July 28, 2017

Havre Pipeline Company, LLC
a Texas Limited Liability Company
Blaine County #1 Compressor Station
11 East Park St.
Butte, MT 59701

Dear Mr. Cashell:

Montana Air Quality Permit #1626-10 is deemed final as of 7/28/2017, by the Department of Environmental Quality (Department). This permit is for a natural gas compressor station. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

Loni Patterson
Environmental Engineer
Air Quality Bureau
(406) 444-1452

JM:LP
Enclosures

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #1626-10

Havre Pipeline Company, LLC
a Texas Limited Liability Company
Blaine County #1 Compressor Station
11 East Park St.
Butte, MT 59701

July 28, 2017

MONTANA AIR QUALITY PERMIT

Issued To:	Havre Pipeline Company, LLC, a Texas Limited Liability Company Blaine County #1 Compressor Station 11 East Park St Butte, MT 59701	MAQP: #1626-10 Application Complete: 5/3/2017 Preliminary Determination Issued: 6/9/2017 Department's Decision Issued: 7/12/2017 Permit Final: 7/28/2017

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Havre Pipeline Company, LLC (HPC), a Texas limited liability company, pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.,* as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

HPC owns and operates a natural gas compressor station located approximately 22 miles southeast of Havre, Montana, in the NW¼ of Section 29, Township 31 North, Range 18 East in Blaine County, Montana. The facility is known as the Blaine County #1 Compressor Station.

B. Current Permit Action

On February 28, 2017, the Department received an application to modify the permitted equipment at the facility. The permit action will remove the two 5,500 brake-horsepower (bhp) Ingersoll Rand KVR 616 natural gas compressor engines and the 297 bhp emergency generator Waukesha L1616, two 2.93 million British thermal units per hour (MMBtu/hr) natural gas boilers and three 0.16 MMBtu/hr space heaters. The action will add the following pieces of equipment to the permit: two 1340 bhp compressor engines, one 1480 bhp compressor engine and 1 MMBtu/hr natural gas building heater. The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 bhp as listed in the previous permits. The potential to emit calculations were updated to reflect the accurate capacity of the engines. The source is requesting an annual hour of operation limitation on the two 1340 and 1480 bhp compressor engines for a combined total of 21,000 hours 12-month rolling total as well an annual hour of operation limitation on the three existing 1265 bhp compressor engines for a combined 21,000 hours 12-month rolling total.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. HPC shall operate no more than three 1265 bhp, Caterpillar G3516 TALE, natural gas compressor engines which shall be equipped with a "low emissions" package, an electronic air-to-fuel ratio (AFR) controller and shall operate as a lean-burn engine. The speed on each engine shall not exceed 1,400 revolutions per minute (rpm) of continuous duty operation. Each engine shall have a minimum stack height of 20 feet above ground level and emissions from each engine shall not exceed the following limits (ARM 17.8.749 and ARM 17.8.752):

   a. Oxides of Nitrogen (NO_x[1]) = 3.02 pound per hour (lb/hr)
   b. Carbon Monoxide (CO)= 4.78 lb/hr
   c. Volatile Organic Compounds (VOC) =1.78 lb/hr

2. The three 1265 bhp engines, Caterpillar G3156 TALE, shall not operate more than 21,000 hours in a rolling 12-month total combined (ARM 17.8.1204).

3. HPC shall operate no more than two up to 1340 bhp, Caterpillar G3516 TALE, natural gas compressor engines shall be 4-stroke lean-burn engine with an oxidation catalyst and electronic air-to-fuel ratio controller. Emissions from each engine shall not exceed the following limits (ARM 17.8.749 and ARM 17.8.752):

   a. Oxides of Nitrogen (NO_x[1]) = 4.43 lb/hr and 1.5 g/bhp-hr
   b. Carbon Monoxide (CO) = 1.48 lb/hr and 0.5 g/bhp-hr
   c. Volatile Organic Compounds (VOC) = 2.95 lb/hr and 1.0 g/bhp-hr

4. HPC shall operate no more than one up to 1480 bhp, GE VHP L7042GL, natural gas compressor engine shall be equipped with an oxidation catalyst, an electronic air-to-fuel ratio (AFR) controller and shall operate as a lean-burn engine. Emissions from the engine shall not exceed the following limits (ARM 17.8.749 and 17.8.752):

   a. Oxides of Nitrogen (NO_x[1]) = 4.90 lb/hr and 1.5 g/bhp-hr
   b. Carbon Monoxide (CO) = 1.63 lb/hr and 0.5 g/bhp-hr
   c. Volatile Organic Compounds (VOC) = 3.26 lb/hr and 1.0 g/bhp-hr

5. The two 1340 bhp and 1480 bhp engines shall not operate more than 21,000 hours in a rolling 12-month total combined (ARM 17.8.1204).

6. HPC shall extend the existing fence line at the site to enclose the 26-acre area that was specified in the ambient air modeling submitted in the application for MAQP #1626-02 in order to comply with the Montana Ambient Air

[1] NO_x reported as NO_2.

Quality Standard for NO_2. This fence shall be constructed in a manner adequate to restrict the general public from the premises and HPC shall post *No Trespassing* signs in a manner adequate to deter access by the general public (ARM 17.8.211 and ARM 17.8.749).

7. HPC shall not operate the 770 bhp Cummins GTA28 natural gas emergency/standby engine/generator more than 500 hours per rolling 12-month time period. HPC shall not operate this engine/generator as a part of routine operations (ARM 17.8.749).

8. HPC shall operate all equipment to provide the maximum air pollution control for which it was designed (ARM 17.8.752).

9. HPC shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

10. HPC shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

11. HPC shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.8 (ARM 17.8.749).

12. HPC shall comply with all applicable standards and limitations, and the reporting, record keeping, and notification requirements contained in 40 Code of Federal Regulations (CFR) 63, Subpart HH, *National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities*, for all applicable components. For area sources, this includes each TEG dehydration unit at subject facilities (ARM 17.8.342 and 40 CFR 63, Subpart HH).

13. HPC shall comply with all applicable standards and limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable natural gas engine (ARM 17.8.340 and 40 CFR 60, Subpart JJJJ and ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Each compressor engine shall be initially tested for NO_x and CO (the pollutants to be tested concurrently). The initial source testing shall be conducted within 180 days of the initial start-up date of the compressor engine(s). After the initial source test, additional testing shall continue on an every 4-year basis, or according to another testing/monitoring schedule as

may be approved by the Department, to demonstrate compliance with NO_x and CO lb/hr emission limits as calculated in Section II.A.1,3 and 4(ARM 17.8.105 and ARM 17.8.749).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. HPC shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). HPC shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

   a. Amount of fuel consumed by each natural gas compressor engine (corrected to 14.7 pounds per square inch absolute (psia) and 60^0 Fahrenheit (F)).

   b. Hours of operation for each natural gas compressor engine.

   c. Estimated amount of fuel consumed by each 0.16 MMBtu/hr and 1 MMBtu/hr natural gas fired space heater (corrected to 14.7 psia and 60^0 F).

   d. Estimated amount of fuel consumed by the 0.60 MMBtu/hr dehydrator reboiler, the 0.75 MMBtu/hr dehydrator reboiler, the 0.12 MMBtu/hr dehydrator tank, the 0.10 MMBtu/hr oil tank heater, the 1.0 MMBtu/hr building/heat tracing boiler, and the 1.0 MMBtu/hr heater treater heater (corrected to 14.7 psia and 60^0 F).

   e. Hours of operation for the dehydration units.

   f. Estimated amount of fuel consumed by the 770 bhp Cummins GTA28 emergency/standby engine/generator (corrected to 14.7 psia and 60^0 F).

   g. Hours of operation for the 770 bhp Cummins GTA28 emergency/standby engine/generator.

h. Summary report listing the reasons the 770 bhp Cummins GTA28 emergency/standby engine/generator was operating.

2. HPC shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by HPC as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

4. HPC shall document, by month, the combined hours of operation of the three 1265 bhp Caterpillar G3516 TALE engines described by the condition in Section II.A.1. By the 25th day of each month, HPC shall total the combined hours of operation of these engines for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

5. HPC shall document, by month, the combined hours of operation of the two 1340 bhp Caterpillar G3516 TALE engines and 1480 bhp GE VHP L7042GL engine described by the conditions in Section II.A.3 and II.A.4, respectively. By the 25th day of each month, HPC shall total the combined hours of operation of these engines for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.5. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. HPC shall document, by month, the hours of operation for the 770 bhp Cummins GTA28 natural gas emergency/standby engine/generator. By the 25th day of each month, HPC shall total the hours of operation for this engine for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.7. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. Upon revocation of the Title V Operating Permit associated with this facility, HPC shall annually certify that its emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the

certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

SECTION III: General Conditions

A. Inspection – HPC shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (Continuous Emission Monitoring System (CEMS), Compliance Emission Rate Monitoring System (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if HPC fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving HPC of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions, and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by HPC may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Havre Pipeline Company, LLC, a Texas limited liability company
Blaine County #1 Compressor Station
MAQP #1626-10

I. Introduction/Process Description

Havre Pipeline Company, LLC, a Texas limited liability company (HPC) owns and operates the Blaine County #1 Compressor Station. This facility is a natural gas compressor station located in the NW¼ of Section 29, Township 31 North, Range 18 East in Blaine County, Montana.

A. Permitted Equipment

The facility consists of the following equipment:

- Three 1265 bhp Caterpillar G3516 TALE natural gas compressor engines
- Two 1340 bhp, Caterpillar G3516 TALE, natural gas compressor engine
- One 1480 bhp, GE VHP L7042GL, natural gas compressor engine
- One 770 bhp Cummins GTA28 emergency/standby engine/generator (2001)
- One natural gas-fired ALCO Dehydrator Reboiler (0.6 MMBtu/hr)
- One natural gas-fired PAMCO Dehydrator Reboiler (0.75 MMBtu/hr)
- Two Triethylene Glycol (TEG) dehydrators (ALCO and PAMCO) with uncontrolled still vent(s)
- One natural gas-fired TEG tank heater (0.12 MMbtu/hr)
- One natural gas-fired waste oil tank heater (0.10 MMBtu/hr)
- One natural gas-fired heater treater (1.0 MMBtu/hr)
- Two natural gas building heaters (1.0 MMBtu/hr)

Miscellaneous fugitive Volatile Organic Compounds (VOC) sources such as: storage tanks for methanol (2000 gallon and 6000 gallon), gasoline (2000 gallon), diesel (500 gallon), antifreeze, TEG and lube oil, scrubbers, headers, meters, and other insignificant emitting units.

B. Source Description

The Blaine County #1 Compressor Station utilizes the six compressor engines to gather, compress, and transmit natural gas through a natural gas pipeline. The facility is located approximately 22 miles southeast of Havre and 18 miles northeast of the Rocky Boy Indian Reservation. The site has restricted access and HPC personnel routinely monitor the facility.

C. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response
Bison Engineering on behalf of HPC	Permit: Section I.B	…To maintain consistency with the conditions and limitations in the permit, HPC requests that these engines be referred to as "two 1340 bhp compressor engines" and "one 1480 bhp compressor engine".	The Department has implemented the correction to maintain consisting and to eliminate confusion.
Bison Engineering on behalf of HPC	Permit: Section I.B	The Department states, "The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 bhp as listed in the previous permits. The potential to emit and emission limits were corrected to reflect the accurate capacity of the engines." The pound per hour (lb/hr) limitations listed previously (NOx, 3.02 lb/hr: CO, 4.87 lb/hr; VOC, 1.78 lb/hr) remain valid because the engines are not being modified, the capacity ratings are only being corrected. HPC requests the above-quoted statement be updated to read, "The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 bhp as listed in the previous permits. The potential to emit were corrected to reflect the accurate capacity of the engines."	The Department concurs that the emission limits are not being modified. The Department clarified the statement about potential to emit calculations.
Bison Engineering on behalf of HPC	Permit: Section II.A.1	The Department has added gram per brake-horsepower hour (g/bhp-hr) limits to the existing lb/hr limits for the three 1265-bhp, Caterpillar G3516 TALE engines. These engines are existing and are not subject to additional (more stringent and unachievable) g/bhp-hr limitations or additional regulatory review. HPC requests the g/bhp-hr limitations be	The Department removed the g/bhp-hr limitations from the condition for emission limits for the three 1265 g/bhp-hr. During internal review it was suggested that these be included for these engines as it is a better representation of compliance with a pollution control technology-based emission limit throughout the full range of operational capacity. These g/bhp-hr limits were added for all engines

		removed for all pollutants in Section II.A.1.	within the permit. However, the Department concurs that the three 1265 bhp engines are not subject to additional regulatory review for the current permit action. Therefore, Department has removed the g/bhp-hr limit for the 1265 bhp engines.
Bison Engineering on behalf of HPC	Permit Analysis: Section I.D	The Department states, "The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 bhp as listed in the previous permits. The potential to emit and emission limits were corrected to reflect the accurate capacity of the engines." The pound per hour (lb/hr) limitations listed previously (NOx, 3.02 lb/hr: CO, 4.87 lb/hr; VOC, 1.78 lb/hr) remain valid because the engines are not being modified, the capacity ratings are only being corrected. HPC requests the above-quoted statement be updated to read, "The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 bhp as listed in the previous permits. The potential to emit were corrected to reflect the accurate capacity of the engines."	The Department concurs that the emission limits are not being modified. The Department clarified the statement about potential to emit calculations.
Bison Engineering on behalf of HPC	Permit Analysis: Section III BACT Determination	The Department describes the engines as "1265 bhp and 1432 bhp Capacity Natural Gas Compressor Engines". To maintain consistency with the conditions and limitations in the permit HPC requires that these engines be referred to as "1340 bhp and 1480 bhp Capacity Natural Gas Engines."	The Department has implemented the correction to maintain consistency and to eliminate confusion.
Bison Engineering on behalf of HPC	Permit Analysis: Section IV-Emission	In both the Emission Inventory table and under the calculations under 1340 bhp Compressor Engine," the Department lists	The Department added a note to the Emission Inventory table and calculations to clarify that the emissions inventory reflects

	Inventory	12240 hours per year (2 engines combined). The actual limitation is 21,000 hours combined for the two 1340 bhp and the 1480 bhp engine. HPC needs the ability to run both of the 1340 bhp engines up to 8760 hours within that 21,000 hours combined limitation, as reflected in Section II.A.5. HPC requests the Department add a note of clarification to both the table and calculations that the 12240 hours are included only for PTE calculations and do not limit those engines beyond the 21000 hours per year combined in the permit.	conservative PTE calculations for the three engines which assumes the 1480 bhp engine runs 8760 hours and the 1340 bhp engines run for a combined 12,240 hours. The source is allowed to run the 1340 bhp engines up to 8760 hours each as long as it complies with the limit of 21000 hours of operation combined total for the three engines during any 12-month period.
Department	Permit Analysis: Section I E Current Permit Action	During an internal review, the department has modified the following sentences: "The analysis of the control technology is thorough and accurate; however, with the control technology the emission limits for these specific engines is 1.5 g/bhp-hr not 1.0 g/bhp-hr is appropriate. The design of the engines and manufacturer specifications determine that 1.5 g/bhp-hr is the emission rate that can reliable be achieved during normal operations." For clarity, the Department altered those statements to: "The analysis of the control technology is thorough and accurate; however, with this control technology the NO_x emissions limit for these specific engines is 1.5 g/bhp-hr rather than 1.0 g/bhp-hr is appropriate. Based on the design of the engines and manufacturer specifications, 1.5 g/bhp-hr is the emission rate that can reliably be achieved during normal operations."	The Department implemented this change for clarity.

D. Permit History

On March 10, 1972, a Montana Air Quality Permit (MAQP) was issued to Northern Natural Gas to construct and operate a glycol dehydration unit, located in Section 29, Township 31 North, Range 18 East, of Blaine County near Havre, Montana. The application was given **Permit #411-060772**.

On October 26, 1981, **Montana Air Quality Permit (MAQP) #1626** was issued to Northern Natural Gas to operate an existing natural gas compressor station, located in Section 25, Township 27 North, Range 18 East, of Blaine County near Havre, Montana.

Effective January 1, 1992, pursuant to the Administrative Rules of Montana (ARM) 16.8.1903, the Air Quality Bureau began assessing annual air quality operation fees for all sources holding or required to hold an air quality permit. In assessing bills to Northern Natural Gas, it was brought to the Department of Environmental Quality's (Department) attention that Northern Natural Gas operated three (3) natural gas compressor stations in Montana, but held four air quality permits. It was determined that Permit #411-060772 and MAQP #1626 were for separate equipment at the same site. **MAQP #1626-01** was issued on February 7, 1993, to consolidate the two permits and to properly identify the permitted equipment and the facility location.

Havre Pipeline Company, LLC (HPC), acquired the Blaine County #1 Compressor Station from the Northern Natural Gas Company on September 30, 1995. On August 4, 1996, **MAQP #1626-02** was issued to HPC. This permit acknowledged the change of ownership of the Blaine County #1 compressor station and included the installation and operation of an additional three 1,140 bhp Caterpillar G3516 TALE natural gas compressor engines. Other insignificant emitting units, including scrubbers, headers, meters, and coolers, were also installed during this project.

On July 23, 1998, the Department received a request to modify MAQP #1626-02. The request was to remove the VOC testing requirements for the three 1,140 bhp Caterpillar G3516 TALE compressor engines and to correct the source numbering within the permit. The Department previously determined VOC testing was not necessary; however, the limit remained in case testing would be required in the future. This permit was modified consistent with actions taken at other compressor stations. Rule references were also updated. **MAQP #1626-03** replaced MAQP #1626-02.

On May 7, 1999, the Department received notification that UMC Petroleum Corp had merged with Ocean Energy, Inc. The HPC, Blaine County #1 compressor station now operated as a subsidiary of Ocean Energy, Inc. On June 27, 1999, **MAQP #1626-04** replaced MAQP#1626-03.

In 1999, the U.S. Environmental Protection Agency (EPA) informed the Department that any condition in an air quality preconstruction permit would be considered a federally enforceable condition. However, there are certain state rules that were never intended to be federally enforceable. The Department notified all facilities holding preconstruction permits that they could request deletion of the conditions based on the ARM 17.8.717 and 17.8.315. Removing either of these

conditions does not relieve the facility from complying with the rule upon which the permit condition was based; removal only ensures that enforcement of that condition remains with the Department. HPC requested that the Department remove the condition based on ARM 17.8.315 from HPC's permit. **MAQP #1626-05** replaced MAQP #1626-04.

On August 23, 2004, the Department received a request to change the corporate name on MAQP #1626-05 from HPC to Devon-Louisiana Corporation. The Department changed the corporate name on MAQP #1626-05 from HPC to Devon-Louisiana Corporation, and updated the permit to reflect current permit language and rule references used by the Department. **MAQP #1626-06** replaced MAQP #1626-05.

On March 13, 2006, the Department received a request to change the corporate name on MAQP #1626-06 from Devon-Louisiana Corporation to Devon. The current permit action changes the corporate name on MAQP #1626-07 as requested. **MAQP #1626-07** replaced MAQP #1626-06.

On January 27, 2009, the Department received a request from Bison Engineering, Inc., on behalf of Devon, to modify MAQP #1626-07 to include the installation of a natural gas-fired four-stroke rich-burn emergency/standby engine/generator with a maximum rated design capacity equal to or less than 770 brake horsepower (bhp). On February 13, 2009, the Department received corrections to the submittal materials that included a corrected report, permit application forms, and emission inventory for the equipment list associated with the Blaine County #1 natural gas compressor station. In addition to adding the emergency/standby engine/generator to the permit, the permit action updated the permit to reflect current permit rule references, permit language, permit format and emission factors. **MAQP #1626-08** replaced MAQP #1626-07.

On January 16, 2014, the Department received correspondence from Devon as notification of a transfer of ownership from Devon to HPC. The current permit action reflects this change in company name as well as updates the MAQP to reflect current Department format, rule and references, and language. **MAQP #1626-09** replaced MAQP #1626-08.

E. Current Permit Action

On February 28, 2017, the Department received an application to modify the permitted equipment at the facility. The permit action will remove the two 5,500 brake-horsepower (bhp) Ingersoll Rand KVR 616 natural gas compressor engines and the 297 bhp emergency generator Waukesha L1616, two 2.93 million British thermal units per hour (MMBTU/hr) natural gas boilers and three 0.16 MMBTU/hr space heaters. The action will add the following pieces of equipment to the permit: two 1340 bhp compressor engines, one 1480 bhp compressor engine and 1 MMBTU.hr natural gas building heater. The modification will also correct the capacity rating of the previously permitted Caterpillar G3516 TALE engines as they are 1265 bhp rather than 1140 hp as listed in the previous permits. The potential to emit calculations were updated to reflect the accurate capacity of the engines. The source is requesting an annual hour of operation limitation on the two 1340 and

1480 bhp compressor engines for a combined total of 21,000 hours 12-month rolling total as well an annual hour of operation limitation on the three existing 1265 bhp compressor engines for a combined 21,000 hours 12-month rolling total. The calculation are the most conservative with assuming the 1480 bhp engines operating for 8760 and the combined total for the 1340 bhp engines of 12,340 hours of operation. Finally, the source requested a BACT update to correct the emission limits set by BACT for nitrogen oxides (NO_x) 1.0 g/bhp-hr to 1.5 g/bhp-hr. The Department has reviewed the BACT update request, the original BACT analysis for the engines previously permitted in MAQP #3060 and #3420. The analysis of the control technology is thorough and accurate; however, with this control technology the NO_x emissions limit for these specific engines is 1.5 g/bhp-hr rather than 1.0 g/bhp-hr is appropriate. Based on the design of the engines and manufacturer specifications, 1.5 g/bhp-hr is the emission rate that can reliably be achieved during normal operations. The emission limits for the added engines will be set at 1.5 g/bhp-hr for NO_x. **MAQP #1626-10** replaces MAQP #1626-09.

F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

HPC shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standards for Ozone
6. ARM 17.8.214 Ambient Air Quality Standards for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standards for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standards for Visibility
9. ARM 17.8.222 Ambient Air Quality Standards for Lead
10. ARM 17.8.223 Ambient Air Quality Standards for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

HPC must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, HPC shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. HPC will burn pipeline quality natural gas in the compressor engine(s), which will meet this limitation.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) 60, Standards of Performance for New Stationary Sources (NSPS), including the following subparts:

   a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

   b. 40 CFR 60, Subpart KKK – Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants does not apply to the Blaine County #1 Compressor Station because the Blaine County #1 Compressor Station does not extract or fractionate natural gas liquids from field gas; therefore, the Blaine County #1 Compressor Station does not meet the definition of a natural gas processing plant as defined in 40 CFR 60, Subpart KKK.

   c. 40 CFR 60, Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO_2Emissions does not apply to the Blaine County #1 Compressor Station because the Blaine County #1 Compressor Station does not utilize a sweetening unit to process sour gas.

d. 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines contains NSPS requirements that apply to owners or operators of stationary spark ignition (SI) internal combustion engines (ICE) that commence construction, modification, or reconstruction after June 12, 2006, where the stationary ICE is manufactured after July 1, 2007, for engines greater than 500 bhp, or after January 1, 2008, for engines less than 500 bhp. This NSPS will apply if the engine remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates three months or more each year.

Construction commenced on the existing natural gas SI ICE engines before June 12, 2006, and existing engines have not been modified or reconstructed after that date. The proposed emergency/standby engine/generator was manufactured in March 2001, and has not been modified or reconstructed after that date. Since the natural gas SI ICE engines were manufactured before July 1, 2007, this NSPS does not currently apply. However, the NSPS could apply to future engines.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:

b. 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, a facility must either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Second, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally, if the criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH.

Based on the information submitted by the applicant, the Blaine County #1 Compressor Station facility is considered an area source of HAPs. An area source of HAP emissions is defined as any stationary source that has the potential to emit less than 10 tons per year (TPY) of any HAP or 25 TPY of any combination of HAPs. Blaine County #1 Compressor Station does not meet the definition of an affected facility.

c. 40 CFR 63, Subpart HHH - National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR 63, shall comply with the standards and provisions of 40 CFR 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR Part 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR Part 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HHH.

Based on information submitted by the applicant, the Blaine County #1 Compressor Station is not subject to the provisions of 40 CFR 63, Subpart HHH. HAP emission calculations indicate that potential HAP emissions from the facility do not exceed the major source threshold of 25 TPY or more of any combination of HAPs or the threshold of 10 TPY or more of any individual HAP. .

d. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). An affected engine is any existing, new, or reconstructed stationary RICE that remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year.

The source is subject to this subpart because it owns and operates stationary RICE at an area source of HAP emissions.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee for the current permit action was received with the application.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. HPC's Blaine County #1 Compressor Station has the potential to emit nitrogen oxides (NO_x), carbon monoxide (CO), and VOC at greater than 25 tons per year; therefore an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was received for this modification on 2/28/2017 and additional information for the application to be consider complete was received on 5/3/2017. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was published in *The Havre Daily News* on 2/24/2017. .

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving HPC of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may

not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names and authorized signatures of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

The Blaine County #1 Compressor Station is not a listed facility and no longer has the potential to emit greater than 250 TPY of any regulated pollutant (excluding fugitives). Therefore, it is not a major stationary source with respect to New Source Review (NSR)/Prevention of Significant Deterioration (PSD).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE greater than 100 tons/year of any pollutant;

b. PTE greater than 10 tons/year of any one HAP, PTE greater than 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE greater than 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #1626-10 for HPC, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is subject to current NESHAP (40 CFR 63, Subpart ZZZZ).

   f. This source is not a Title IV affected source, nor a solid waste combustion unit.

   g. This source is not an Environmental Protection Agency (EPA) designated Title V source.

      HPC requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility is not subject to the Title V Operating Permit Program.

   h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

      i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

      ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3)(a) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for each new or modified source. HPC shall install on the new or modified source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

1340 bhp and 1480 bhp Capacity Natural Gas Compressor Engines

These engines have gone through a BACT analysis when they were originally permitted under MAQP #3060 and MAQP #3420. At the time of issuance of those permits, the control technology selected was lean-burn engine with catalytic oxidizer and AFR controller. This is consistent with current BACT for these emission sources. Considering the air pollution control technology, an emission limit of 0.5 g/bhp-hr, 1.0 g/bhp-hr, 1.0 g/bhp-hr for CO, NOx and VOC, respectively, was set for all three engines.

However, the NOx emission limit was incorrect based on the design parameters and the engine specifications. In order to achieve the 1.0 g/bhp-hr of NOx emission limit, the source needs to adjust the AFR out of the range specified by the manufacturer to burn so lean that it affects the timing of the engine. This deteriorates the engines at an accelerated rate, shortening the lifespan of the engines and proving to be an unsustainable and not reasonably achievable emission limit. Based on the engine specifications and the control technology the engine was constructed with, the emission limit shall be 1.5 g/bhp-hr of NOx. This is within the normal range of acceptable emission limits for natural gas engines with similar capacities. This does not change the control technology that is used for the engines and allows the operators to run the engines as designed and intended.

IV. Emission Inventory

Source	Ton/year				
Description	PM_{10}	NO_x	VOC	CO	SO_x
(2) 1340 bhp Caterpillar G3516 TALE Engines (4-stroke, lean burn with oxidizer for combined annual operation hours of 12,240)**	0.69	27.12	18.08	9.04	0.04
(3) 1,265 bhp Caterpillar G3516 TALE-1 Engines (4-stroke, lean-burn combined annual operations hours of 21,000)	0.92	31.71	18.69	50.19	0.05
(1) 1480 bhp Waukesha VHP-L7042GL (4-stroke, lean burn with oxidizer, 8760 hours of operation annually)	0.52	21.44	14.29	7.15	0.03
(1) 770 bhp Cummins GTA28 (4-stroke, rich-burn-Emergency/standby engine/generator limited to 500 hours/year	0.013	6.96	0.16	0.65	0.001
(1) Natural Gas-Fired PAMCO Dehydrator Boiler (0.75 MMBtu/hr)	0.025	0.33	0.018	0.276	0.002
(1) Natural Gas-Fired ALCO Dehydrator Boiler (0.60 MMBtu/hr)	0.020	0.26	0.014	0.22	0.002
(2) Dehydration Units -- (60 MMscf/day ALCO and 50 MMscf/day PAMCO)		---	8.35	---	---
(1) Natural Gas Building Heaters (up to 1 MMBtu/hr)	0.033	0.430	0.024	0.361	0.003
(1) Dehydrator Storage Tank Heater (0.12 MMBtu/hr)	0.004	0.049	0.003	0.021	0.0003
(1) Waste Oil Tank Heater (0.10 MMBtu/hr)	0.0033	0.041	0.0024	0.018	0.0003
(1) Natural Gas Fired Building/Heat tracing Boiler (1.0 MMBtu/hr)	0.033	0.438	0.024	0.368	0.003
(1) Heater Treater (1.0 MMBtu/hr)	0.033	0.438	0.024	0.368	0.003
(1) Gasoline Storage Tank (2,000 gallon)	---	---	---	---	---
(2) Methanol Storage Tanks (2,000 gallon and 6,000 gallon)	---	---	---	---	---
(1) Diesel Storage Tank (500 gallon)	---	---	---	---	---
On-Site Vehicle Traffic	2.5	---	---	---	---
Miscellaneous VOC sources	---	---	0.22	---	---
Total	**4.79**	**89.22**	**59.9**	**68.67**	**0.13**

**The two 1340 bhp engines are each allowed to operate up to 8760 hours per year and are not limited to a combined 12,240 hours. These engines are part of a combined 21,000 annual hours of operation limit with the 1480 bhp engine. The emissions inventory reflects the maximum potential emissions scenario from these three units based on the two 1340 bhp engines operating for a combined 12,240 hours and the 1480 bhp engine operating for 8760 hours for a total of 21,000 hours during a 12-month rolling period.

1,265 bhp Compressor Engine (3 Engines, 4-stroke, lean-burn)

Brake Horsepower: 1265 bhp
Hours of operation: 7000 hr/yr
Fuel Consumption: 8.8 MMBtu/hr (Company Information)

PM_{10} Emissions (all particulate emissions are considered PM_{10})
Emission Factor: 9.99E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 – uncontrolled)
Calculation: 8.8 MMBtu/hr * 9.99E-03 lb/MMBtu/hr * 7000 hr/yr * 0.0005 ton/lb * 3 engine(s) = 0.92 ton/yr

NO_x Emissions
Emission Factor: 3.02 lb/hr (Permit Limit)
Calculation: 3.02 lb/hr * 7000 hr/yr * 0.0005 ton/lb * 3 engine(s) = 31.71 ton/yr

VOC Emissions
Emission Factor: 1.78 lb/hr (Permit Limit)
Calculation: 1.78 lb/hr * 7000 hr/yr * 0.0005 ton/lb * 3 engine(s) = 18.69 ton/yr

CO Emissions
Emission Factor: 4.78 lb/hr (Permit Limit)
Calculation: 4.78 lb/hr * 7000 hr/yr * 0.0005 ton/lb * 3 engine(s) = 50.19 ton/yr

SOx Emissions
Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 - uncontrolled)
Calculation: 8.8 MMBtu/hr * 5.88E-04 lb/MMBtu/hr * 7000 hr/yr * 0.0005 ton/lb * 3 engine(s) = 0.05/ton/yr

1,340 bhp Compressor Engine (2 Engines, 4-stroke, lean-burn with AFR and oxidizers)

Brake Horsepower: 1340 bhp
Hours of operation: 12240 hr/yr (2 engines combined) ** These PTE calculations are a conservative estimate of the maximum potential emissions scenario as the two engines and the 1480 bhp engine are limited to 21,000 hours combined during any 12-month rolling period. The source is allowed to run the 1340 bhp engines up to 8760 hours each as long as it complies with the limit of 21000 hours of operation combined total for the three engines during any 12-month period.

Fuel Consumption: 11.35 MMBtu/hr (Engine Specification)

PM_{10} Emissions (all particulate emissions are considered PM_{10})
Emission Factor: 9.99E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 - uncontrolled)
Calculation: 11.35 MMBtu/hr * 9.99E-03 lb/MMBtu/hr * 6120 hr/yr * 0.0005 ton/lb * 2 engines = 0.69 ton/yr

NO_x Emissions
Emission Factor: 4.43 lb/hr (Permit Limit)
Calculation: 4.43 lb/hr * 6120 hr/yr * 0.0005 ton/lb * 2 engines = 27.12 ton/yr

VOC Emissions
Emission Factor: 2.95 lb/hr (Permit Limit)
Calculation: 2.95 lb/hr * 6120 hr/yr * 0.0005 ton/lb * 2 engines= 18.08 ton/yr

CO Emissions
Emission Factor: 1.48 lb/hr (Permit Limit)
Calculation: 1.48 lb/hr * 6120 hr/yr * 0.0005 ton/lb * 2 engine(s) = 9.04 ton/yr

SO_x Emissions
Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 - uncontrolled)
Calculation: 11.35 MMBtu/hr * 5.88E-04 lb/MMBtu/hr * 6120 hr/yr * 0.0005 ton/lb * 2 engine(s) = 0.04/ton/yr

1,480 bhp Compressor Engine (4-stroke, lean-burn with AFR and oxidizers)

Brake Horsepower: 1480 bhp
Hours of operation: 8760 hr/yr
Fuel Consumption: 11.98 MMBtu/hr (Engine Specification)

PM_{10} Emissions (all particulate emissions are considered PM_{10})
Emission Factor: 9.99E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 - uncontrolled)
Calculation: 11.98 MMBtu/hr * 9.99E-03 lb/MMBtu/hr * 8760 hr/yr * 0.0005 ton/lb = 0.52 ton/yr

NO_x Emissions
Emission Factor: 4.90 lb/hr (Permit Limit)
Calculation: 4.90 lb/hr * 8760 hr/yr * 0.0005 ton/lb= 21.44 ton/yr

VOC Emissions
Emission Factor: 3.26 lb/hr (Permit Limit)
Calculation: 3.26 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 14.29 ton/yr

CO Emissions
Emission Factor: 1.63 lb/hr (Permit Limit)
Calculation: 1.63 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.15 ton/yr

SO_x Emissions
Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00 - uncontrolled)
Calculation: 8.8 MMBtu/hr * 5.88E-04 lb/MMBtu/hr * 8760 hr/yr * 0.0005 ton/lb = 0.03/ton/yr

770 bhp Compressor Engine (1 Emergency Engine, 4-stroke, rich-burn)

Brake Horsepower: 770 bhp
Hours of operation: 500 hr/yr
Fuel Consumption: 5.5 MMBtu/hr (Permit Application Information)

PM_{10} Emissions (all particulate emissions are considered PM_{10})
Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00 - uncontrolled)
Calculation: 5.5 MMBtu/hr * 9.50E-03 lb/MMBtu/hr * 500 hr/yr = 26.1 lb/yr
26.1 lb/yr * 0.0005 ton/lb * 1 engine(s) = 0.013 ton/yr

NOx Emissions
Emission Factor: 16.4 gram/ bhp-hr (Mfg. Data)
Calculation: 16.4 gram/ bhp-hr * 770 bhp * 0.002205 lb/gram * 500 hr/yr = 13,922.4 lb/yr
13,922.4 lb/yr * 0.0005 ton/lb * 1 engine(s) = 6.96 ton/yr

VOC Emissions
Emission Factor: 0.37 gram/ bhp-hr
Calculation: 0.37 gram/ bhp-hr * 770 bhp * 0.002205 lb/gram * 500 hr/yr = 314.1 lb/yr
314.1 lb/yr * 0.0005 ton/lb * 1 engine(s) = 0.16 ton/yr

CO Emissions
Emission Factor: 1.52 gram/ bhp-hr
Calculation: 1.52 gram/ bhp-hr * 770 bhp * 0.002205 lb/gram * 500 hr/yr = 1,290.4 lb/yr
1,290.4 lb/yr * 0.0005 ton/lb * 1 engine(s) = 0.65 ton/yr

SOx Emissions
Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00 - uncontrolled)
Calculation: 5.5 MMBtu/hr * 5.88E-04 lb/MMBtu/hr * 500 hr/yr = 1.62 lb/yr
1.62 lb/yr * 0.0005 ton/lb * 1 engine(s) = 0.001 ton/yr

PAMCO Dehydration Unit
Hours of Operation:8760 hr/yr

0.75 MMBtu/hour Dehydration Boiler
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)
Fuel Consumption: 0.75 MMBtu/hr (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.75 MMBtu/hr = 0.006 lb/hr
0.006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.025 ton/yr

NOx Emissions
Emission Factor: 100 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 100 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.75 MMBtu/hr = 0.075 lb/hr
0.075 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.33 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.75 MMBtu/hr = 0.004 lb/hr
0.004 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.018 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 84 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.75 MMBtu/hr = 0.063 lb/hr
0.063 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.276 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.75 MMBtu/hr = 0.0005 lb/hr
0.0005 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.002 ton/yr

Dehydrator (50 MMscf/day (dry gas))
VOC Emissions (Regenerator, Flash Tank) = 4.35 ton/yr (GRI GlyCalc, Version 4.0) (Permit Application)

ALCO Dehydration Unit
Hours of Operation:8760 hr/yr

0.60 MMBtu/hour Dehydration Boiler
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)
Fuel Consumption: 0.60 MMBtu/hr (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.60 MMBtu/hr = 0.005 lb/hr
0.005 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.02 ton/yr

NOx Emissions
Emission Factor: 100 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 100 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.60 MMBtu/hr = 0.06 lb/hr
0.06 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.26 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.60 MMBtu/hr = 0.003 lb/hr
0.003 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.014 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 84 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.60 MMBtu/hr = 0.05 lb/hr
0.05 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.22 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.60 MMBtu/hr = 0.0004 lb/hr
0.0004 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.002 ton/yr

Dehydrator (60 MMscf/day (dry gas))
VOC Emissions (Regenerator, Flash Tank) = 4.00 ton/yr (GRI GlyCalc, Version 4.0) (Permit Application)

Natural Gas Fired Building/ Heat Tracing Boiler
Hours of operation: 8760 hr/yr
Fuel Consumption: 1.0 MMBtu/hr (Permit Application Information)
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.008 lb/hr
0.008 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0326 ton/yr

NO_x Emissions
Emission Factor: 100 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 100 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.010 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.430 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0055 lb/hr
0.0055 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.024 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 84 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.084 lb/hr
0.084 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.361 ton/yr

SO_x Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0006 lb/hr
0.0006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.003 ton/yr

Dehydrator Storage Tank Heater
Hours of operation: 8760 hr/yr
Fuel Consumption: 0.12 MMBtu/hr (Permit Application Information)
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.12 MMBtu/hr = 0.0009 lb/hr
0.0009 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.004 ton/yr

NOx Emissions
Emission Factor: 94 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 94 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.12 MMBtu/hr = 0.0113 lb/hr
0.0113 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.049 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.12 MMBtu/hr = 0.0007 lb/hr
0.0007 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.003 ton/yr

CO Emissions
Emission Factor: 40 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 40 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.12 MMBtu/hr = 0.0048 lb/hr
0.0048 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.021 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.12 MMBtu/hr = 0.0001 lb/hr
0.0001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0003 ton/yr

Waste Oil Tank Heater
Hours of operation: 8760 hr/yr
Fuel Consumption: 0.10 MMBtu/hr (Permit Application Information)
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.10 MMBtu/hr = 0.0008 lb/hr
0.0008 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0033 ton/yr

NOx Emissions
Emission Factor: 94 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 94 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.10 MMBtu/hr = 0.0094 lb/hr
0.0094 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.041 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.10 MMBtu/hr = 0.0006 lb/hr
0.0006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0024 ton/yr

CO Emissions
Emission Factor: 40 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 40 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.10 MMBtu/hr = 0.004 lb/hr
0.004 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.018 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 0.10 MMBtu/hr = 0.0001 lb/hr
0.0001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0003 ton/yr

Natural Gas Fired Building/ Heat Tracing Boiler (One at Heater Treater)
Hours of operation: 8760 hr/yr
Fuel Consumption: 1.0 MMBtu/hr (Permit Application Information)
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.008 lb/hr
0.008 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.033 ton/yr

NOx Emissions
Emission Factor: 100 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 100 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.010 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.438 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0055 lb/hr
0.0055 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.024 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 84 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.084 lb/hr
0.084 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.368 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0006 lb/hr
0.0006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.003 ton/yr

Heater Treater
Hours of operation: 8760 hr/yr
Fuel Consumption: 1.0 MMBtu/hr (Permit Application Information)
Fuel Heating Value: 1000 MMBtu/ MMscf (Permit Application Information)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 7.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.008 lb/hr
0.008 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.033 ton/yr

NOx Emissions
Emission Factor: 100 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 100 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.010 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.438 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 5.5 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0055 lb/hr
0.0055 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.024 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42, Chapter 1, Table 1.4-1, 7/98)
Calculation: 84 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.084 lb/hr
0.084 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.368 ton/yr

SOx Emissions
Emission Factor: 0.6 lb/MMscf (AP-42, Chapter 1, Table 1.4-2, 7/98)
Calculation: 0.6 lb/MMscf * 1 MMscf/ 1000 MMBtu * 1.0 MMBtu/hr = 0.0006 lb/hr
0.0006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.003 ton/yr

On-Site Vehicle Traffic
Vehicle Miles Traveled (VMT): 5 VMT/day
Number of Operating Days: 365 days/yr

PM_{10} Emissions
PM Emission Factor (Rated Load Capacity < 50 tons)
Emission Factor: 2.7 lb/VMT (DEQ Policy Statement (Haul Road Emissions Factors) dated 04-25-1994)
Calculation: 2.7 lb/VMT * 5 VMT/day * 365 days/yr * 0.0005 ton/lb = 2.5 ton/yr

Miscellaneous VOC Sources
Hours of Operation:8760 hr/yr
Emission Factors: Methanol Tanks: 74.14 lb/yr (MAQP #1626-04 analyses)
Fuel Storage Tanks: 371.03 lb/yr (MAQP #1626-04 analyses)
Fugitives: 0.47 lb/yr (MAQP #1626-04 analyses)

VOC Emissions
Calculation: (74.14 lb/yr + 371.03 lb/yr + 0.47 lb/yr) * 0.0005 ton/lb = 0.22 ton/yr

V. Existing Air Quality

The Blaine County #1 Compressor Station is located in the NW¼ of Section 29, Township 31 North, Range 18 East, in Blaine County, Montana. The air quality classification for the area is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for criteria pollutants (40 CFR 81.327).

VI. Air Quality Impacts

The current permit action will reduce emissions for all regulated air pollutants. Therefore, this project will improve air quality.

VII. Ambient Air Impact Analysis

MAQP #1626-10 has limits and conditions that are designed to be protective of all ambient air quality standards. This project will reduce emissions for all regulated air pollutants. This will improve ambient air quality and will continue to comply with air quality standards.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the pubic generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

YES	NO	
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Havre Pipeline Company, LLC
a Texas Limited Liability Company
Blaine County #1 Compressor Station
11 East Park St
Butte MT 59701

Montana Air Quality Permit number (MAQP): 1626-10

EA Draft: 6/9/2017
EA Final: 7/12/2017
Permit Final: 7/28/2017

1. *Legal Description of Site:* NW ¼ of Section 29, Township 31 North, Range 18 East, Blaine County, Montana.

2. *Description of Project:* The permit action would remove the two 5,500 brake-horsepower (bhp) Ingersoll Rand KVR 616 natural gas compressor engines and the 297 bhp emergency generator Waukesha L1616, two 2.93 million British thermal units per hour (MMBtu/hr) natural gas boilers and three 0.16 MMBtu/hr space heaters. The action would add the following pieces of equipment to the permit: two 1340 bhp compressor engines, one 1480 bhp compressor engine and 1 MMBtu/hr natural gas building heater. The modification would also correct the Caterpillar G3516 TALE engines as they are up to 1265 bhp not 1140 bhp as listed in the previous permits. The potential to emit and emission limits were corrected to reflect the accurate capacity of the engines. The source is requesting an annual hour of operation limitation on the two 1340 and 1480 bhp compressor engines for a combined total of 21,000 hours 12-month rolling total as well an annual hour of operation limitation on the three existing 1265 bhp compressor engines for a combined 21,000 hours 12-month rolling total. This project would reduce emissions for all regulated air pollutants.

3. *Objectives of Project:* This would remove very large and older engines and replace them with newer, cleaner burning engines while still able to compress natural gas in order to transport the gas to where it is needed. This project would change the category of the source from a major source to a synthetic minor.

4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. However, the project would reduce air pollution and allowing the business to continue as is. Therefore, the "no-action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the BACT analysis, Section III, in the permit.

5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, is included in MAQP #1626-10.

6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS*: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

The emissions from the facility would be reduced by the proposed project and therefore, have no effect on terrestrial and aquatic life and habitats in the project area.

B. Water Quality, Quantity and Distribution

The emission from the facility would be reduced by the proposed project and does not alter the sources water requirements/demands. Therefore, the project would not affect water quality, quantity and distribution.

C. Geology and Soil Quality, Stability and Moisture

The reduction of air pollutant emissions would not affect geology and soil quality, stability and moisture.

D. Vegetation Cover, Quantity, and Quality

The project would reduce the air pollutant emissions from the source and would not affect vegetation cover, quantity and quality.

E. Aesthetics

The project reduces the air pollutant emissions from the compressor station and would not affect aesthetics.

F. Air Quality

Air quality would be positively impacted as a result of this project. The regulated air pollutant emissions would be reduced.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile or limited environmental resources in the area, the Department ran a Species of Concern (SOC) report the through the Montana Natural Heritage Program, Natural Information System (NRIS) map viewer web interface. The NRIS SOC report identified the burrowing

owl, long-billed curlew and northern redbelly dace within the area. Area, in this case, is defined by the township, range and section of the site with an additional one-mile buffer. The issuance of permit #1626-10 would reduce emissions to the atmosphere

H. Sage Grouse Executive Order

The Department recognizes that the site location is not within a Greater Sage Grouse General Habitat Area as defined by Executive Order No. 12-2015. No action regarding the EO is required.

I. Demands on Environmental Resource of Water, Air and Energy

The amount of water from the site would not increase. The water would be used to suppress dust from entering the atmosphere. Air quality would be protected through the MAQP and this project reduces all regulated air pollutants. The source would continue to use energy resources but would not increase utilization. There would be no negative impact on these resources as a result of the project.

J. Historical and Archaeological Sites

The Department contacted the Montana Historical Society-State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological site that may be present in the location of the facility. SHPO concluded that there are no previously recorded sites within the designated locales. As long as there would be no disturbance or alteration to structures over fifty years of age, SHPO indicates "there is a low likelihood cultural properties will be impacted". Therefore, it is unlikely that the modification to the source would have any effect on any known historic or archaeological sites.

K. Cumulative and Secondary Impacts

The completion of the proposed project would decrease the cumulative and secondary impact from the site overall.

8. *SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS:* The following comments have been prepared by the Department.

A. *Social Structures and Mores*

The completion of the proposed modification would not be expected to cause any disruption to the social structures and mores in the area because the source is already in operation and the project would decrease air pollutant emissions. The permitting action would not affect the social structures and mores.

B. *Cultural Uniqueness and Diversity*

The impact to cultural uniqueness and diversity of these areas would likely not occur from the operation as it is an existing source. There is no effect on the cultural uniqueness and diversity.

C. *Local and State Tax Base and Tax Revenue*

The continued operation of the facility would not be expected to impact the local and state tax bade and tax revenue.

D. *Agricultural or Industrial Production*

The proposed modification does not increase the surface area of the source. There would be no effect on agriculture or industrial production.

E. *Human Health*

The rules and regulations are designed to protect human health. The modification is to an existing source and would reduce the air pollution emissions for all regulated pollutants.

F. *Access to and Quality of Recreational and Wilderness Activities*

Based on the information provided by Havre Pipeline Company, LLC, there are no recreational activities or wilderness areas near the existing site. Therefore, no impacts to the access to quality of recreational and wilderness area would be expected.

G. *Quantity and Distribution of Employment*

The proposed modification would not alter the quantity and distribution of employment.

H. *Distribution of Population*

The project is not expected to have an impact on the normal population distribution in the area of operation.

I. *Demands for Government Services*

No increase in traffic on existing roadways in the area is expected from the modification. Government services would be required for acquiring the appropriate permit for the proposed modification and to verify compliance with the permits that would be issued. The operation already exists; there is no increase in demand for government services outside the permitting process.

J. *Industrial and Commercial Activity*

The completion of the proposed project would not alter the industrial activity from the facility. The industrial and commercial activities would remain the same.

K. *Locally Adopted Environmental Plans and Goals*

The facility is operating in an unclassified/attainment area for ambient air quality. The proposed modification would result in a decrease in regulated air pollutant emissions. Any locally adopted environmental plans would not be expected to be negatively affected. The Department requires the source to comply with all state and local regulations in regards to environmental plans and goals.

L. *Cumulative and Secondary Impacts*

The modification is not expected to impact the economy or social construct of the surrounding area.

Recommendation: No Environmental Impact Statement (EIS) is required.

The current permitting action is for the continued operation of Havre Pipeline Company, LLC-Blaine County Compressor Station. MAQP #1626-10 includes conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program – Montana Sage Grouse Conservation Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Loni Patterson
Date: 5/22/2017