ADMINISTRATIVE AMENDMENT
TO MONTANA AIR QUALITY PERMIT

Date of Mailing: August 17, 2016

Name of Applicant: Hiland Partners Holdings, LLC

Source: Natural Gas Compressor Station

Location: NE ¼ NE ¼ of Section 22, Township 25 North, Range 53 East, in Richland County, Montana

Proposed Action: The Department of Environmental Quality (Department) proposes to issue an Administrative Amendment, with conditions, to the above-named permittee. The permit will be assigned #3358-05. The permittee may appeal the Department's decision to the Board of Environmental Review (Board). A request for hearing must be filed by 9/1/2016. This permit shall become final on 9/2/2016, unless the Board orders a stay on the permit.

Proposed Conditions: See attached.

Procedures for Appeal: The permittee may request a hearing before the Board. Any appeal must be filed before the final date stated above. The request for hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620.

For the Department,

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Permitting Services Section Supervisor
Air Quality Bureau
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JM:LP
Enclosure

MONTANA AIR QUALITY PERMIT

Issued To:	Hiland Partners Holdings, LLC. Vaira Compressor Station 370 Van Gordon Street Lakewood, CO 80228	Permit: #3358-05 Administrative Amendment (AA) Request Received: 7/25/2016 Department Decision on AA: 8/17/2016 Permit Final: 9/2/2016 AFS: #083-0044

An air quality permit, with conditions, is hereby granted to Hiland Partners Holdings, LLC (HPH), 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

HPH owns and operates a natural gas compressor station located approximately 24 miles northwest of Lambert, Montana, in the NE ¼ of the NE ¼ of Section 22, Township 25 North, Range 53 East, in Richland County, Montana. The facility is known as the Vaira Compressor Station.

B. Current Permit Action

On July 25 2016, the Department received a request from Hiland Partners Holdings, LLC, to change the mailing address from PO Box 5103, Enid, OK 73702 to 370 Van Gordon Street, Lakewood, CO 80228.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. HPH shall not operate more than two natural gas compressor engines at any given time and the maximum rated design capacity of each engine shall not exceed 1,478-horsepower (hp) (ARM 17.8.749).

2. Each compressor engine shall be a rich-burn engine retrofitted with a nonselective catalytic reduction (NSCR) unit and an air-to-fuel ratio (AFR) controller. The pound per hour (lb/hr) emission limits for each of the engines shall be determined using the following equation and pollutant specific grams per brake horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

<u>Equation</u>

Emission Limit (lb/hr) = Emission Factor (g/bhp-hr) * maximum rated design capacity of engine (bhp) * 0.002205 lb/g

Emission Factors

Oxides of Nitrogen (NO_x): 1.0 g/bhp-hr
Carbon Monoxide (CO): 2.0 g/bhp-hr Volatile Organic Compounds (VOC): 1.0 g/bhp-hr

3. HPH 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).

4. HPH 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).

5. HPH 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.4 (ARM 17.8.749).

6. HPH shall operate and maintain the enclosed inlet separator to ensure VOC vapors in the condensate are flashed off, captured, and sent into the pipeline to the Bakken Gas Plant (ARM 17.8.749).

7. HPH shall operate and maintain the flash tank and condenser on the Triethylene Glycol (TEG) Dehydrator unit, to minimize VOC and Hazardous Air Pollutant (HAP) emissions (ARM 17.8.749).

8. HPH 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).

9. HPH 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 Emissions 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 the NO_x and CO pound per hour (lb/hr) emission limits as calculated in Section II.A.2 (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. HPH 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).

2. HPH 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 startup 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(l)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by HPH 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).

SECTION III: General Conditions

A. Inspection – HPH 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 HPH fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving HPH 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 HPH may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Montana Air Quality (MAQP) Permit Analysis
Hiland Partners Holdings, LLC
Vaira Compressor Station
MAQP #3358-05

I. Introduction/Process Description

Hiland Partners Holdings, LLC (HPH) owns and operates the Vaira Compressor Station. The facility is a natural gas compressor station located in the NE ¼ of the NE ¼ of Section 22, Township 25 North, Range 53 East, in Richland County, Montana.

A. Permitted Equipment

The facility consists of the following equipment:

- Two (2) 1,478-horsepower (hp) Waukesha 7042GSI Compressor Engines;
- One (1) Savalls (1984) 0.25-million British thermal unit per hour (MMBtu/hr) triethylene glycol (TEG) dehydrator reboiler with a flash tank, condenser, and associated still vent;
- Two (2) 400-barrel (bbl) condensate storage tanks (2004); and
- One (1) 30,000 gallon enclosed inlet separator (2008).

B. Source Description

The Vaira Compressor Station compresses and transports natural gas from the nearby Bakken gas field. The two natural gas-fired compressor engines compress the gas for transmission through the pipeline and the TEG dehydration unit removes moisture from the gas prior to transmission. An enclosed inlet separator allows the Volatile Organic Compound (VOC) vapors in the condensate to be flashed off, captured, and sent into the pipeline to the Bakken Gas Plant.

C. Permit History

On September 22, 2004, the Department of Environmental Quality (Department) received a complete Montana Air Quality Permit Application from Hiland Partners, LLC for the construction and operation of the Vaira Compressor Station. **Permit #3358-00** became final and effective on November 6, 2004.

On November 10, 2005, the Department received a request to change the corporate name on Permit #3358-00 from Hiland Partners, LLC to Hiland Partners, LP (HPL). The permit action changed the corporate name on Permit #3358-00 and updated the permit to reflect the current permit language and rule references used by the Department. **Permit #3358-01** replaced Permit #3358-00.

On December 13, 2007, the Department received a request from Bison Engineering on behalf of HPL, to administratively amend Permit #3358-01 by specifying that the existing flash tank and condenser are permitted equipment associated with the dehydrator still vent. The Department also amended the permit to reflect updated regulations and current facility conditions, including the fact that only two engines were installed. **Permit #3358-02** replaced Permit #3358-01.

On October 3, 2008, the Department received a request from Bison Engineering, on behalf of HPL, to administratively amend Permit #3328-02 to include the installation of a new inlet separator and to correct the size of the two permitted condensate tanks from the previously identified 300 bbl capacity to the existing condensate tank size of 400 bbl each.

On November 25, 2008, the Department received additional information from Bison Engineering, on behalf of HPL, that verified three condensate tanks were located at the Vaira Compressor Station instead of the previously permitted two tanks. **Permit #3358- 03** replaced Permit #3328-02.

On September 30, 2015, the Department received a request from Hiland Partners Holdings, LLC, to change the name from Hiland Partners, LP, to the current legal name of Hiland Partners Holdings, LLC, and to update contact information. **MAQP#3358-04** replaced MAQP#3358-03.

D. Current Permit Action

On July 25 2016, the Department received a request from Hiland Partners Holdings, LLC, to change the mailing address from PO Box 5103, Enid, OK 73702 to 370 Van Gordon Street, Lakewood, CO 80228. The current permit action reflects this change and updates the permit language to reflect current permit language and references. **MAQP #3358-05** replaces MAQP #3358-04.

E. 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 Administrative Rules of Montana (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).

   HPH 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 four 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 Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

HPH must comply 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 (PM). (2) Under this rule, HPH shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne PM.

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 PM 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 PM 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 one 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. HPH will utilize natural gas for operating its fuel burning equipment, 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 CFR Part 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 - the Vaira Compressor Station does not meet the definition of a natural gas processing plant defined in 40 CFR 60, Subpart KKK.

   c. 40 CFR 60, Subpart LLL - the Vaira 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 engine (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 hp, or after January 1, 2008, for engines less than 500 hp. 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.

   Since the two natural gas SI ICE engines were manufactured before July 1, 2007, this NSPS does not currently apply. However, since the permit is written in a de minimis-friendly manner, 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 a Maximum Achievable Control Technology (MACT) 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 natural gas production facilities, as defined and applied in 40 CFR 63, shall comply with the applicable provisions of 40 CFR 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major or area source of Hazardous Air Pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must also 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. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR 63, Subpart HH. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR 63, Subpart HH. The facility can be either a major or area source of Hazardous Air Pollutants (HAPs).

Based on previous information provided by HPH, the Vaira Compressor Station facility is considered an area source of HAPs that is subject to 40 CFR 63, Subpart HH. For area sources, the affected source includes each TEG glycol dehydration unit. However, because the glycol dehydration unit emits less than 0.9 megagrams (1 ton per year (TPY)) of benzene, it is exempt from the control requirements listed in 40 CFR 63, Subpart HH. Records of the determinations applicable to this exemption must be maintained as required in 40 CFR 63.774(d)(1).

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 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 63, Subpart HHH. Based on previous information submitted by HPH, the Vaira Compressor Station facility is not subject to the provisions of 40 CFR 63 Subpart HHH, because the facility is not a major source of HAPs.

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.

Since the two natural gas RICE were installed before June 12, 2006, the engines are considered ***existing*** stationary RICE at an area source of HAP emissions and are affected units under this subpart.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. HPH must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for HPH is below the allowable 65-meter GEP stack height.

E. 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. HPH was not required to submit a permit application fee for the current permit action because the current permit action is considered an administrative amendment.

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.

F. 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 alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. The Vaira Compressor Station has a PTE greater than 25 tons per year of oxides of nitrogen (NO_x), carbon monoxide (CO) and VOCs; 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, alteration or use of a source. The current permit action is considered an administrative amendment; therefore, a permit application was not required. (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. The current permit action is an administrative amendment, and therefore, did not require publication of a public notice.

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 HPH 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 17.8.762 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 altered 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 one year after the permit is issued.

12. 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).

13. 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.

14. 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 of the transferor and the transferee, is sent to the Department.

G. 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.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. 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 per year of any pollutant;

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

c. PTE greater than 70 tons per 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 Air Quality Permit #3358-05 for HPH, the following conclusions were made:

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

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

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

d. This facility is not currently subject to any NSPS, although it could be subject to 40 CFR 60, Subpart JJJJ in the future.

e. This facility is subject to the area source provisions of two National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 CFR 63, Subparts HH and 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.

Based on these facts, the Department determined that the Vaira Compressor Station is a minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or altered source. HPH shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action is an administrative amendment and does not require a BACT analysis.

IV. Emission Inventory

	Tons/year				
Source	PM_{10}	NO_x	VOC	CO	SO_x
1,478-hp Waukesha Compressor Engine #1	0.48	14.28	14.28	28.56	0.04
1,478-hp Waukesha Compressor Engine #2	0.48	14.28	14.28	28.56	0.04
Dehydration Unit					
--0.25 MMBtu/hr Reboiler	0.00	0.09	0.00	0.06	0.00
--Still Vent	0.00	0.00	9.55	0.00	0.00
400 bbl Condensate Storage Tank #1					
--Fugitive Losses	0.00	0.00	0.62	0.00	0.00
--Flashing Losses (enclosed inlet separator)	0.00	0.00	0.00	0.00	0.00
400 bbl Condensate Storage Tank #2					
--Fugitive Losses	0.00	0.00	0.62	0.00	0.00
--Flashing Losses (enclosed inlet separator)	0.00	0.00	0.00	0.00	0.00
400 bbl Condensate Storage Tank #3					
--Fugitive Losses	0.00	0.00	0.62	0.00	0.00
--Flashing Losses (enclosed inlet separator)	0.00	0.00	0.00	0.00	0.00
Fugitive VOC Emissions					
--Inlet/Fuel Gas Stream	0.00	0.00	0.68	0.00	0.00
--Condensate Stream	0.00	0.00	0.44	0.00	0.00
Total	**0.96**	**28.65**	**41.09**	**57.18**	**0.08**

1,478-hp Compressor Engines (2 Engines)
Brake Horsepower: 1478 bhp Hours of operation: 8760 hr/yr
Fuel Consumption:7800 Btu/hp-hr (Maximum Rated Design Capacity – Company Information)

<u>PM_{10} Emissions (all particulate emissions are considered PM_{10})</u>
Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00) Calculations:7800 Btu/hp-hr * 1478 hp * 9.50E-03 lb/MMBtu = 0.11 lb/hr
0.11 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.48 ton/yr

NO_x Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination) Calculations: 1.00 gram/bhp-hour * 1478 bhp * 0.002205 lbs/gram = 3.26 lb/hr
3.26 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 14.28 ton/yr

VOC Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination) Calculations: 1.00 gram/bhp-hour * 1478 bhp * 0.002205 lb/gram = 3.26 lb/hr
3.26 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 14.28 ton/yr

CO Emissions
Emission factor: 2.00 gram/bhp-hour (BACT Determination) Calculations: 2.00 gram/bhp-hour * 1478 bhp * 0.002205 lb/gram = 6.52 lb/hr
6.52 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 28.56 ton/yr

SO_2 Emission
Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00) Calculations:
7800 Btu/hp-hr * 1478 hp * 5.88E-04 lb/MMBtu = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

Dehydration Unit
Hours of operation: 8760 hr/yr

0.25 MMBtu/hour Dehydration Reboiler
Fuel Heating Value: 1480 MMBtu/MMScf (Company Information) Fuel Consumption:0.25 MMBtu/hr (Maximum Design)

PM_{10} Emissions
Emission Factor: 7.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98) Calculations: 7.6 lb/MMScf * 1MMScf/1480MMBtu * 0.25 MMBtu/hr = 0.001 lb/hr
0.001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00 ton/yr

NO_x Emissions
Emission factor: 100 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98) Calculations: 100 lb/MMScf * 1MMScf/1480MMBtu * 0.25 MMBtu/hr = 0.02 lb/hr
0.02 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.09 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98) Calculations: 5.5 lb/MMScf * 1MMScf/1480MMBtu * 0.25 MMBtu/hr = 0.001 lb/hr
0.001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00 ton/yr

CO Emissions
Emission factor: 84 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98) Calculations:84 lb/MMScf * 1MMScf/1480MMBtu * 0.25 MMBtu/hr = 0.014 lb/hr
0.014 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.06 ton/yr

SO_x Emissions
Emission Factor: 0.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98) Calculations: 0.6 lb/MMScf * 1MMScf/1480MMBtu * 0.25 MMBtu/hr = 0.0001 lb/hr
0.0001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00 ton/yr

Dehydrator Still Vent

VOC Emissions

Emission Factor: 2.18 lb/hr (GRI GlyCalc, Version 4.0) Calculations: 2.18 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 9.55 ton/yr

400 bbl Condensate Storage Tanks (3 Tanks)
Hours of operation: 8760 hr/yr VOC Emissions

Fugitive Losses

Emission Factor: 1246.78 lb/yr (EPA Tanks, Version 4.0) Calculations: 1246.78 lb/yr * 0.0005 ton/lb = 0.62 ton/yr

Flashing Losses

Emissions: An enclosed inlet separator has been installed to allow VOC vapors in the condensate to be flashed off, captured, and sent into the pipeline to the Bakken Gas Plant.

Emissions from the enclosed inlet separator are considered negligible and inventoried as = 0.00 ton/yr.

Fugitive Emissions

VOC Emissions

Basis for Emission Factors: EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017)

Inlet/Fuel Gas Stream
Hours of operation: 8760 hr/yr
VOC Fraction: 0.4325 (Permit Application)

Valves: 14 components in gas service Emission Factor: 4.5E-03 kg/hr/component (Table 2-4)
Calculations: 4.5E-03 kg/hr/component * 14 components * 2.20462 lb/kg = 0.1389 lb/hr 0.1389 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.6084 ton/yr

Relief Valves: 9 components in gas service
Emission Factor: 8.8E-03 kg/hr/component (Table 2-4)
Calculations: 8.8E-03 kg/hr/component * 9 components * 2.20462 lb/kg = 0.1746 lb/hr 0.1746 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.7647 ton/yr

Connectors: 21 components in gas service Emission Factor: 2.0E-04 kg/hr/component (Table 2-4)
Calculations: 2.0E-04 kg/hr/component * 21 components * 2.20462 lb/kg = 0.0093 lb/hr 0.0093 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0407 ton/yr

Flanges: 42 components in gas service Emission Factor: 3.9E-04 kg/hr/component (Table 2-4)
Calculations: 3.9E-04 kg/hr/component * 42 components * 2.20462 lb/kg = 0.0361 lb/hr 0.0361 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.1581 ton/yr

Totals: 0.6084 ton/yr + 0.7647 ton/yr + 0.0407 ton/yr + 0.1581 ton/yr = 1.5719 ton/yr
1.5719 ton/yr *0.4325 = 0.6798 ton/yr

Condensate Stream
Hours of operation: 8760 hr/yr
VOC Fraction: 0.98 (Permit Application)

Valves: 5 components in gas service
Emission Factor: 4.5E-03 kg/hr/component (Table 2-4)
Calculations: 4.5E-03 kg/hr/component * 5 components * 2.20462 lb/kg = 0.0496 lb/hr 0.0496 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.2172 ton/yr

Relief Valves: 2 components in gas service
Emission Factor: 8.8E-03 kg/hr/component (Table 2-4)
Calculations: 8.8E-03 kg/hr/component * 2 components * 2.20462 lb/kg = 0.0388 lb/hr 0.0388 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.1699 ton/yr

Connectors: 10 components in gas service Emission Factor: 2.0E-04 kg/hr/component (Table 2-4)
Calculations: 2.0E-04 kg/hr/component * 10 components * 2.20462 lb/kg = 0.0044 lb/hr 0.0044 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0193 ton/yr

Flanges: 10 components in gas service Emission Factor: 3.9E-04 kg/hr/component (Table 2-4)
Calculations: 3.9E-04 kg/hr/component * 10 components * 2.20462 lb/kg = 0.0086 lb/hr 0.0086 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0377 ton/yr

Totals: 0.2172 ton/yr + 0.1699 ton/yr + 0.0193 ton/yr + 0.0377 ton/yr = 0.4441 ton/yr
0.4441 ton/yr *0.98 = 0.4352 ton/yr

V. Existing Air Quality

The facility is located in the NE ¼ of the NE ¼ Section 22, Township 25 North, Range 53 East, in Richland County, Montana. The air quality of this area is classified as either Better than National Standards or unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. The Department believes the facility will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

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 public 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?
	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.

VIII. Environmental Assessment

The current permit action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: Loni Patterson
Date: August 10, 2016