA to understand the effect the proposed change has on emission unit or (pollutant generating activity).
No changes proposed concurrent with this administrative permit revision.
- Emissions calculations and all supporting data necessary to establish the proposed post-change allowable emission limits. The requested information must be provided for each emissions unit (or pollutant-generating activity).
No changes proposed concurrent with this administrative permit revision.
- The proposed changes to be made to specific terms and conditions of the permit. A redline/strike out version of the permit may be used for this purpose.
See attached
- The following table with Facility-wide Emission Estimates:
No changes proposed concurrent with this administrative permit revision.

Pollutant	Pre-Change Allowable Emissions (tpy)	Post Change Allowable Emissions (tpy)	
PM			PM - Particulate Matter PM ₁₀ - Particulate Matter less than 10 microns in size PM _{2.5} - Particulate Matter less than 2.5 microns in size SO ₂ - Sulfur Oxides NO _x - Nitrogen Oxides CO - Carbon Monoxide VOC - Volatile Organic Compound Pb - Lead and lead compounds Fluorides - Gaseous and particulates
PM ₁₀			
PM _{2.5}			
SO ₂			
NO _x			
CO			
VOC			
Pb			

Fluorides			H ₂ SO ₄ - Sulfuric Acid Mist H ₂ S - Hydrogen Sulfide TRS - Total Reduced Sulfur RSC - Reduced Sulfur Compounds
H₂SO₄			
H₂S			
TRS			
RSC			

Instructions

What administrative permit amendments require the use of a different form?

1. A change in the name, address, or phone number of any person identified in the permit, or a similar minor administrative change at the source should be made through **Form LOC** or **Form INFO**.
2. A change in ownership or operational control of a source where the reviewing authority determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the reviewing authority should be made through **Form OWN**.

What administrative permit amendments require the use of this form?

1. Correction to typographical errors;
2. Incorporation of more frequent monitoring or reporting;
3. Establishment of an increase in an emissions unit's annual allowable emissions limit for a regulated NSR pollutant, when the action that necessitates such increase is not otherwise subject to review under major NSR or under this program.

Proposed new construction or modifications should first be evaluated to determine if the change is major under the major NSR program using the procedures at 40 CFR 52.21 (i.e., baseline actual to projected actual applicability test). If the proposed construction does not qualify as a major under that test, then it may be subject to the requirements of the minor NSR rule at 40 CFR 49.151.

Helpful Definitions from the Federal Minor NSR Rule (40 CFR 49) – This is not a comprehensive list.

- *40 CFR 49.152(d) - Modification* means any physical or operational change at a source that would cause an increase in the allowable emissions of the affected emissions units for any regulated NSR pollutant or that would cause the emission of any regulated NSR pollutant not previously emitted.

The following exemptions apply:

- (1) A physical or operational change does not include routine maintenance, repair, or replacement.
- (2) An increase in the hours of operation or in the production rate is not considered an operational change unless such increase is prohibited under any federally-enforceable permit condition or other permit condition that is enforceable as a practical matter.
- (3) A change in ownership at a source is not considered a modification.

- *40 CFR 49.152(d) - Allowable emissions* means “allowable emissions” as defined in §52.21(b)(16), except that the allowable emissions for any emissions unit are calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit’s potential to emit.
- *52.21(b)(16) - Allowable emissions* means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:
 - (i) The applicable standards as set forth in 40 CFR parts 60 and 61;
 - (ii) The applicable State Implementation Plan emissions limitation, including those with a future compliance date; or
 - (iii) The emissions rate specified as a federally enforceable permit condition, including those with a future compliance date.

Calculating Emissions

“Allowed” means the source is restricted by permit conditions that limit its emissions and are enforceable as a practical matter (i.e., allowable emissions). The allowable emissions for any emissions unit are calculated considering any emissions limitations that are enforceable as a practical matter on the unit’s PTE.

Pre-Change Allowable Emissions: Current permitted annual emissions for a pollutant expressed in tpy.

The current allowable emissions are the allowable rate of emissions for the preceding calendar year and must be calculated using the permitted operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year.

The total pre-change allowable emissions for the facility would be the sum of following:

1. Each emissions unit with an allowable emissions limitation. Calculated using the allowable operating hours, production rates, in-place control equipment, and/or types of materials processed, stored, or combusted.

PLUS

2. Each emissions unit without any emissions limitations. Calculated using the maximum possible operating hours, production rates, and/or dirtiest types of materials processed, stored, or combusted.

Post-Change Allowable Emissions: The proposed allowable emissions for a pollutant expressed in tpy. Unless the source is restricted by permit conditions or other requirements that are enforceable as a practical matter, the post-change allowable emissions would be equivalent to post-change uncontrolled emissions.

The total proposed increase in allowable emissions resulting from your proposed change would be the sum of following:

1. Each emission unit with a proposed emission limitation. Calculated using the proposed allowable operating hours, production rates, in-place control equipment, and/or types of materials processed, stored, or combusted.

PLUS

2. Each emissions unit without a proposed emission limitation. Calculated using the maximum possible operating hours, production rates, and/or dirtiest types of materials processed, stored, or combusted.

Emissions Estimates

Any emission estimates submitted to the Regional Administrator should be verifiable using currently accepted engineering criteria. The following procedures are generally acceptable for estimating emissions from air pollution sources:

- (i) Source-specific emission tests;
- (ii) Mass balance calculations;
- (iii) Published, verifiable emission factors that are applicable to the source. (i.e., manufacturer specifications)
- (iv) Other engineering calculations; or
- (v) Other procedures to estimate emissions specifically approved by the Regional Administrator.

Guidance for estimating emissions can be found at <http://www.epa.gov/ttn/chief/efpac/index.html>



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917

<http://www2.epa.gov/aboutepa/epa-region-8-mountains-and-plains>

Ref: 8P-AR

Jeff Stovall, P.E.
Air Quality Manager
Arrow Pipeline, LLC
Attn: Air Quality Team
801 Cherry Street, Suite 3800, Unit 20
Fort Worth, Texas 76102

MAR 01 2016

Re: Arrow Pipeline, LLC, Arrow Pipeline Stations 1-6, Permit #SMNSR-TAT-000367-2014.002, Administrative Revision to Synthetic Minor New Source Review Permit

Dear Mr. Stovall:

The U.S. Environmental Protection Agency, Region 8 received two administrative permit revision requests from you dated December 15, 2014 and August 30, 2015, regarding the synthetic minor permit to construct that the EPA issued on March 11, 2013, pursuant to the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR Part 49 for Arrow Pipeline, LLC's Crude Oil and Natural Gas Gathering and Transmission Fort Berthold Operations (#SMNSR-TAT-000367-2012.001).

The administrative permit revision request dated December 15, 2014 requested various revisions to the current permit language for permit #SMNSR-TAT-000367-2012.001. A summary of these revisions includes:

- Replacing references to "*crude oil*" with "*natural gas condensate*" or, in some instances, deleting the "*crude oil*" reference entirely in order to reflect the current design of the facility where crude oil is no longer handled at the surface.
- Changing references of "*the gathering and transmission operation*" to "*Stations 1-6*" in order to more accurately define the sites included in the permit.

Please note: in order to maintain consistency throughout the permit, additional references to "*crude oil*" or "*the gathering and transmission operation*" found throughout the permit, which were not part of the administrative permit revision request, were modified as detailed above.

- Modifying existing permit language to more closely mirror language found in the synthetic minor permit to construct for Arrow Pipeline, LLC's Arrow Pipeline Station #7

(#SMNSR-TAT-000661-2013.001), in order to more accurately reflect the actual design and operation of the facility or to clarify permit requirements. Such language was incorporated into various sections, as requested, including sections I.D.2(a), I.D.3(b), I.D.3(e), I.E.7, I.F.2(f), I.H.1, and I.H.2(c).

Please note: these section citations refer to the current permit which we are transmitting with this letter. Due to the removal of former section E. Requirements for LACT Units, these citations do not necessarily match those in Arrow Pipeline, LLC's administrative permit revision requests.

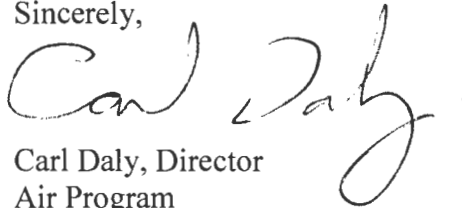
8/30/15 10:34AM

The administrative permit revision request dated August 30, 2015 requested a revision to incorporate the use of propane as an alternative fuel, which is consistent with the New Source Performance Standard (NSPS) for Stationary Spark Ignition Internal Combustion Engines at 40 CFR Part 60, Subpart JJJJ at §60.4243(e).

Upon review, the EPA concurs that the requested revisions are administrative in nature and therefore, in accordance with the administrative permit revision provisions of 40 CFR 49.159(f), the EPA has revised the permit to include the administrative permit revisions requested and hereby issues the enclosed final revised synthetic minor MNSR permit to construct for the Arrow Pipeline Stations 1-6. Administrative permit revisions are not subject to the permit application, issuance, public participation or administrative and judicial review requirements of the MNSR Permit Program.

If you have any questions concerning the enclosed final permit please contact Alexas Gilbert of my staff at (303) 312-6850.

Sincerely,



Carl Daly, Director
Air Program

Enclosures

cc:

Edmund Baker, Environmental Director, Three Affiliated Tribes

**United States Environmental Protection Agency
Region 8, Air Program
1595 Wynkoop Street
Denver, CO 80202**



**Air Pollution Control
Synthetic Minor Source Permit to Construct**

40 CFR 49.151

#SMNSR-TAT-000367-2014.002

Synthetic Minor Permit to Construct to establish emission limits to avoid the requirements of the Prevention of Significant Deterioration Permitting (PSD) Program at 40 CFR Part 52 with respect to volatile organic compound (VOC), nitrogen oxide (NO_x), and carbon monoxide (CO) emissions and greenhouse gas emissions (GHG, expressed as dioxide equivalent (CO_{2e})) and to ensure the construction of this current project remains a minor source of hazardous air pollutants (HAPs).

Permittee:

Arrow Pipeline, LLC

Permitted Facility/Source:

Arrow Pipeline Stations 1-6

Fort Berthold Indian Reservation
McKenzie and Dunn County, North Dakota

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I. Conditional Permit to Construct

A. General Information

Facility/source: Arrow Pipeline Stations 1-6
Permit number: SMNSR-TAT-000367-2014.002
SIC Code and SIC Description: 4922 – Pipeline Transportation of Natural Gas
4612 – Crude Petroleum Pipelines

Site Location: Fort Berthold Indian Reservation
McKenzie and Dunn County, ND
Corporate Office Location: Arrow Pipeline LLC
10702 Highway 73
Keene, ND 58847

The equipment listed in this permit shall be operated by Arrow Pipeline, LLC, at the following locations:

- Station-1 - Latitude 47.759800N, Longitude -102.725922W
- Station-2 - Latitude 47.723781N, Longitude -102.694333W
- Station-3 - Latitude 47.729061N, Longitude -102.590211W
- Station-4 - Latitude 47.667064N, Longitude -102.545058W
- Station-5 - Latitude 47.666366N, Longitude -102.72803W
- Station-6 - Latitude 47.730086N, Longitude -102.356544W

The locations indicated above are approximate and the final location may be within 1,200 feet of these coordinates. Any adjustment to the station locations must comply with the Endangered Species Act and National Historic Preservation Act.

B. Applicability

1. This Federal Permit to Construct is being issued under authority of the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR).
2. The requirements in this permit have been created, at the Permittee’s request, to establish legally and practically enforceable restrictions on VOC, NO_x, CO, CO_{2e}, and HAP emission limits to avoid the requirements of the PSD regulations, and major source requirements of the National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAPs) found at 40 CFR Part 63 (NESHAPs).
3. Any conditions established for Stations 1-6 pursuant to any Conditional Permit to Construct issued under the authority of the PSD or TMNSR regulations shall continue to apply.
4. By issuing this permit, the EPA does not assume any risk of loss which may occur as a result of the operation of the permitted units by the Permittee, Owner, and/or Operator, if the conditions of this permit are not met by the Permittee, Owner, and/or Operator.

C. Requirements for Emission Limits, Construction, and Operation

1. Emission Limits

- (a) Total VOC emissions for the Stations 1-6 operation not exceed 245 tons during any consecutive 12-month period.
- (b) Total NO_x emissions for the Stations 1-6 operation shall not exceed 245 tons during any consecutive 12-month period.
- (c) Total CO emissions for the Stations 1-6 operation shall not exceed 245 tons during any consecutive 12-month period.
- (d) Total CO_{2e} emissions for the Stations 1-6 operation shall not exceed 98,000 tons during any consecutive 12-month period.
- (e) Total HAP emissions for the Stations 1-6 operation shall not exceed 24.5 tons during any consecutive 12-month period.
- (f) Individual HAP emissions for the Stations 1-6 operation shall not exceed 9.8 tons during any consecutive 12-month period.
- (g) Emission limits shall apply at all times, unless otherwise specified in this permit.

2. Construction and Operational Limits

- (a) The Permittee shall only construct at the locations specified in this permit.
- (b) The Permittee shall limit the total maximum engine capacity of the Stations 1-6 operation to 21,100 horsepower (hp).
- (c) Each station may have a combined maximum engine capacity of up to 9,100 hp, provided the total maximum engine capacity for the Stations 1-6 operation is not exceeded.
- (d) All engine capacities shall be based on the manufacturer's maximum site-rated hp of each engine.
- (e) The follow reciprocating internal combustion engines have been approved for installation and operation:
 - (i) Eleven (11), 4-stroke rich-burn engines, with a maximum rating of 1,480 hp each;
 - (ii) Two (2), 4-stroke rich-burn engines, with a maximum rating of 740 hp each;
 - (iii) One (1) 4-stroke lean-burn engine, with a maximum rating of 530 hp;
 - (iv) Three (3), 4-stroke rich-burn engines, with a maximum rating of 530 hp each;
 - (v) One (1), 4-stroke rich-burn engine, with a maximum rating of 293 hp; and
 - (vi) Four (4), 4-stroke rich-burn engines, with a maximum rating of 220 hp each.
- (f) The Permittee shall only install engines that are operated and controlled as specified in this permit.

- (g) The Permittee shall only install natural gas condensate storage tanks operated and controlled as specified in this permit.
- (h) The Permittee shall only install produced water tanks operated and controlled as specified in this permit.
- (i) All natural gas condensate, produced water, and natural gas collection, storage, and handling operations, regardless of size, shall be designed, operated and maintained by the Permittee so as to minimize leakage of hydrocarbon emissions to the atmosphere.

3. Testing Requirements

Within 1 year of the first day that operations begin at each station, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station to confirm the accuracy of the emissions estimates provided in the application for this permit. Thereafter, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station every 5 years and use the new data for emissions calculations required in this permit.

4. Monitoring Requirements

- (a) The Permittee shall monitor the maximum engine capacity at each station and the total maximum engine capacity for the Stations 1-6 operation upon commencement of operations, at the end of each calendar year, and any time an engine is installed, moved or replaced. All engine capacities shall be based on the maximum site-rated hp of each engine.
- (b) The Permittee shall measure the throughput volume of produced water and natural gas condensate processed through the station as specified in this permit.
- (c) The Permittee shall calculate, at the end of each calendar month, the total VOC, NO_x, CO, CO_{2e}, and HAP emissions for the Stations 1-6 operation, beginning with the first calendar month that permitted operations commence. Prior to 12 full months of operation, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since operations commenced and record the total. Thereafter, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for the preceding 11 months and calculate a new 12-month total.
- (d) Emissions from all controlled and uncontrolled emission sources shall be included in the monthly and consecutive 12-month calculations, including, but not limited to: the natural gas condensate storage tanks; produced water storage tanks; truck loadout operations; natural gas condensate, produced water, and natural gas system receivers; fuel gas coalescers; slug catchers; filter separators; pig launchers and receivers; pneumatic pumps; pneumatic controls; compressor blowdowns; engines; equipment leaks; enclosed combustors; utility flares; or any other EPA approved control device.
- (e) Emissions from each approved emitting unit shall be calculated by the Permittee as specified in this permit.

- (f) Where sufficient to meet the monitoring requirements of this permit, the Permittee may use a Supervisory Control and Data Acquisition (SCADA) system to monitor the needed data in this permit.
- (g) Alternative monitoring methods may be used by the Permittee upon EPA approval.

5. Recordkeeping Requirements

- (a) The Permittee shall maintain a record of the location of each engine at each station upon commencement of operations and any time an engine is installed, moved or replaced. The records shall include the type of engine (i.e., 4-stroke rich-burn, 4-stroke lean-burn), and maximum hp rating.
- (b) The Permittee shall maintain a record of the location of the natural gas condensate storage tanks and produced water storage tanks upon commencement of operations and any time a natural gas condensate storage tank or produced water storage tank is installed, moved or replaced. The records shall include the type and size of the tank.
- (c) The Permittee shall maintain a record of the monthly and consecutive 12-month barrels of natural gas condensate received at each station.
- (d) The Permittee shall maintain a record of the total monthly and consecutive 12-month barrels of natural gas condensate received by the Stations 1-6 operation.
- (e) The Permittee shall maintain a record of the monthly and consecutive 12-month total VOC, NO_x, CO, CO_{2e}, and HAP emissions, in tons per year (tpy), for the Stations 1-6 operation.
- (f) The Permittee shall maintain a record of the results of each extended laboratory analysis of the natural gas condensate and produced water received at each station.
- (g) The Permittee shall maintain a record of all input parameters and calculations used to determine the monthly emissions from all controlled and uncontrolled emission sources.
- (h) The Permittee shall maintain a record of all deviations from the requirements of this permit.
- (i) Where sufficient to meet all the recordkeeping requirements of this permit, the Permittee may use a SCADA system to record the needed data in this permit.
- (j) Alternative methods of recordkeeping may be used by the Permittee upon EPA approval.

D. Requirements for Engines

1. Emission Limits

- (a) Emissions from the one (1) natural gas-fired, 530 hp, 4-stroke lean-burn engine shall not exceed the following:

- (i) NO_x: 2.0 grams/horse power-hour (g/hp-hr);
 - (ii) CO: 1.3 g/hp-hr;
 - (iii) VOC: 0.3 g/hp-hr; and
 - (iv) Formaldehyde (CH₂O): 0.2 g/hp-hr.
- (b) Emissions from each of the 11 natural gas-fired, 1,480 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (c) Emissions from each of the two (2) natural gas-fired, 740 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (d) Emissions from each of the three (3) natural gas-fired, 530 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (e) Emissions from the one (1) natural gas-fired, 293 hp, 4-stroke rich-burn engine shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (f) Emissions from each of the four (4) natural gas-fired, 220 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.

2. Construction and Operational Requirements

- (a) The Permittee shall ensure that rich burn engines are equipped with a catalytic control system capable of reducing uncontrolled emissions, at the maximum operating rate (90% to 110% of the maximum engine capacity at site elevation), as follows:
- (i) NO_x: 95%;
 - (ii) CO: 90%;
 - (iii) VOC: 80%; and
 - (iv) CH₂O: 90%.
- (b) The Permittee shall install temperature sensing devices (e.g., thermocouple or resistance temperature detectors) before the catalytic control system on each engine in order to continuously monitor the exhaust temperature to the inlet of the catalyst bed. Each temperature sensing device shall be calibrated and operated by the Permittee according to manufacturer specifications.
- (c) The engine exhaust temperature at the inlet to each catalyst bed shall be maintained at all times the engines operate with an inlet temperature of at least 700 °F and no more than 1,250 °F and in accordance with manufacturer specifications.
- (d) If the exhaust temperature at the inlet to the catalyst bed deviates from the ranges required by this permit, then the Permittee shall take the following actions:
- (i) Immediately upon determining a deviation of the inlet temperature, corrective action shall be taken on that engine to assess performance problems and/or tuning issues and the catalytic control system shall be inspected for possible damage and problems affecting catalyst effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the temperature sensing devices.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system manufacturer recommended procedures (or equivalent procedures provided they bring the inlet temperature to the catalyst bed back within the acceptable temperature range), then the Permittee shall correct the problem within 24 hours of inspecting the engine and catalyst control system.
 - (iii) If the problem cannot be corrected using the manufacturer's recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the inlet temperature to the catalyst bed is measured and found to be within the acceptable temperature range for that engine. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (e) The Permittee shall monitor the pressure drop across each catalyst bed during normal operations on a monthly basis.

- (f) During operation the pressure drop across the catalyst bed on each engine shall be maintained to within two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test.
- (g) If the pressure drop exceeds two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test, then the following actions shall be taken by the Permittee:
 - (i) Immediately upon determining a deviation of the pressure drop, corrective action shall be taken to assess performance problems for possible damage and problems affecting catalytic control systems effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst in the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the pressure transducers. If the cause is determined to be the catalyst, then the catalyst shall be inspected and cleaned or replaced, if necessary.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system's manufacturer recommended procedures, or equivalent procedures provided they bring the pressure drop across the catalyst bed back to within two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.
 - (iii) If the problem cannot be corrected using manufacturer recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the pressure drop across the catalyst bed is measured and found to be within the acceptable pressure drop range. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (h) The Permittee shall only fire the engines covered by this permit with natural gas, except that propane may be used as an alternative fuel solely during emergency operations for a maximum of 100 hours in any consecutive 12-month period.
- (i) The Permittee shall follow, for each engine and any respective catalytic control system, manufacturer recommended maintenance schedules and procedures to ensure optimum performance of each engine and its respective catalytic control system.
- (j) The Permittee may overhaul or replace an existing permitted engine with an engine of the same hp rating, and configured to operate in the same manner as the engine being replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engines that are replaced shall also apply to the replacement engines.
- (k) The Permittee may resume operation without the catalytic control system during an engine "break-in" period, not to exceed 5 days, for overhauled and replacement engines.

3. Testing Requirements

- (a) Performance tests shall be conducted on each engine for measuring NO_x, CO, VOC, and CH₂O emissions to demonstrate compliance with each emission limit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR Part 63, Appendix A and 40 CFR Part 60, Appendix A. The Permittee may submit to the EPA a written request for approval of an alternate test method, but shall only use that alternate test method after obtaining approval from the EPA.
 - (i) The initial performance test shall be conducted within 90 calendar days of startup of an engine.
 - (ii) Subsequent performance tests for CH₂O emissions shall be performed every calendar year.
 - (iii) Performance tests for NO_x, CO, and VOC, and CH₂O emissions shall be conducted within 90 calendar days of startup of all overhauled engines, replacement engines, catalyst replacement, and engines restarted after correction of a deviation of the temperature to the inlet of the catalyst or pressure drop across the catalyst that resulted in a required shut down according to this permit.
- (b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters the day of the engine testing or during the engine testing for the purpose of passing a performance test. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid. The Permittee shall record the reason for and result of any adjustments made on the day of or during any performance test. Artificially increasing an engine load to meet testing requirements is not considered engine tuning or adjustments.
- (c) All performance tests performed for NO_x, CO, VOC, and CH₂O emissions shall meet the following requirements:
 - (i) The pressure drop across each catalyst and the inlet temperature to the catalyst shall both be measured during all performance tests.
 - (ii) All tests for CO and NO_x emissions shall be performed simultaneously.
 - (iii) All tests shall be performed at maximum operating rate (90% to 110% of the maximum engine capacity at site elevation). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing, but shall only test at that alternate load level after obtaining approval from the EPA.
 - (iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).
 - (v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits.

- (vi) Performance test plans for NO_x, CO, VOC, and CH₂O shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned. The plans shall include and address the following elements:
 - (A) Purpose of the test;
 - (B) Engines and catalytic control systems to be tested;
 - (C) Expected engine operating rate(s) during test;
 - (D) Schedule/dates for the test;
 - (E) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
 - (F) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
 - (G) Data processing and reporting (description of data handling and quality control procedures, report content).
- (d) The Permittee shall notify the EPA in writing at least 30 calendar days prior to scheduled performance testing.
- (e) If the permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct a performance test. The Permittee may conduct the performance test when the engine is started up again.

4. Monitoring Requirements

- (a) The Permittee shall measure NO_x, CO, and VOC emissions from each engine at least quarterly, and every time the catalyst is changed out, to demonstrate compliance with each engine's emission limits. To meet this requirement, the Permittee shall:
 - (i) Measure NO_x, CO, and VOC emissions using a portable analyzer and a monitoring protocol approved by EPA.
 - (ii) Submit the analyzer specifications and monitoring protocol to EPA for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring.
 - (iii) Commence monitoring for NO_x, CO, and VOC emissions during the first calendar quarter following the submittal of the initial performance test results for NO_x, CO, and VOC emissions to the EPA.
- (b) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the CO emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the CO emission limit, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the CO emission limit, the required test frequency shall change back to quarterly.
- (c) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the NO_x emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the NO_x emission limit, the required monitoring frequency shall change from semi-annual to annual. If results of any

single portable analyzer measurement are more than 80% of the NOx emission limit, the required test frequency shall change back to quarterly.

- (d) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the VOC emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the VOC emission limits, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the VOC emission limit, the required test frequency shall change back to quarterly.
- (e) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.
- (f) Engine emissions shall be calculated based on the following:
 - (i) The most recent performance test or portable analyzer results;
 - (ii) The greenhouse gas emission factors provided in 40 CFR Part 98 Subpart C, Tables C-1 and C-2, for the combustion of natural gas;
 - (iii) The maximum site-rated hp of each engine; and
 - (iv) Assuming full-time operation of 8,760 hours per year for each engine.

5. Recordkeeping Requirements

- (a) Records shall be kept of manufacturer specifications for each engine, catalytic control system, temperature sensing device, and pressure measuring device.
- (b) Records shall be kept of all calibration and maintenance conducted in accordance with manufacturer recommendations for each engine, catalytic control system, temperature sensing device, and pressure measuring device.
- (c) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (d) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (e) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:
 - (i) The date, place, and time of sampling or measurements;
 - (ii) The date(s) analyses were performed;
 - (iii) The company or entity that performed the analyses;
 - (iv) The analytical techniques or methods used;
 - (v) The results of such analyses or measurements; and
 - (vi) The operating conditions as existing at the time of sampling or measurement.

- (f) Records shall be kept of all catalytic control system replacements or repairs, engine overhauls and engine replacements.
- (g) Records shall be kept of each overhauled or replaced engine “break-in” period, pursuant to the requirements of this permit.
- (h) Records shall be kept of each time an engine is shut down due to a deviation in the inlet temperature to the catalyst or pressure drop across a catalyst. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.
- (i) Records shall be kept of the VOC, NO_x, CO, CO_{2e}, and CH₂O emission calculations for each engine.
- (j) Records shall be kept that are sufficient to demonstrate that the fuel for the engines are natural gas or propane for a maximum of 100 hours per year per engine when natural gas is unavailable. Records of propane use shall include the total hours used in each consecutive 12-month period.

E. Requirements for Tanks

1. All natural gas condensate storage tanks and produced water storage tanks are covered by this permit.
2. The Permittee shall follow, for each tank, manufacturer recommended maintenance schedule and operating procedures to ensure good air pollution control practices for minimizing emissions.
3. The Permittee shall install, maintain, and operate each tank such that all the emission limits in this permit will be met.
4. The Permittee shall limit the tank emissions using one or more of the following techniques:
 - (a) Route all working, breathing, and flashing losses through a closed-vent system to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose; and/or
 - (b) Route all working, breathing, and flashing losses through a closed-vent system to a control device as specified in this permit.
5. Covers: The Permittee shall equip all openings on each tank with a cover to ensure that all hydrocarbon emissions are efficiently being routed through a closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this permit.
 - (a) The Permittee shall ensure that each cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves, and gauge wells) form a continuous impermeable barrier over the entire surface area of the tanks.

- (b) Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in a tank on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the tank (this includes openings necessary to equalize or balance the internal pressure of the tank following changes in the level of the material in the tank);
 - (ii) To inspect or sample the material in the tank; or
 - (iii) To inspect, maintain, repair, or replace equipment located inside the tank.
- (c) Each thief hatch cover shall be weighted and properly seated.
- (d) Pressure relief valves shall be set to release at a pressure that will ensure that all hydrocarbon emissions are routed through the closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this permit under normal operating conditions.

6. Monitoring Requirements

- (a) The Permittee shall perform quarterly visual inspections of tank thief hatches, covers, seals, pressure relief valves, and closed vent systems to ensure proper condition and functioning, and repair any damaged equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (b) The Permittee shall perform quarterly visual inspections of the peak pressure and vacuum values in each closed vent system and control device of each tank as specified in this permit to ensure that the pressure and vacuum relief set-points are not being exceeded in a way that has resulted, or may result, in venting and possible damage to equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (c) The Permittee shall calculate the VOC, CO_{2e}, and HAP emissions from each tank. The VOC and HAP emissions at each station shall be determined using: the measured monthly volume of produced water and natural gas condensate routed to the tanks; the most recent extended laboratory analysis of the produced water and natural gas condensate entering the station as required in this permit; E&P Tanks V2.0 and/or EPA Tanks 4.0.9d, as appropriate; and the most recent tested control efficiency of the control device being used, as required in this permit. Other calculation methods may be used upon prior written approval by the EPA.

7. Record Keeping Requirements

- (a) The Permittee shall maintain records of the monthly volume of produced water and natural gas condensate handled by each tank.
- (b) The Permittee shall maintain a record of all quarterly inspections. All inspection records shall include, at a minimum, the following information:
 - (i) The date of the inspection;
 - (ii) The findings of the inspection;

- (iii) Any required repairs; and
 - (iv) The inspector's name and signature.
- (c) The Permittee shall maintain records of the date of installation of each tank, the manufacturer specifications, and all scheduled maintenance and repairs.
 - (d) The Permittee shall maintain records of the VOC, CO₂e, and HAP emission calculations for each tank.

F. Requirements for Control Systems for Hydrocarbon Emissions

1. Closed-Vent Systems: The Permittee shall meet the following requirements for closed-vent systems:
 - (a) Each closed-vent system shall route all hydrocarbon emissions from the natural gas condensate storage tanks and produced water storage tanks to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit.
 - (b) All vent lines, connections, fittings, valves, pressure relief valves, or any other appurtenance employed to contain and collect hydrocarbon emissions to transport them to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit shall be maintained and operated properly at all times.
 - (c) Each closed-vent system shall be designed to operate with no detectable hydrocarbon emissions, as required in this permit.
 - (d) If any closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the hydrocarbon emissions, from entering a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit, the Permittee shall meet one of following requirements for each bypass device:
 - (i) At the inlet to the bypass device that could divert the hydrocarbon emissions away from a natural gas pipeline or a control device and into the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking continuous readings and sounding an alarm when the bypass device is open such that hydrocarbon emissions are being, or could be, diverted away from a natural gas pipeline or a control device and into the atmosphere; or
 - (ii) Secure the bypass device valve installed at the inlet in the non-diverting position using a car-seal or a lock-and-key type configuration.
 - (e) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements applicable to bypass devices.
2. Enclosed Combustors and Utility Flares: The Permittee shall meet the following requirements for enclosed combustors and utility flares:

- (a) Follow, for each enclosed combustor or utility flare, manufacturer written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
- (b) Ensure, for each enclosed combustor or utility flare, that there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon emissions routed to it by at least 95% for the minimum and maximum volumetric flow rate and BTU content routed to the device;
- (c) Operate each enclosed combustor or utility flare such that the mass content of VOCs in the hydrocarbon gas emissions routed to it are reduced by at least 95%; and
- (d) Ensure that each utility flare is designed and operated in accordance with requirements of the General Provisions for the New Source Performance Standards (NSPS A) at §60.18(b), for such flares except for §§60.18(c)(2) and 60.18(f)(2) for those utility flares operated with an auto ignition system.
- (e) The Permittee shall ensure that each enclosed combustor is:
 - (i) A model demonstrated by a manufacturer to meet the 95% VOC destruction efficiency requirements of the New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission and Distribution at 40 CFR Part 60, Subpart OOOO (NSPS OOOO), using the procedure specified in §60.5413(d), by the due date of the first annual report; or
 - (ii) Demonstrated to meet the 95% VOC destruction efficiency requirements of NSPS OOOO using EPA approved performance test methods specified in §60.5413(b).
- (f) The Permittee shall ensure that each enclosed combustor and utility flare is:
 - (i) Operated properly at all times that hydrocarbon emissions are routed to it;
 - (ii) Operated with a liquid knock-out system to collect any condensable vapors (to prevent liquids from going through the control device);
 - (iii) Equipped with a flash-back flame arrestor;
 - (iv) Equipped with one of the following:
 - (A) A continuous burning pilot flame, a thermocouple, and a malfunction alarm and notification system if the pilot flame fails; or
 - (B) An electronically controlled auto-ignition system with a malfunction alarm and notification system if the flame fails while hydrocarbon gas emissions are flowing to the enclosed combustor or utility flare;
 - (v) Equipped with a continuous recording device, such as a chart recorder, data logger or similar device, or connected to a SCADA system, to monitor and document proper operation of the enclosed combustor or utility flare;

- (vi) Maintained in a leak-free condition; and
 - (vii) Operated with no visible smoke emissions, as defined in EPA Reference Method 22 of 40 CFR Part 60, Appendix A.
3. Other Control Devices: Upon written approval by the EPA, the Permittee may use control devices other than those listed above that are capable of reducing the mass content of VOCs in the hydrocarbon gas routed to it by at least 95%, provided that:
- (a) In operating such control devices, the Permittee shall follow the manufacturer's written operating instructions, procedures, and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
 - (b) The Permittee shall ensure there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon gas emissions routed to such other control devices by at least 95% for the minimum and maximum natural gas volumetric flow rate and BTU content routed to each device; and
 - (c) The Permittee shall operate such a control device to reduce the mass content of VOCs in the produced natural gas and natural gas emissions routed to it by at least 95%.
4. Testing Requirements:
- Within 180 days after initial startup at each station, and every 5 years thereafter, the Permittee shall conduct a performance test of the closed-vent system to demonstrate that it is operating in a leak-free condition, and a performance test of the control device to which hydrocarbon emissions are routed, to demonstrate 95% destruction efficiency.
- (a) Testing of the closed vent system shall be conducted in accordance with EPA Reference Method 21, listed in 40 CFR Part 60, Appendix A.
 - (b) Testing of the enclosed combustor VOC destruction efficiency shall be conducted in accordance with EPA Reference Method 25A, listed in 40 CFR Part 60, Appendix A.
 - (c) A 95% destruction efficiency can be assumed for utility flares provide they are designed and operated in accordance with §60.18(b) of NSPS A.
 - (d) The Permittee may submit a written request to the EPA for an alternate testing method, but shall only use that test method upon receipt of written approval by the EPA.
5. Monitoring Requirements:
- (a) The Permittee shall monitor the operation of each enclosed combustor and utility flare to confirm proper operation as follows:
 - (i) Continuously monitor the enclosed combustor and utility flare operation, using a malfunction alarm and notification system for failures, and checking the alarm and notification system for proper operation whenever an operator is on site, at a minimum quarterly;

- (ii) Monitor for visible smoke during operation of any enclosed combustor, utility flare, or pit flare each time an operator is on site, at a minimum quarterly. Upon observation of visible smoke, use EPA Reference Method 22 of 40 CFR Part 60, Appendix A, to confirm that no visible smoke emissions are present. The observation period shall be 1 hour. Visible smoke emissions are present if smoke is observed emitting from the enclosed combustor, utility flare, or pit flare for more than two (2) minutes in any one (1) hour; and
 - (iii) Respond to any observation of improper monitoring equipment operation or any malfunction and notification alarm system to ensure the monitoring equipment is returned to proper operation as soon as practicable and safely possible after an observation or an alarm sounds.
- (b) Where sufficient to meet the monitoring requirements the Permittee may use a SCADA system to monitor and record the required data.
 - (c) The Permittee shall calculate VOC, NO_x, CO, CO_{2e}, and HAP emissions from each enclosed combustor and utility flare using the following:
 - (i) The monitored volume of standing, working, breathing, and flashing gases from the natural gas condensate storage tanks and produced water storage tanks, as required in this permit;
 - (ii) The most recent extended laboratory analysis of the natural gas condensate received at each station;
 - (iii) The most recent performance test results of the closed-vent system and control device;
 - (iv) The emission factors in AP-42 Chapter 1.4, Natural Gas Combustion; and
 - (v) The emission factors provided in 40 CFR Part 98, Subpart C, Tables C-1 and C-2, for the combustion of natural gas.

6. Recordkeeping Requirements

The Permittee shall keep records of the following:

- (a) The site-specific design input parameters provided by the manufacturer or vendor and used to properly size each control device to assure the minimum 95% reduction requirements;
- (b) All required monitoring of the control device operations;
- (c) Any deviations from the operating parameters specified in the manufacturer or vendor site-specific designs. The records shall include the control's total operating time during the calendar month in which the exceedance occurred, the date, time and length of time that the parameters were exceeded, and the corrective actions taken and any preventative measures adopted to operate the controls within that operating parameter;
- (d) Any instances in which any closed-vent system or control device was bypassed or down in each calendar month, the reason for each incident, its duration, and the corrective actions taken and any preventative measures adopted to avoid such bypasses or downtimes;

- (e) Any instances in which the pilot flame is not present in an enclosed combustor or the utility flare while hydrocarbon emissions are vented to it, the date and times that the pilot was not present and the corrective actions taken or any preventative measures adopted to improve the operation of the pilot flame;
- (f) Any instances in which the thermocouple (or other heat sensing monitoring device) installed to detect the presence of a flame in an enclosed combustor or engineered flare while hydrocarbon emissions are vented to it is not operational, the time period during which it was not operational, and the corrective measures taken;
- (g) Any instances in which the recording device installed to record data from the thermocouple is not operational;
- (h) Any time periods in which visible emissions are observed emanating from a control system; and
- (i) The VOC, NO_x, CO, CO_{2e}, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

G. Requirements for Truck Loading Operations

1. The Permittee shall operate truck loading operations such that the emission limits in this permit are met.
2. The Permittee shall install, operate and maintain a piping system designed for submerged loading by either bottom loading or loading through a submerged fill pipe. The submerged fill pipe shall be no more than 12 inches from the bottom of the truck tank. The Permittee shall not conduct truck loading operations unless submerged loading is used.
3. Monitoring Requirements: VOC, CO_{2e}, and HAP emissions from the truck loading operations for each calendar month shall be calculated by the Permittee using the following:
 - (a) The total measured volume of natural gas condensate, in barrels, loaded for the month;
 - (b) The actual physical and chemical properties of the liquid and its associated vapors from the most recent semiannual extended laboratory analysis of the natural gas condensate and produced water received at the station;
 - (c) The procedures outlined in AP-42 Chapter 5.2, Transportation and Marketing of Petroleum Liquids for the actual method of truck loading for VOC, and HAP emissions; and
 - (d) The procedures outlined in 40 CFR Part 98 – Mandatory Green House Gas Reporting - for CO_{2e} emissions.
4. Recordkeeping Requirements
 - (a) Records shall be kept by the Permittee of the manufacturer specifications and all scheduled maintenance and repairs on the truck-loading equipment.

- (b) Records shall be kept of the VOC, CO₂e, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

H. Requirements for Pneumatic Pumps, Pneumatic Controllers, Compressor Blowdowns

1. Pneumatic Pumps and Controllers

- (a) The Permittee shall install, maintain, and operate any pneumatic pumps and controllers such that the consecutive 12-month emission limit requirements in this permit will be met. This shall be achieved by meeting one or more of the following emission control techniques:
 - (i) Operate air-actuated controllers and pneumatic pumps;
 - (ii) Operate solar or electric-actuated controllers and pneumatic pumps;
 - (iii) Operate low-bleed with natural gas actuated controllers (6 standard cubic feet per hour);
 - (iv) Operate no-bleed with natural gas actuated controllers;
 - (v) Route the emissions discharge streams to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose, such as fuel supply; and/or
 - (vi) Route the discharge stream to a control device as specified in this permit.
- (b) Each natural gas actuated pneumatic pump and controller shall be operated and maintained according to the manufacturer specifications.
- (c) Records shall be kept of the date of installation, the manufacturer specifications and all scheduled maintenance and repairs for each natural gas actuated pneumatic pump and controller.
- (d) Records shall be kept of a description of the steps taken to minimize the emissions from any natural gas actuated pneumatic pump and controller, and a description of emission estimation methods used to calculate VOC, CO₂e, and HAP emissions.
- (e) Emissions from all natural gas actuated pneumatic pumps and controllers shall be included in the entire Stations 1-6 operation's consecutive 12-month total.

2. Compressor Blowdowns

- (a) During manual and automated blow down episodes associated with maintenance or repair, hydrate clearing, emergency operations, equipment depressurization, etc., the Permittee shall limit emissions such that the emission limits in this permit are met.
- (b) The Permittee's personnel shall remain on site during manual blow downs.
- (c) The Permittee shall keep a record of the date and time of each compressor blowdown event; the volume of gas released during the episode, calculated based on a representative emission factor; and a description of emission estimation methods used to calculate the VOC, CO₂e, and HAP emissions.

- (d) Compressor blowdown emissions shall be included in the consecutive 12-month total of all units covered by this permit.

I. Requirements for Equipment Leaks from Closed-Vent Systems

1. The Permittee shall minimize leaks of hydrocarbon gases from each connector, valve, pump, flange, open ended line, or any other appurtenance employed to contain and collect vapors and transport them such that the emission limits in this permit are met.
2. The Permittee shall develop a written inspection protocol, approved by the EPA, based on audio, visual, and olfactory inspection.
3. The Permittee shall visit each station on a quarterly basis to inspect all closed-vent systems for leaks using the EPA approved inspection protocol, and document the inspection.
4. Any leaks detected in any closed-vent system shall be addressed immediately unless the repair requires resources not currently available. If the resources are not available, the leak shall be addressed as soon as practical, but no longer than before the next quarterly inspection.
5. Emissions from equipment leaks shall be determined by assuming 8,760 hours of operation in a year and with maximum leakage of all components. The annual VOC emissions rate from equipment leaks shall be no more than 9.4 tpy.

J. Requirements for Minimizing Fugitive Dust

1. Work Practice and Operational Requirements

- (a) The Permittee shall take all reasonable precautions to prevent fugitive dust emissions at each station and shall construct, maintain, and operate each station to minimize fugitive dust emissions. Reasonable precautions include, but are not limited to the following:
 - (i) Use, where possible, of water or chemicals for control of dust during construction and operations, grading of roads, or clearing of land;
 - (ii) Application of asphalt, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces, located at the facilities, that can create airborne dust;
 - (iii) The prompt removal from paved surfaces, located at the station, of earth or other material that does or may become airborne; or
 - (iv) Restricting vehicle speeds.
- (b) The Permittee shall prepare and implement a written fugitive dust emission prevention plan, approved by EPA, that specifies the reasonable precautions to be taken and the procedures to be followed to prevent fugitive dust emissions.

2. Monitoring Requirements

- (a) The Permittee shall survey the station during construction and operation to determine if there are obvious visible dust plumes. This survey must be done at a minimum once per week in all active areas and during daylight hours.

- (b) The Permittee shall document the results of the survey, including the date and time of the survey, identification of the cause of any visible dust plumes observed, and the precautions taken to prevent continued fugitive dust emissions.

3. Recordkeeping Requirements

The Permittee shall maintain records for 5 years that document the fugitive dust prevention plan, the periodic surveys, and the reasonable precautions that were taken to prevent fugitive dust emissions.

K. Requirements for Records Retention

- 1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.
- 2. Records shall be kept at each station and/or the location that has day-to-day operational control over the operations.

L. Requirements for Reporting

1. Annual Emission Reports

- (a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports must be certified to truth and accuracy by the person responsible for CAA compliance for the Permittee.
- (b) The report shall include NO_x, CO, and CH₂O emissions.
- (c) The report shall be submitted via electronic mail to R8AirPermitting@epa.gov.

- 2. All other documents required to be submitted under this permit, with the exception of the **Annual Emission Reports**, shall be submitted to:

U.S. Environmental Protection Agency
Region 8 Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street
Denver, Colorado 80202

All documents may be submitted electronically to R8AirReportEnforcement@epa.gov.

- 3. The Permittee shall submit a written LDAR monitoring report each year no later than April 1st. The annual report shall include the semi-annual LDAR monitoring results for the previous calendar year.
- 4. The Permittee shall promptly submit to the EPA a written report of any deviations of emission or operational limits and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:

- (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed the emission limits or operational limits if left un-corrected for more than 5 days after discovering the deviation;
 - (b) Within 30 days from the discovery of an equipment leak as a result of the semi-annual LDAR monitoring; and
 - (c) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee's ability to meet the emission limits.
5. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.
 6. The Permittee shall submit any record or report required by this permit upon EPA request.

II. General Provisions

A. Conditional Approval

Pursuant to the authority of 40 CFR Part 49.151, the EPA hereby conditionally grants this permit to construct. This authorization is expressly conditioned as follows:

1. *Document Retention and Availability:* This permit and any required attachments shall be retained and made available for inspection upon request at the location set forth herein.
2. *Permit Application:* The Permittee shall abide by all representations, statements of intent and agreements contained in the application submitted by the Permittee. The EPA shall be notified 10 days in advance of any significant deviation from the permit application as well as any plans, specifications or supporting data furnished.
3. *Permit Deviations:* The issuance of this permit may be suspended or revoked if the EPA determines that a significant deviation from the permit application, specifications, and supporting data furnished has been or is to be made. If the source is constructed, operated, or modified not in accordance with the terms of this permit, the Permittee will be subject to appropriate enforcement action.
4. *Compliance with Permit:* The Permittee shall comply with all conditions of this permit, including emission limitations that apply to the affected emissions units at the permitted facility/source. Noncompliance with any permit term or condition is a violation of the permit and may constitute a violation of the Clean Air Act and is grounds for enforcement action and for a permit termination or revocation.
5. *Fugitive Emissions:* The Permittee shall take all reasonable precautions to prevent and/or minimize fugitive emissions during the construction period.
6. *National Ambient Air Quality Standard and PSD Increment:* The permitted source shall not cause or contribute to a National Ambient Air Quality Standard violation or a PSD increment violation.

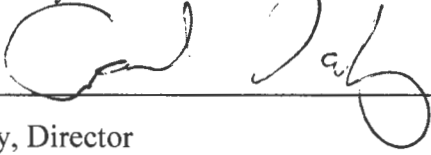
7. *Compliance with Federal and Tribal Rules, Regulations, and Orders:* Issuance of this permit does not relieve the Permittee of the responsibility to comply fully with all other applicable Federal and Tribal rules, regulations, and orders now or hereafter in effect.
8. *Enforcement:* It is not a defense, for the Permittee, in an enforcement action, to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
9. *Facility/Source Modifications:* For proposed modifications, as defined in the TMNSR rule at §49.152(d), that would increase an emissions unit allowable emissions of a PSD, TMNSR, or hazardous pollutants above its existing permitted annual allowable emissions limit, the Permittee shall first obtain a permit modification pursuant to the TMNSR regulations approving the increase. For a proposed modification that is not otherwise subject to review under the PSD or TMNSR regulations, such proposed increase in the annual allowable emissions limit shall be approved through an administrative permit revision as provided in the TMNSR rule at §49.159(f).
10. *Relaxation of Legally and Practically Enforceable Limits:* At such time that a new or modified source within the permitted facility/source or modification of the permitted facility/source becomes a major stationary source or major modification solely by virtue of a relaxation in any legally and practically enforceable limitation which was established after August 7, 1980, on the capacity of the permitted facility/source to otherwise emit a pollutant, such as a restriction on hours of operation, then the requirements of the PSD regulations shall apply to the source or modification as though construction had not yet commenced on the source or modification.
11. *Revise, Reopen, Revoke and Reissue, or Terminate for Cause:* The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee, for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. The EPA may reopen a permit for a cause on its own initiative, e.g., if the permit contains a material mistake or the Permittee fails to assure compliance with the applicable requirements.
12. *Severability Clause:* The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.
13. *Property Rights:* The permit does not convey any property rights of any sort or any exclusive privilege.
14. *Information Requests:* The Permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. For any such information claimed to be confidential, you shall also submit a claim of confidentiality in accordance with 40 CFR Part 2, Subpart B.
15. *Inspection and Entry:* The EPA or its authorized representatives may inspect the permitted facility/source during normal business hours for the purpose of ascertaining compliance with all conditions of this permit. Upon presentation of proper credentials, the Permittee shall allow the EPA or its authorized representative to:

- (a) Enter upon the premises where a permitted facility/source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
 - (b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - (c) Inspect, during normal business hours or while the permitted facility/source is in operation, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
 - (e) Record any inspection by use of written, electronic, magnetic and photographic media.
16. *Permit Effective Date:* This permit shall be effective immediately upon issuance unless comments resulted in a change in the draft permit, in which case the permit is effective 30 days after issuance. The Permittee may notify the EPA, in writing, that this permit or a term or condition of it is rejected. Such notice should be made within 30 days of receipt of the permit and should include the reason or reasons for rejection.
17. *Permit Transfers:* Permit transfers shall be made in accordance with the Tribal MNSR rule at §49.159(f). The Air Program Director shall be notified in writing at the address shown below if the company is sold or changes its name.
- U.S. Environmental Protection Agency, Region 8
C/o Tribal Air Permitting, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202
18. *Invalidation of Permit:* Unless the permitted source of emissions is an existing source, this permit becomes invalid if construction is not commenced within 18 months after the effective date of the permit, construction is discontinued for 18 months or more, or construction is not completed within a reasonable time. The EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between the construction of the approved phases of a phased construction project. Permittee shall commence construction of each such phase within 18 months of the projected and approved commencement date.

19. *Notification of Start-Up:* The Permittee shall submit a notification of the date of initial start-up of the permitted source to the EPA no later than 60 days of such date, unless the permitted source of emissions is an existing source.

B. Authorization:

Authorized by the United States Environmental Protection Agency, Region 8



2/26/2016

Carl Daly, Director
Air Program

Date

Gilbert, Alexas

From: Gilbert, Alexas
Sent: Wednesday, April 20, 2016 8:50 AM
To: 'Loree.Mckee@crestwoodlp.com'
Cc: Smith, Claudia; North, Alexis; 'Jeff.Stovall@crestwoodlp.com'
Subject: RE: Arrow Pipeline LLC - Permit Language Discrepancy

Hello Ms. McKee,

Thank you for highlighting your concerns regarding the Arrow Pipeline Stations 1-6 synthetic minor permit (#SMNSR-TAT-000367-2014.002). Upon review, it has been determined that this permit does contain an inadvertent material mistake in the monitoring requirements for truck loading operations (Section I.G.3(b)) concerning the required frequency of extended laboratory analyses.

Additionally, upon further review, it was determined that Arrow Pipeline's Station #7 synthetic minor permit (#SMNSR-TAT-000661-2013.001) also contains the same inadvertent material mistake in the monitoring requirements for truck loading operations (Section I.H.3(b)).

In accordance with 40 CFR 49.159(f) we will process administrative permit revisions for both #SMNSR-TAT-000367-2014.002 & #SMNSR-TAT-000661-2013.001 in order to correct these material mistakes.

Please contact me if you have questions.

Alexas Gilbert
US EPA Region 8 Air Program
(303) 312-6850

From: McKee, Alisha [<mailto:Loree.Mckee@crestwoodlp.com>]
Sent: Thursday, April 14, 2016 12:34 PM
To: North, Alexis <North.Alexis@epa.gov>
Cc: Stovall, Jeffrey <Jeff.Stovall@crestwoodlp.com>
Subject: Arrow Pipeline LLC - Permit Language Discrepancy

Alex,

In reviewing our Arrow Pipeline Stations 1-6 #SMNSR-TAT-000367-2014.002 permit revised 3/1/16, it was discovered that there is a language discrepancy describing the frequency of obtaining extended gas and liquid analyses.

Item I.G.3.(b) states: "The actual physical and chemical properties of the liquid and its associated vapors from the most recent *semiannual* extended laboratory analysis of the natural gas condensate and produced water received at the station".

However; item I.D.3 Testing Requirements states: "Within 1 year of the first day that operations begin at each station, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station to confirm the accuracy of the emissions estimates provided in the application for this permit. Thereafter, the Permittee shall obtain an extended laboratory analysis of the natural gas condensate and produced water received at each station *every 5 years* and use the new data for emissions calculations required in this permit."

We feel that the phrase “semi-annual” contained in item I.G.3 (b) may be a typo that was overlooked in our previous review of the permit. Can you please advise us on our best approach to address this issue so that any future confusion can be eliminated?

Thank you for any help you can offer,

Loree McKee
Air Quality Specialist

1200 Summit Avenue, Suite 320
Fort Worth, TX 76102
P: 817-339-5522 | C: 817-319-5219
F: 817-339-5401
Loree.McKee@crestwoodlp.com
www.crestwoodlp.com



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United States Environmental Protection Agency
Region 8, Air Program
1595 Wynkoop Street
Denver, CO 80202



**Air Pollution Control
Synthetic Minor Source Permit to Construct**

40 CFR 49.151

#SMNSR-TAT-000367-2012.001

Synthetic Minor Permit to Construct to establish emission limits to avoid the requirements of the Prevention of Significant Deterioration Permitting (PSD) Program at 40 CFR Part 52 with respect to volatile organic compound (VOC), nitrogen oxide (NO_x), and carbon monoxide (CO) emissions and greenhouse gas emissions (GHG, expressed as dioxide equivalent (CO₂e)) and to ensure the construction of this current project remains a minor source of hazardous air pollutants (HAPs).

Permittee:

Arrow Pipeline, LLC

Permitted Facility/Source:

Crude Oil and Natural Gas Gathering and Transmission
Fort Berthold Operations
McKenzie and Dunn County, North Dakota

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I. Conditional Permit to Construct

A. General Information

Facility/source: Crude Oil and Natural Gas Gathering and Transmission – Fort Berthold Operations
Permit number: SMNSR-TAT-000367-2012.001
SIC Code and SIC Description: 4922 – Pipeline Transportation of Natural Gas
4612 – Crude Petroleum Pipelines

Site Location:
Fort Berthold Indian Reservation
McKenzie and Dunn County, ND

Corporate Office Location:
Arrow Pipeline LLC
10702 Highway 73
Keene, ND 58847

The equipment listed in this permit shall be operated by Arrow Pipeline, LLC, at the following locations:

Station-1 - Latitude 47.759800N, Longitude -102.725922W
Station-2 - Latitude 47.723781N, Longitude -102.694333W
Station-3 - Latitude 47.729061N, Longitude -102.590211W
Station-4 - Latitude 47.667064N, Longitude -102.545058W
Station-5 - Latitude 47.666366N, Longitude -102.72803W
Station-6 - Latitude 47.730086N, Longitude -102.356544W

The locations indicated above are approximate and the final location may be within 1,200 feet of these coordinates. Any adjustment to the station locations must comply with the Endangered Species Act and National Historic Preservation Act.

B. Construction Proposal

The gathering and transmission operations will consist of the following primary equipment (which will be located at the six (6) stations identified above):

Crude Oil Separation Tanks
Produced Water Storage Tanks
Truck Loading Operations
Natural Gas-Fired Reciprocating Internal Combustion Engines for natural gas compression
Hydrocarbon Emission Controls

The primary function of the gathering and transmission operation is to transport natural gas, crude oil, and produced water from production wells in the area to a central distribution point. Produced natural gas, crude oil, and produced water will be piped to each station from local production wells. The six (6) stations, comprising the operation, may transfer equipment as needed as long as the limits for each individual station and the limit for the overall operation are met.

Bypass valves in the pipeline would allow the routing of the natural gas, crude oil, and produced water to any one station or to the central delivery point.

The design of each station will be relatively similar and will involve similar process equipment such as: natural gas compressors powered by natural gas-fired combustion engines; oil pumps driven by natural gas-fired engines, natural gas-fired electric generators; electric driven oil and water pumps; crude oil, produced water, and natural gas system receivers; fuel gas coalescesers; slug catchers; filter separators; pig launchers and receivers; tanks to separate crude oil, water, and natural gas; and produced water storage tanks with truck loading as needed. In addition, the stations will utilize pneumatic pumps and pneumatic controls, and perform compressor blowdowns, and emergency venting.

The crude oil and natural gas will be piped to a central delivery point. At a minimum, an enclosed combustor, utility flare or other EPA approved control device capable of 95% VOC and HAP destruction efficiency shall be used at each station to control hydrocarbon emissions from crude oil separation and water storage tanks.

C. Applicability

1. This Federal Permit to Construct is being issued under authority of the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR).
2. The requirements in this permit have been created, at the Permittee's request, to establish legally and practically enforceable restrictions on VOC, NO_x, CO, CO_{2e}, and HAP emission limits to avoid the requirements of the PSD regulations, and major source requirements of the National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAPs) found at 40 CFR Part 63 (NESHAPs).
3. Any conditions established for this gathering and transmission operation pursuant to any Conditional Permit to Construct issued under the authority of the PSD or TMNSR regulations shall continue to apply.
4. By issuing this permit, the EPA does not assume any risk of loss which may occur as a result of the operation of the permitted units by the Permittee, Owner, and/or Operator, if the conditions of this permit are not met by the Permittee, Owner, and/or Operator.

D. Requirements for Emission Limits, Construction, and Operation

1. Emission Limits

- (a) VOC emissions for the gathering and transmission operation shall apply at all times and shall not exceed 245 tons during any consecutive 12 months.
- (b) NO_x emissions for the gathering and transmission operation shall apply at all times and shall not exceed 245 tons during any consecutive 12 months.
- (c) CO emissions for the gathering and transmission operation shall apply at all times and shall not exceed 245 tons during any consecutive 12 months.
- (d) CO_{2e} emissions for the gathering and transmission operation shall apply at all times and shall not exceed 98,000 tons during any consecutive 12 months.

- (e) Total HAP emissions for the gathering and transmission operation shall apply at all times and shall not exceed 24.5 tons during any consecutive 12 months.
- (f) Individual HAP emissions for the gathering and transmission operation shall apply at all times and shall not exceed 9.8 tons during any consecutive 12 months.

2. Construction and Operational Limits

- (a) The Permittee shall only construct at the locations specified in this permit.
- (b) The Permittee shall limit the total maximum engine capacity of the gathering and transmission operation to 21,100 horsepower (hp).
- (c) Each station may have a combined maximum engine capacity of up to 9,100 hp, provided the maximum engine capacity for the entire gathering and transmission operation is not exceeded.
- (d) All engine capacities shall be based on the manufacturer's maximum site rated hp of each engine.
- (e) The follow reciprocating internal combustion engines have been approved for installation and operation:
 - (i) Eleven (11), 4-stroke rich-burn engines, with a maximum rating of 1,480 hp each;
 - (ii) Two (2), 4-stroke rich-burn engines, with a maximum rating of 740 hp each;
 - (iii) One (1) 4-stroke lean-burn engine, with a maximum rating of 530 hp;
 - (iv) Three (3), 4-stroke rich-burn engines, with a maximum rating of 530 hp each;
 - (v) One (1), 4-stroke rich-burn engine, with a maximum rating of 293 hp; and
 - (vi) Four (4), 4-stroke rich-burn engines, with a maximum rating of 220 hp each.
- (f) The Permittee shall only install engines that are operated and controlled as specified in the **Requirements for Engines** section of this permit.
- (g) The Permittee shall only install crude oil separation tanks operated and controlled as specified in the **Requirements for Tanks** section of this permit.
- (h) The Permittee shall only install produced water tanks operated and controlled as specified in the **Requirements for Tanks** section of this permit.
- (i) The Permittee shall limit the crude oil throughput of the entire gathering and transmission operation to 74,204,500 barrels in any given consecutive 12-month period.
- (j) The Permittee shall limit the crude oil throughput at each station to a maximum of 28,032,000 barrels in any given consecutive 12-month period, provided the crude oil throughput for the entire gathering and transmission operation is not exceeded.
- (k) The Permittee shall install a Lease Automatic Custody Transfer (LACT) unit at each station to continuously measure the volume of crude oil that enters each station. Each LACT unit shall be operated as specified in the **Requirements for LACT Units** section

of this permit. Upon written approval by the EPA, the Permittee may use other monitoring methods that are capable of continuously measuring the barrels of crude oil received.

- (l) All crude oil, produced water, and natural gas collection, storage, and handling operations, regardless of size, shall be designed, operated and maintained by the Permittee so as to minimize leakage of hydrocarbon emissions to the atmosphere.

3. Testing Requirements:

Within one (1) year of the first day that operations begin at each station, the Permittee shall obtain an extended laboratory analysis of the crude oil and produced water received at each station to confirm the accuracy of the emissions estimates provided in the application for this permit. Thereafter, the Permittee shall obtain an extended laboratory analysis of the crude oil and produced water received at each station every five (5) years and use the new data for emissions calculations required in this permit.

4. Monitoring Requirements

- (a) The Permittee shall monitor the total maximum engine capacity at each station and for the entire gathering and transmission operation upon commencement of operations, at the end of each calendar year, and anytime an engine is installed, moved or replaced. All engine capacities shall be based on the maximum site rated hp of each engine.
- (b) The Permittee shall use a LACT unit or other monitoring methods approved by EPA that are capable of continuously measuring the barrels of crude oil received at each station.
- (c) The Permittee shall calculate, at the end of each calendar month, the crude oil throughput at each station, in barrels, beginning with the first calendar month that permitted operations commence. Prior to 12 full months of operation, the Permittee shall, at the end of each calendar month, add the crude oil throughput for that calendar month to the calculated crude oil throughput for all previous calendar months since operations commenced and record the total. Thereafter, the Permittee shall, at the end of each calendar month add the crude oil throughput for that calendar month to the calculated crude oil throughput for the preceding 11 calendar months and calculate a new 12-month total.
- (d) The Permittee shall calculate, at the end of each calendar month, the crude oil throughput for the entire gathering and transmission operation, in barrels, beginning with the first calendar month that permitted operations commence. Prior to 12 full months of operation, the Permittee shall, at the end of each calendar month, add the crude oil throughput for that calendar month to the calculated crude oil throughput for all previous calendar months since operations commenced and record the total. Thereafter, the Permittee shall, at the end of each calendar month add the crude oil throughput for that calendar month to the calculated crude oil throughput for the preceding 11 calendar months and calculate a new 12-month total.
- (e) The Permittee shall calculate, at the end of each calendar month, the VOC, NO_x, CO, CO₂e, and HAP emissions for the entire gathering and transmission operation, beginning

with the first calendar month that permitted operations commence. Prior to 12 full months of operation, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since operations commenced and record the total. Thereafter, the Permittee shall, at the end of each month add the emissions for that month to the calculated emissions for the preceding 11 months and calculate a new 12-month total.

- (f) Emissions from all controlled and uncontrolled emission sources shall be included in the monthly and consecutive 12-month calculations, including, but not limited to: the crude oil separation tanks; produced water storage tanks; truck loadout operations; crude oil, produced water, and natural gas system receivers; fuel gas coalescers; slug catchers; filter separators; pig launchers and receivers; pneumatic pumps; pneumatic controls; compressor blowdowns; engines; equipment leaks; enclosed combustors; utility flares; or other EPA approved control device.
- (g) Emissions from each approved emitting unit shall be calculated by the Permittee as specified in this permit.
- (h) Where sufficient to meet the monitoring requirements of this permit, the Permittee may use a Supervisory Control and Data Acquisition (SCADA) system to monitor the needed data in this permit.
- (i) Alternative monitoring methods may be used by the Permittee upon EPA approval.

5. Recordkeeping Requirements

- (a) The Permittee shall maintain a record of the location of each engine at each station upon commencement of operations and any time an engine is installed, moved or replaced. The records shall include the type of engine (i.e., 4-stroke rich-burn, 4-stroke lean-burn), and maximum hp rating.
- (b) The Permittee shall maintain a record of the location of the crude oil separation tanks and produced water storage tanks upon commencement of operations and any time a crude oil separation tank or produced water storage tank is installed, moved or replaced. The records shall include the type and size of the tank.
- (c) The Permittee shall maintain a record of the monthly and consecutive 12-month barrels of crude oil received at each station.
- (d) The Permittee shall maintain a record of the monthly and consecutive 12-month barrels of crude oil received in the entire gathering and transmission operation.
- (e) The Permittee shall maintain a record of the monthly and consecutive 12-month VOC, NO_x, CO, CO_{2e}, and HAP emissions, in tons per year (tpy), for the entire gathering and transmission operation.
- (f) The Permittee shall maintain a record of the results of each extended laboratory analysis of the crude oil and produced water received at each station.

- (g) The Permittee shall maintain a record of all input parameters and calculations used to determine the monthly emissions from all controlled and uncontrolled emission sources.
- (h) The Permittee shall maintain a record of all deviation from the requirements of this permit.
- (i) Where sufficient to meet all the recordkeeping requirements of this permit, the Permittee may use a SCADA system to record the needed data in this permit.
- (j) Alternative methods of recordkeeping may be used by the Permittee upon EPA approval.

E. Requirements for LACT Units

The Permittee shall follow the instructions for the installation and operation of the LACT units as specified in the “Onshore Oil and Gas Operations; Federal and Indian Oil & Gas Leases; Onshore Oil and Gas Order No. 4; Measurement of Oil,” Section III.D; “Oil Measurement by Positive Displacement Metering System,” developed by the US Department of the Interior’s Bureau of Land Management.

[Note: EPA is incorporating by reference the measurement methodologies described in this document only. There are no other enforcement implications intended. The Onshore Oil and Gas Operations; Federal and Indian Oil & Gas Leases; Onshore Oil and Gas Order No. 4 can be found 43 CFR 3160; Federal Register/Vol. 54, No. 36 or on-line at http://www.blm.gov/pgdata/etc/medialib/blm/mt/blm_programs/energy/oil_and_gas/operations/orders.P ar.92085.File.dat/ord4.pdf]

F. Requirements for Engines

1. Emission Limits

- (a) Emissions from the one (1) natural gas-fired, 530 hp, 4-stroke lean-burn engine shall not exceed the following:
 - (i) NO_x: 2.0 grams/horse power-hour (g/hp-hr);
 - (ii) CO: 1.3 g/hp-hr;
 - (iii) VOC: 0.3 g/hp-hr; and
 - (iv) Formaldehyde (CH₂O): 0.2 g/hp-hr.
- (b) Emissions from each of the 11 natural gas-fired, 1,480 hp, 4-stroke rich-burn engines shall not exceed the following:
 - (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (c) Emissions from each of the two (2) natural gas-fired, 740 hp, 4-stroke rich-burn engines shall not exceed the following:

- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (d) Emissions from each of the three (3) natural gas-fired, 530 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (e) Emissions from the one (1) natural gas-fired, 293 hp, 4-stroke rich-burn engine shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.
- (f) Emissions from each of the four (4) natural gas-fired, 220 hp, 4-stroke rich-burn engines shall not exceed the following:
- (i) NO_x: 1.0 g/hp-hr;
 - (ii) CO: 2.0 g/hp-hr;
 - (iii) VOC: 0.7 g/hp-hr; and
 - (iv) CH₂O: 0.1 g/hp-hr.

2. Construction and Operational Requirements

- (a) The Permittee shall ensure that engines are equipped with a catalytic control system capable of reducing uncontrolled emissions, at the maximum operating rate (90% to 110% of the maximum engine capacity at site elevation), as follows:
- (i) NO_x: 95%;
 - (ii) CO: 90%;
 - (iii) VOC: 80%; and
 - (iv) CH₂O: 90%.
- (b) The Permittee shall install temperature sensing devices (e.g., thermocouple or resistance temperature detectors) before the catalytic control system on each engine in order to continuously monitor the exhaust temperature to the inlet of the catalyst bed. Each temperature sensing device shall be calibrated and operated by the Permittee according to manufacturer specifications.
- (c) The engine exhaust temperature at the inlet to each catalyst bed shall be maintained at all times the engines operate with an inlet temperature of at least 700 °F and no more than 1,250 °F and in accordance with manufacturer specifications.

- (d) If the exhaust temperature at the inlet to the catalyst bed deviates from the ranges required by this permit, then the Permittee shall take the following actions:
- (i) Immediately upon determining a deviation of the inlet temperature, corrective action shall be taken on that engine to assess performance problems and/or tuning issues and the catalytic control system shall be inspected for possible damage and problems affecting catalyst effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the temperature sensing devices.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system manufacturer recommended procedures (or equivalent procedures provided they bring the inlet temperature to the catalyst bed back within the acceptable temperature range), then the Permittee shall correct the problem within 24 hours of inspecting the engine and catalyst control system.
 - (iii) If the problem cannot be corrected using the manufacturer's recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the inlet temperature to the catalyst bed is measured and found to be within the acceptable temperature range for that engine. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (e) The Permittee shall monitor the pressure drop across each catalyst bed during normal operations on a monthly basis.
- (f) During operation the pressure drop across the catalyst bed on each engine shall be maintained to within two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test.
- (g) If the pressure drop exceeds two (2) inches of water from the baseline pressure drop reading taken during the most recent performance test, then the following actions shall be taken by the Permittee:
- (i) Immediately upon determining a deviation of the pressure drop, corrective action shall be taken to assess performance problems for possible damage and problems affecting catalytic control systems effectiveness (including, but not limited to, plugging, fouling, destruction, or poisoning of the catalyst in the catalyst bed). Investigation may include monitoring of NO_x, CO, VOC, and/or CH₂O emissions to ensure the catalytic control system is functioning, and testing the pressure transducers. If the cause is determined to be the catalyst, then the catalyst shall be inspected and cleaned or replaced, if necessary.
 - (ii) If the problem can be corrected by following the engine and/or the catalytic control system's manufacturer recommended procedures, or equivalent procedures provided they bring the pressure drop across the catalyst bed back to within two (2) inches of water from the baseline pressure drop reading taken

- during the most recent performance test, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.
- (iii) If the problem cannot be corrected using manufacturer recommended procedures, then the affected engine shall cease operating immediately and shall not be returned to routine service until the pressure drop across the catalyst bed is measured and found to be within the acceptable pressure drop range. Corrective action may include removal and cleaning of the catalyst according to manufacturer methods, replacement of the catalyst, or replacement of the catalytic control system.
 - (iv) The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.
- (h) The Permittee shall only fire the engines covered by this permit with natural gas.
 - (i) The Permittee shall follow, for each engine and any respective catalytic control system, manufacturer recommended maintenance schedules and procedures to ensure optimum performance of each engine and their respective catalytic control system.
 - (j) The Permittee may overhaul or replace an existing permitted engine with an engine of the same hp rating, and configured to operate in the same manner as the engine being replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engines that are replaced shall also apply to the replacement engines.
 - (k) The Permittee may resume operation without the catalytic control system during an engine "break-in" period, not to exceed five (5) days, for overhauled and replacement engines.

3. Testing Requirements

- (a) Performance tests shall be conducted on each engine for measuring NO_x, CO, VOC, and CH₂O emissions to demonstrate compliance with each emission limit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR Part 63, Appendix A and 40 CFR Part 60, Appendix A. The Permittee may submit to the EPA a written request for approval of an alternate test method, but shall only use that alternate test method after obtaining approval from the EPA.
 - (i) The initial performance test shall be conducted within 90 calendar days of startup of an engine.
 - (ii) Subsequent performance tests for CH₂O emissions shall be performed every calendar year.
 - (iii) Performance tests for NO_x, CO, and VOC, and CH₂O emissions shall be conducted within 90 calendar days of startup of all overhauled engines, replacement engines, catalyst replacement, and engines restarted after correction of a deviation of the temperature to the inlet of the catalyst or pressure drop across the catalyst that resulted in a required shut down according to this permit.
- (b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters after a test

protocol has been approved by the EPA and prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.

- (c) All performance tests performed for NO_x, CO, VOC, and CH₂O emissions shall meet the following requirements:
 - (i) The pressure drop across each catalyst and the inlet temperature to the catalyst shall both be measured during all performance tests.
 - (ii) All tests for CO and NO_x emissions shall be performed simultaneously.
 - (iii) All tests shall be performed at maximum operating rate (90% to 110% of the maximum engine capacity at site elevation). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing, but shall only test at that alternate load level after obtaining approval from the EPA.
 - (iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).
 - (v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits.
 - (vi) Performance test plans for NO_x, CO, VOC, and CH₂O shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned. The plans shall include and address the following elements:
 - (A) Purpose of the test;
 - (B) Engines and catalytic control systems to be tested;
 - (C) Expected engine operating rate(s) during test;
 - (D) Schedule/dates for the test;
 - (E) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
 - (F) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
 - (G) Data processing and reporting (description of data handling and quality control procedures, report content).
- (d) The Permittee shall notify the EPA in writing at least 30 calendar days prior to scheduled performance testing.

4. Monitoring Requirements

- (a) The Permittee shall measure NO_x, CO, and VOC emissions from each engine at least quarterly, and every time the catalyst is changed out, to demonstrate compliance with each engine's emission limits. To meet this requirement, the Permittee shall:

- (i) Measure NO_x, CO, and VOC emissions using a portable analyzer and a monitoring protocol approved by EPA.
 - (ii) Submit the analyzer specifications and monitoring protocol to EPA for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring.
 - (iii) Commence monitoring for NO_x, CO, and VOC emissions during the first calendar quarter following the submittal of the initial performance test results for NO_x, CO, and VOC emissions to the EPA.
- (b) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the CO emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the CO emission limit, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the CO emission limit, the required test frequency shall change back to quarterly.
 - (c) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the NO_x emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the NO_x emission limit, the required monitoring frequency shall change from semi-annual to annual. If results of any single portable analyzer measurement are more than 80% of the NO_x emission limit, the required test frequency shall change back to quarterly.
 - (d) For any one (1) engine: If the results of two (2) consecutive quarterly portable analyzer measurements are less than 80% of the VOC emission limit, the required test frequency shall change from quarterly to semi-annual. If the results of two (2) consecutive semi-annual portable analyzer measurements are less than 80% of the VOC emission limits, the required monitoring frequency shall change from semi-annual to annual. If the results of any single portable analyzer measurement are more than 80% of the VOC emission limit, the required test frequency shall change back to quarterly.
 - (e) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.
 - (f) Engine emissions shall be calculated based on the following:
 - (i) The most recent performance test or portable analyzer results;
 - (ii) The green house gas emission factors provided in 40 CFR Part 98 Subpart C, Tables C-1 and C-2, for the combustion of natural gas;
 - (iii) The maximum site-rated hp of each engine; and
 - (iv) Assuming full-time operation of 8,760 hours per year for each engine.

5. Recordkeeping Requirements

- (a) Records shall be kept of manufacturer specifications for each engine, catalytic control system, temperature sensing device, and pressure measuring device.

- (b) Records shall be kept of all calibration and maintenance conducted in accordance with manufacturer recommendations for each engine, catalytic control system, temperature sensing device, and pressure measuring device.
- (c) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (d) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.
- (e) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:
 - (i) The date, place, and time of sampling or measurements;
 - (ii) The date(s) analyses were performed;
 - (iii) The company or entity that performed the analyses;
 - (iv) The analytical techniques or methods used;
 - (v) The results of such analyses or measurements; and
 - (vi) The operating conditions as existing at the time of sampling or measurement.
- (f) Records shall be kept of all catalytic control system replacements or repairs, engine overhauls and engine replacements.
- (g) Records shall be kept of each overhauled or replaced engine “break-in” period, pursuant to the requirements of this permit.
- (h) Records shall be kept of each time an engine is shut down due to a deviation in the inlet temperature to the catalyst or pressure drop across a catalyst. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.
- (i) Records shall be kept of the VOC, NO_x, CO, CO_{2e}, and CH₂O emission calculations for each engine.

G. Requirements for Tanks

1. All crude oil separation tanks and produced water storage tanks are covered by this permit.
2. The Permittee shall follow, for each tank, manufacturer recommended maintenance schedule and operating procedures to ensure good air pollution control practices for minimizing emissions.
3. The Permittee shall install, maintain and operate each tank such that all the emission limits in this permit will be met.
4. The Permittee shall limit the tank emissions using one or more of the following techniques:
 - (a) Route all working, breathing, and flashing losses through a closed-vent system to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose; and/or

- (b) Route all working, breathing, and flashing losses through a closed-vent system to a control device as specified in the **Requirements for Control Systems for Hydrocarbon Emissions** section of this permit.

5. Covers: The Permittee shall equip all openings on each tank with a cover to ensure that all hydrocarbon emissions are efficiently being routed through a closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in the **Requirements for Control Systems for Hydrocarbon Emissions** section of this permit.

- (a) The Permittee shall ensure that each cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves, and gauge wells) form a continuous impermeable barrier over the entire surface area of the tanks.
- (b) Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in a tank on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the tank (this includes openings necessary to equalize or balance the internal pressure of the tank following changes in the level of the material in the tank);
 - (ii) To inspect or sample the material in the tank; or
 - (iii) To inspect, maintain, repair, or replace equipment located inside the tank.
- (c) Each thief hatch cover shall be weighted and properly seated.
- (d) Pressure relief valves shall be set to release at a pressure that will ensure that all hydrocarbon emissions are routed through the closed-vent system to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in the **Requirements for Control Systems for Hydrocarbon Emissions** section of this permit under normal operating conditions.

6. Monitoring Requirements

- (a) The Permittee shall perform quarterly visual inspections of tank thief hatches, covers, seals, pressure relief valves, and closed vent systems to ensure proper condition and functioning and repair any damaged equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (b) The Permittee shall perform quarterly visual inspections of the peak pressure and vacuum values in each closed vent system and control device of each tank as specified in the **Requirements for Control Systems for Hydrocarbon Emissions** section of this permit to ensure that the pressure and vacuum relief set-points are not being exceeded in a way that has resulted, or may result, in venting and possible damage to equipment. The quarterly inspections shall be performed while the tanks are being filled.
- (c) The Permittee shall calculate the VOC, CO₂e, and HAP emissions from each tank. The VOC and HAP emissions at each station shall be determined using the measured monthly volume of crude oil and produced water routed to the tanks, the most recent extended

laboratory analysis of the crude oil and produced water routed to the tanks, E&P Tanks V2.0 and/or EPA Tanks 4.0.9d, as appropriate, and the most recent tested control efficiency of the control device being used. Other measurement methods may be used upon approval by the EPA.

7. Record Keeping Requirements

- (a) The Permittee shall maintain a record of the monitored volume of working, breathing, and flashing losses from each tank.
- (b) The Permittee shall maintain a record of all quarterly inspections. All inspection records shall include, at a minimum, the following information:
 - (i) The date of the inspection;
 - (ii) The findings of the inspection;
 - (iii) Any required repairs; and
 - (iv) The inspector's name and signature.
- (c) The Permittee shall maintain records of the date of installation of each tank, the manufacturer specifications and all scheduled maintenance and repairs.
- (d) The Permittee shall maintain records of the VOC, CO₂e, and HAP emission calculations for each tank.

H. **Requirements for Control Systems for Hydrocarbon Emissions**

1. Closed-Vent Systems: The Permittee shall meet the following requirements for closed-vent systems:

- (a) Each closed-vent system shall route all hydrocarbon emissions from the crude oil separation tanks and produced water storage tanks to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit.
- (b) All vent lines, connections, fittings, valves, pressure relief valves, or any other appurtenance employed to contain and collect hydrocarbon emissions to transport them to a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit shall be maintained and operated properly at all times.
- (c) Each closed-vent system shall be designed to operate with no detectable hydrocarbon emissions, as required in the **Requirements for Equipment Leaks from Closed-Vent Systems** section of this permit.
- (d) If any closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the hydrocarbon emissions, from entering a natural gas pipeline system for sale or other beneficial purpose and/or a control device as specified in this section of the permit, the Permittee shall meet one of following requirements for each bypass device:

- (i) At the inlet to the bypass device that could divert the hydrocarbon emissions away from a natural gas pipeline or a control device and into the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking continuous readings and sounding an alarm when the bypass device is open such that hydrocarbon emissions are being, or could be, diverted away from a natural gas pipeline or a control device and into the atmosphere; or
 - (ii) Secure the bypass device valve installed at the inlet in the non-diverting position using a car-seal or a lock-and-key type configuration.
- (e) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements applicable to bypass devices.
2. Enclosed Combustors and Utility Flares: The Permittee shall meet the following requirements for enclosed combustors and utility flares:
- (a) Follow, for each enclosed combustor or utility flare, manufacturer written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
 - (b) Ensure, for each enclosed combustor or utility flare, that there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon emissions routed to it by at least 95% for the minimum and maximum volumetric flow rate and BTU content routed to the device;
 - (c) Operate each enclosed combustor or utility flare such that the mass content of VOCs in the hydrocarbon gas emissions routed to it are reduced by at least 95%; and
 - (d) Ensure that each utility flare is designed and operated in accordance with requirements of the General Provisions for the New Source Performance Standards (NSPS A) at §60.18(b), for such flares except for §§60.18(c)(2) and 60.18(f)(2) for those utility flares operated with an auto ignition system.
 - (e) The Permittee shall ensure that each enclosed combustor is:
 - (i) A model demonstrated by a manufacturer to meet the 95% VOC destruction efficiency requirements of the New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission and Distribution at 40 CFR Part 60, Subpart OOOO (NSPS OOOO), using the procedure specified in §60.5413(d), by the due date of the first annual report; or
 - (ii) Demonstrated to meet the 95% VOC destruction efficiency requirements of NSPS OOOO using EPA approved performance test methods specified in §60.5413(b).
 - (f) The Permittee shall ensure that each enclosed combustor and utility flare is:
 - (i) Operated properly at all times that natural gas is routed to it;
 - (ii) Operated with a liquid knock-out system to collect any condensable vapors (to prevent liquids from going through the control device);

- (iii) Equipped with a flash-back flame arrestor;
 - (iv) Equipped with one of the following:
 - (A) A continuous burning pilot flame, a thermocouple, and a malfunction alarm and notification system if the pilot flame fails; or
 - (B) An electronically controlled auto-ignition system with a malfunction alarm and notification system if the flame fails while hydrocarbon gas emissions are flowing to the enclosed combustor or utility flare;
 - (v) Equipped with a continuous recording device, such as a chart recorder, data logger or similar device, or connected to a SCADA system, to monitor and document proper operation of the enclosed combustor or utility flare;
 - (vi) Maintained in a leak-free condition; and
 - (vii) Operated with no visible smoke emissions.
3. Other Control Devices: Upon written approval by the EPA, the Permittee may use control devices other than those listed above that are capable of reducing the mass content of VOCs in the hydrocarbon gas routed to it by at least 95%, provided that:
- (a) In operating such control devices, the Permittee shall follow the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions;
 - (b) The Permittee shall ensure there is sufficient capacity to reduce the mass content of VOCs in the hydrocarbon gas emissions routed to such other control devices by at least 95% for the minimum and maximum natural gas volumetric flow rate and BTU content routed to each device; and
 - (c) The Permittee shall operate such a control device to reduce the mass content of VOCs in the produced natural gas and natural gas emissions routed to it by at least 95%.

4. Testing Requirements:

Within 180 days after initial startup at each station, and every five (5) years thereafter, the Permittee shall conduct a performance test of the closed-vent system to demonstrate that it is operating in a leak free condition, and a performance test of the control device to which hydrocarbon emissions are routed, to demonstrate 95% destruction efficiency.

- (a) Testing of the closed vent system shall be conducted in accordance with EPA Reference Method 21, listed in 40 CFR Part 60, Appendix A.
- (b) Testing of the enclosed combustor VOC destruction efficiency shall be conducted in accordance with EPA Reference Method 25A, listed in 40 CFR Part 60, Appendix A.
- (c) A 95% destruction efficiency can be assumed for utility flares provide they are designed and operated in accordance with §60.18(b) of NSPS A.

- (d) The Permittee may submit a written request to the EPA for an alternate testing method, but shall only use that test method upon receipt of written approval by the EPA.

5. Monitoring Requirements:

- (a) The Permittee shall monitor the operation of each enclosed combustor and utility flare to confirm proper operation as follows:
 - (i) Continuously monitor the enclosed combustor and utility flare operation, using a malfunction alarm and notification system for failures, and checking the alarm and notification system for proper operation whenever an operator is on site, at a minimum quarterly;
 - (ii) Monitor for visible smoke during operation of any enclosed combustor, utility flare, or pit flare each time an operator is on site, at a minimum quarterly. Upon observation of visible smoke, use EPA Reference Method 22 of 40 CFR Part 60, Appendix A, to confirm that no visible smoke emissions are present. The observation period shall be 1 hour. Visible smoke emissions are present if smoke is observed emitting from the enclosed combustor, utility flare, or pit flare for more than two (2) minutes in any one (1) hour; and
 - (iii) Respond to any observation of improper monitoring equipment operation or any malfunction and notification alarm system to ensure the monitoring equipment is returned to proper operation as soon as practicable and safely possible after an observation or an alarm sounds.
- (b) Where sufficient to meet the monitoring requirements the Permittee may use a SCADA system to monitor and record the required data.
- (c) The Permittee shall calculate VOC, NO_x, CO, CO_{2e}, and HAP emissions from each enclosed combustor and utility flare using the following:
 - (i) The monitored volume of standing, working, breathing, and flashing gases from the crude oil separation tanks and produced water storage tanks, as required in the **Requirements for Tanks** section of this permit;
 - (ii) The most recent extended laboratory analysis of the crude oil received at each station;
 - (iii) The most recent performance test results of the closed-vent system and control device;
 - (iv) The emission factors in AP-42 Chapter 1.4, Natural Gas Combustion; and
 - (v) The emission factors provided in 40 CFR Part 98, Subpart C, Tables C-1 and C-2, for the combustion of natural gas.

6. Recordkeeping Requirements

The Permittee shall keep records of the following:

- (a) The site-specific design input parameters provided by the manufacturer or vendor and used to properly size each control device to assure the minimum 95% reduction requirements;

- (b) All required monitoring of the control device operations;
- (c) Any deviations from the operating parameters specified in the manufacturer or vendor site-specific designs. The records shall include the control's total operating time during the calendar month in which the exceedance occurred, the date, time and length of time that the parameters were exceeded, and the corrective actions taken and any preventative measures adopted to operate the controls within that operating parameter;
- (d) Any instances in which any closed-vent system or control device was bypassed or down in each calendar month, the reason for each incident, its duration, and the corrective actions taken and any preventative measures adopted to avoid such bypasses or downtimes;
- (e) Any instances in which the pilot flame is not present in an enclosed combustor or the utility flare while hydrocarbon emissions are vented to it, the date and times that the pilot was not present and the corrective actions taken or any preventative measures adopted to improve the operation of the pilot flame;
- (f) Any instances in which the thermocouple (or other heat sensing monitoring device) installed to detect the presence of a flame in an enclosed combustor or engineered flare while hydrocarbon emissions are vented to it is not operational, the time period during which it was not operational, and the corrective measures taken;
- (g) Any instances in which the recording device installed to record data from the thermocouple is not operational;
- (h) Any time periods in which visible emissions are observed emanating from a control system; and
- (i) The VOC, NO_x, CO, CO_{2e}, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

I. Requirements for Truck Loading Operations

1. The Permittee shall operate truck loading operations such that the emission limits in this permit are met.
2. The Permittee shall install, operate and maintain a piping system designed for submerged loading by either bottom loading or loading through a submerged fill pipe. The submerged fill pipe shall be no more than 12 inches from the bottom of the truck tank. The Permittee shall not conduct truck loading operations unless submerged loading is used.
3. Monitoring Requirements: VOC, CO_{2e}, and HAP emissions from the truck loading operations for each calendar month shall be calculated by the Permittee using the following:
 - (a) The total measured volume of crude oil, in barrels, loaded for the month;

- (b) The actual physical and chemical properties of the liquid and its associated vapors from the most recent semiannual extended laboratory analysis of the crude oil and produced water received at the station;
- (c) The procedures outlined in AP-42 Chapter 5.2, Transportation and Marketing of Petroleum Liquids for the actual method of truck loading for VOC, and HAP emissions; and
- (d) The procedures outlined in 40 CFR Part 98 – Mandatory Green House Gas Reporting - for CO₂e emissions.

4. Record keeping Requirements

- (a) Records shall be kept by the Permittee of the manufacturer specifications and all scheduled maintenance and repairs on the truck loading equipment.
- (b) Records shall be kept of the VOC, CO₂e, and HAP emissions calculations included in the consecutive 12-month total for all units covered by this permit.

J. Requirements for Pneumatic Pumps, Pneumatic Controllers, Compressor Blowdowns

1. Pneumatic Pumps and Controllers

- (a) The Permittee shall install, maintain, and operate any pneumatic pumps and controllers such that the consecutive 12-month emission limit requirements in this permit will be met. This shall be achieved by meeting one or more of the following emission control techniques:
 - (i) Operate air actuated controllers and pneumatic pumps;
 - (ii) Operate solar or electric actuated controllers and pneumatic pumps;
 - (iii) Operate low-bleed with natural gas controllers (6 standard cubic feet per hour);
 - (iv) Operate no-bleed with natural gas controllers;
 - (v) Route the emissions discharge streams to an operating system designed to recover and inject the emissions into a natural gas gathering pipeline system for sale or other beneficial purpose, such as fuel supply; and/or
 - (vi) Route the discharge stream to a control device as specified in the **Requirements for Control Systems for Hydrocarbon Emissions** section of this permit.
- (b) Each pneumatic pump and controller shall be operated and maintained according to the manufacturer specifications.
- (c) Records shall be kept of the date of installation, the manufacturer specifications and all scheduled maintenance and repairs for each pneumatic pump and controller.
- (d) Records shall be kept of a description of the steps taken to minimize the emissions, and a description of emission estimation methods used to calculate VOC, CO₂e, and HAP emissions.

- (e) Emissions from pneumatic pumps and controllers shall be included in the entire gathering and transmission operation's consecutive 12-month total.

2. Compressor Blowdowns

- (a) During manual and automated blow down episodes associated with maintenance or repair, hydrate clearing, emergency operations, equipment depressurization, etc., the Permittee shall limit emissions such that the emission limits in this permit are met.
- (b) The Permittee's personnel shall remain on site during manual blow downs.
- (c) The Permittee shall keep a record of each compressor blowdown, reasons for each episode, the duration of each episode, the volume of gas released during the episode, the steps taken to minimize the emissions, and a description of emission estimation methods used to calculate the VOC, CO₂e, and HAP emissions.
- (d) Compressor blowdown emissions shall be included in the consecutive 12-month total of all units covered by this permit.

K. Requirements for Equipment Leaks from Closed-Vent Systems

- 1. The Permittee shall minimize leaks of hydrocarbon gases from each connector, valve, pump, flange, open ended line, or any other appurtenance employed to contain and collect vapors and transport them such that the emission limits in this permit are met.
- 2. The Permittee shall develop a written inspection protocol, approved by the EPA, based on audio, visual and olfactory inspection.
- 3. The Permittee shall visit each station on a quarterly basis to inspect all closed vent systems for leaks using the EPA approved inspection protocol, and document the inspection.
- 4. Any leaks detected in any closed-vent system shall be addressed immediately unless the repair requires resources not currently available. If the resources are not available, the leak shall be addressed as soon as practical, but no longer than before the next quarterly inspection.
- 5. Emissions from equipment leaks shall be determined by assuming 8,760 hours of operation in a year and with maximum leakage of all components. The annual VOC emissions rate from equipment leaks shall be no more than 9.4 tpy.

L. Requirements for Minimizing Fugitive Dust

1. Work Practice and Operational Requirements

- (a) The Permittee shall take all reasonable precautions to prevent fugitive dust emissions at each station and shall construct, maintain, and operate each station to minimize fugitive dust emissions. Reasonable precautions include, but are not limited to the following:
 - (i) Use, where possible, of water or chemicals for control of dust during construction and operations, grading of roads, or clearing of land;

- (ii) Application of asphalt, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces, located at the facilities, that can create airborne dust;
 - (iii) The prompt removal from paved surfaces, located at the station, of earth or other material that does or may become airborne; or
 - (iv) Restricting vehicle speeds.
- (b) The Permittee shall prepare and implement a written fugitive dust emission prevention plan, approved by EPA, that specifies the reasonable precautions to be taken and the procedures to be followed to prevent fugitive dust emissions.

2. Monitoring Requirements

- (a) The Permittee shall survey the station during construction and operation to determine if there are obvious visible dust plumes. This survey must be done at a minimum once per week in all active areas and during daylight hours.
- (b) The Permittee shall document the results of the survey, including the date and time of the survey, identification of the cause of any visible dust plumes observed, and the precautions taken to prevent continued fugitive dust emissions.

3. Recordkeeping Requirements

The Permittee shall maintain records for five (5) years that document the fugitive dust prevention plan, the periodic surveys and the reasonable precautions that were taken to prevent fugitive dust emissions.

M. Requirements for Records Retention

- 1. The Permittee shall retain all records required by this permit for a period of at least five (5) years from the date the record was created.
- 2. Records shall be kept at each station and/or the location that has day-to-day operational control over the operations.

N. Requirements for Reporting

1. Annual Emission Reports

- (a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports must be certified to truth and accuracy by the responsible official.
- (b) The report shall include NO_x, CO, and CH₂O emissions.
- (c) The report shall be submitted via electronic mail to R8AirPermitting@epa.gov.

2. All other documents required to be submitted under this permit, with the exception of the **Annual Emission Reports**, shall be submitted to:

U.S. Environmental Protection Agency
Region 8 Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street
Denver, Colorado 80202

All documents may be submitted electronically to r8airreportenforcement@epa.gov.

3. The Permittee shall submit a written LDAR monitoring report each year no later than April 1st. The annual report shall include the semi-annual LDAR monitoring results for the previous calendar year.
4. The Permittee shall promptly submit to the EPA a written report of any deviations of emission or operational limits and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:
 - (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed the emission limits or operational limits if left un-corrected for more than five (5) days after discovering the deviation;
 - (b) Within 30 days from the discovery of an equipment leak as a result of the semi-annual LDAR monitoring; and
 - (c) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee’s ability to meet the emission limits.
5. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.
6. The Permittee shall submit any record or report required by this permit upon EPA request.

II. General Provisions

A. Conditional Approval:

Pursuant to the authority of 40 CFR Part 49.151, the EPA hereby conditionally grants this permit to construct. This authorization is expressly conditioned as follows:

1. *Document Retention and Availability:* This permit and any required attachments shall be retained and made available for inspection upon request at the location set forth herein.
2. *Permit Application:* The Permittee shall abide by all representations, statements of intent and agreements contained in the application submitted by the Permittee. The EPA shall be notified 10 days in advance of any significant deviation from the permit application as well as any plans, specifications or supporting data furnished.

3. *Permit Deviations:* The issuance of this permit may be suspended or revoked if the EPA determines that a significant deviation from the permit application, specifications, and supporting data furnished has been or is to be made. If the source is constructed, operated, or modified not in accordance with the terms of this permit, the Permittee will be subject to appropriate enforcement action.
4. *Compliance with Permit:* The Permittee shall comply with all conditions of this permit, including emission limitations that apply to the affected emissions units at the permitted facility/source. Noncompliance with any permit term or condition is a violation of the permit and may constitute a violation of the Clean Air Act and is grounds for enforcement action and for a permit termination or revocation.
5. *Fugitive Emissions:* The Permittee shall take all reasonable precautions to prevent and/or minimize fugitive emissions during the construction period.
6. *National Ambient Air Quality Standard and PSD Increment:* The permitted source shall not cause or contribute to a National Ambient Air Quality Standard violation or a PSD increment violation.
7. *Compliance with Federal and Tribal Rules, Regulations, and Orders:* Issuance of this permit does not relieve the Permittee of the responsibility to comply fully with all other applicable Federal and Tribal rules, regulations, and orders now or hereafter in effect.
8. *Enforcement:* It is not a defense, for the Permittee, in an enforcement action, to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
9. *Facility/Source Modifications:* For proposed modifications, as defined in the TMNSR rule at §49.152(d), that would increase an emissions unit allowable emissions of a PSD, TMNSR, or hazardous pollutants above its existing permitted annual allowable emissions limit, the Permittee shall first obtain a permit modification pursuant to the TMNSR regulations approving the increase. For a proposed modification that is not otherwise subject to review under the PSD or TMNSR regulations, such proposed increase in the annual allowable emissions limit shall be approved through an administrative permit revision as provided in the TMNSR rule at §49.159(f).
10. *Relaxation of Legally and Practically Enforceable Limits:* At such time that a new or modified source within the permitted facility/source or modification of the permitted facility/source becomes a major stationary source or major modification solely by virtue of a relaxation in any legally and practically enforceable limitation which was established after August 7, 1980, on the capacity of the permitted facility/source to otherwise emit a pollutant, such as a restriction on hours of operation, then the requirements of the PSD regulations shall apply to the source or modification as though construction had not yet commenced on the source or modification.
11. *Revise, Reopen, Revoke and Reissue, or Terminate for Cause:* The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee, for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. The EPA

may reopen a permit for a cause on its own initiative, e.g., if the permit contains a material mistake or the Permittee fails to assure compliance with the applicable requirements.

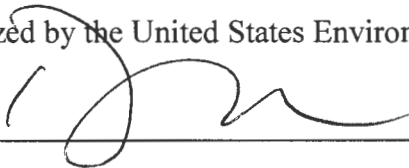
12. *Severability Clause:* The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.
13. *Property Rights:* The permit does not convey any property rights of any sort or any exclusive privilege.
14. *Information Requests:* The Permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. For any such information claimed to be confidential, you shall also submit a claim of confidentiality in accordance with 40 CFR Part 2, Subpart B.
15. *Inspection and Entry:* The EPA or its authorized representatives may inspect the permitted facility/source during normal business hours for the purpose of ascertaining compliance with all conditions of this permit. Upon presentation of proper credentials, the Permittee shall allow the EPA or its authorized representative to:
 - (a) Enter upon the premises where a permitted facility/source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
 - (b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - (c) Inspect, during normal business hours or while the permitted facility/source is in operation, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
 - (e) Record any inspection by use of written, electronic, magnetic and photographic media.
16. *Permit Effective Date:* This permit shall be effective immediately upon issuance unless comments resulted in a change in the draft permit, in which case the permit is effective 30 days after issuance. The Permittee may notify the EPA, in writing, that this permit or a term or condition of it is rejected. Such notice should be made within 30 days of receipt of the permit and should include the reason or reasons for rejection.
17. *Permit Transfers:* Permit transfers shall be made in accordance with the Tribal MNSR rule at §49.159(f). The Air Program Director shall be notified in writing at the address shown below if the company is sold or changes its name.

U.S. Environmental Protection Agency, Region 8
C/o Tribal Air Permitting, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202

18. *Invalidation of Permit:* This permit becomes invalid if construction is not commenced within 18 months after the effective date of the permit, construction is discontinued for 18 months or more, or construction is not completed within a reasonable time. The EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between the construction of the approved phases of a phased construction project. Permittee shall commence construction of each such phase within 18 months of the projected and approved commencement date.
19. *Notification of Start-Up:* The Permittee shall submit a notification of the date of initial start-up of the permitted source to the EPA no later than 60 days of such date.

B. Authorization:

Authorized by the United States Environmental Protection Agency, Region 8



11 March 2013

Derrith R. Watchman-Moore
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Date