



July 16, 2015

Geoffrey Sands  
ONEOK Rockies Midstream, LLC - Bainville Compressor Station  
P.O. Box 871  
Tulsa, OK 74102

Dear Mr. Sands:

Montana Air Quality Permit #1546-07 is deemed final as of July 16, 2015, 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,

A handwritten signature in black ink that reads "Julie A. Merkel".

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

A handwritten signature in black ink that reads "Ed Warner".

Ed Warner  
Lead Engineer – Permitting Services Section  
Air Quality Bureau  
(406) 444-2467

JM:EW  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #1546-07

ONEO Rockies Midstream, LLC – Bainville Compressor Station  
P.O. Box 871  
Tulsa, OK 74102

July 16, 2015



## MONTANA AIR QUALITY PERMIT

Issued To: ONEOK Rockies Midstream, LLC.  
P.O. Box 871  
Tulsa, OK 74102

MAQP: #1546-07  
Application Complete: 5/21/2015  
Preliminary Determination Issued: 5/28/2015  
Department's Decision Issued: 6/30/2015  
Permit Final: 7/16/2015  
AFS #: 085-0003

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to ONEOK Rockies Midstream, LLC (ORM) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740 *et seq.*, as amended, for the following:

### Section I: Permitted Facilities

#### A. Plant Location

ORM operates a natural gas processing plant and associated equipment located in the NE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> of Section 20, Township 28 North, Range 58 East, in Roosevelt County, Montana. This facility is known as the Bainville Compressor Station. A complete list of the facility's permitted equipment can be found in Section I.A. of the Permit Analysis.

#### B. Current Permit Action

The Department of Environmental Quality (Department) received an application for modification of the Bainville Compressor Station to replace the flare unit and two condensate storage tanks. Additionally, ORM requested federally enforceable limits on these apparatus to reduce potential emissions.

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Source #01, a 687 hp Waukesha 7042G natural gas compressor engine shall be operated with a non-selective catalytic reduction (NSCR) unit and an air/fuel ratio (AFR) controller. The engine speed shall not exceed 750 rpm of continuous duty operation. Emissions from this compressor engine shall not exceed the following limits (ARM 17.8.1204(3)(d)):

NO <sub>x</sub> <sup>1</sup>	19.0 lb/hr
CO	5.3 lb/hr
VOC	1.3 lb/hr

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<sup>1</sup> NO<sub>x</sub> reported as NO<sub>2</sub>

2. Source #02, a 687 hp Waukesha 7042G natural gas compressor engine, shall be operated with an NSCR unit and an AFR controller. The engine speed shall not exceed 750 rpm of continuous duty operation. Emissions from this compressor engine shall not exceed the following limits (ARM 17.8.752):
 

NO <sub>x</sub>	3.03 lb/hr
CO	4.54 lb/hr
VOC	1.51 lb/hr
3. ORM shall operate and maintain an NSCR unit and an AFR controller on Source #01 and Source #02 within the parameters recommended by the equipment manufacturer (ARM 17.8.752).
4. ORM shall not operate more than two 687 hp Waukesha 7042G natural gas compressor engines at any given time (ARM 17.8.749).
5. ORM shall operate all equipment to provide the maximum air pollution control for that the equipment was designed (ARM 17.8.752).
6. ORM shall operate the flare stack only for equipment blowdown when shutdown is required for repair or for emergency use. This flare is not permitted to continuously flare sour gases (ARM 17.8.749).
7. ORM's emergency flare shall be limited to 180 hours of operation during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
8. Operation of the process flare shall be limited to a maximum throughput rate of 340,020 standard cubic foot (scf) per rolling 12-month period (ARM 17.8.749).
9. The combined maximum throughput of the condensate storage tanks shall not exceed 225,000 gallons per rolling 12-month period (ARM 17.8.749).
10. ORM 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).
11. ORM 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)).
12. ORM shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.12 (ARM 17.8.749).

B. Testing Requirements

1. ORM shall test Source #01 and Source #02 for NO<sub>x</sub> and CO, concurrently, and demonstrate compliance with the emission limits contained in Section II.A.1 and II.A.2, respectively. Source #01 and Source #02 were last tested in May 2012. Further testing for Source #01 and Source #02 shall occur on an every 4-year basis from the date the engines were last tested, or according to another testing/monitoring schedule as may be approved by the Department. Therefore, the next source testing is due in May of 2016 (ARM 17.8.105 and ARM 17.8.749).
2. During each test, ORM shall monitor the compressor engine intake manifold temperature and pressure, exhaust temperature, revolutions per minute (rpm), and all parameters necessary to calculate horsepower. This data shall be submitted to the Department with the source test report (ARM 17.8.105).
3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
4. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. ORM 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 most recent emission inventory report and sources identified 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 as required by the Department. This information may be used for calculating operation fees based on actual emissions from the facility, and/or to verify compliance with permit limitations. ORM 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. Annual throughput rate of the process flare. ORM shall document, by month, the hours of operation of the emergency flare. By the 25<sup>th</sup> day of each month, ORM shall total the flare operating hours during the previous 12 months to verify compliance with the limitation in Section II.A.8. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
  - b. Combined annual throughput of the condensate storage tanks
2. All records compiled in accordance with this permit must be maintained by ORM 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).

3. ORM shall notify the Department of any construction or improvement projects 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).
4. ORM shall annually certify, as required by ARM 17.8.1204(3)(b), that its actual emissions are less than those that would require the source to obtain an air quality Title V Operating Permit. The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Monitoring and Record Keeping

1. ORM shall, at a minimum, inspect the following on Source #01 and Source #02 once every 6 months, as well as after every upset condition that could have caused damage to the equipment :
  - the AFR controller,
  - the NSCR unit, and
  - the catalyst

ORM shall conduct any subsequent maintenance to ensure that the control equipment and the catalyst will continue to perform as designed. If the catalyst fails to promote the chemical reactions required to reduce NO<sub>x</sub> and CO emissions to a level at or below the limits stated in Section II.A.1 and Section II.A.2, respectively, ORM shall replace it with a new catalyst capable of achieving these limits (ARM 17.8.752).

2. ORM shall keep a record of any and all inspections and maintenance conducted on the NSCR unit and the AFR controller on each compressor engine (ARM 17.8.752).

E. Notification

1. ORM shall provide the Department with written notification of the actual start-up date(s) of the condensate tanks and replacement flare within 15 days after the actual start-up date(s), for purposes other than quarterly exercising (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – ORM 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 (e.g., 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 ORM fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving ORM 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, failure to pay the annual operation fee by ORM 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  
ONEOK Rockies Midstream, LLC  
Bainville Compressor Station  
MAQP #1546-07

I. Introduction/Process Description

ONEOK Rockies Midstream, LLC (ORM) owns and operates a natural gas compressor station located in the NE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> of Section 20, Township 28 North, Range 58 East in Roosevelt County.

A. Permitted Equipment:

The ORM Bainville Compressor Station includes but is not limited to the following:

- (2) 687 horsepower (hp) Waukesha 7042G natural gas compressor engines (Source #01 and Source #02)
- (1) 1.2 MM British Thermal Units per hour (Btu/hr) glycol line heater
- (1) 2.5 million (MM) Btu/hr flare
- (1) fixed roof 200 barrel (bbl) methanol tank
- (2) fixed roof 400 bbl condensate storage tanks

B. Source Description

The facility boosts sour field gas through the gas transmission system to a gas plant for processing. Because the pipeline natural gas is too sour to use as a fuel gas, both compressor engines and the glycol heater are fired on propane.

C. Permit History

On December 8, 1980, the Department of Environmental Quality (Department) received a permit application from Phillips Petroleum to construct a gas compressor station near Bainville, Montana. The permit action permitted Source #01, a glycol line heater, a crude/water tank, a methanol tank, and an emergency flare. The permit was approved on February 23, 1981, and given **Permit #1546-00**. A Best Available Control Technology (BACT) analysis in Permit #1546-00 limited the emissions from Source #01. The Bainville Compressor Station was constructed by Phillips in 1981.

On January 2, 1986, Koch Hydrocarbon acquired several compressor stations from Phillips Petroleum, including the Bainville Compressor Station.

Prior to 1991, Koch had installed a 600 hp Caterpillar 398 compressor engine. However, this engine has subsequently been removed.

In May of 1991, Koch Hydrocarbon installed a 547 hp Waukesha compressor engine at the Bainville Compressor Station. This engine was relocated from the Charlie Creek Station. This engine has been removed from the Bainville site.

In October of 1991, Source #02 was relocated from Koch's Medicine Lake Compressor Station to the Bainville Compressor Station.

On August 19, 1992, Permit #1546-00 for the Bainville Compressor Station was revoked due to lack of payment of the annual operating fees.

On December 28, 1992, Permit #1546-00 for the Bainville Compressor Station was reinstated upon receipt of payment for the annual operating fees.

On February 29, 1996, **Permit #1546-01** was issued to include Source #02 that was relocated from the Medicine Lake Compressor Station to the Bainville Compressor Station. Koch was required to install BACT devices on this engine.

On March 11, 1996, the Department received an application from Koch for **Permit #1546-02** Koch requested a reduction in the oxides of nitrogen (NO<sub>x</sub>) emission limit with an offsetting increase in the carbon monoxide (CO) emission limit for Source #01. This reduction in NO<sub>x</sub> emissions was achieved by installing and operating a Non-Selective Catalytic Reduction (NSCR) unit and an air/fuel ratio (AFR) controller on the compressor engine. This action rendered the facility a synthetic minor source as defined under the Title V permitting program. Prior to issuing the Department Decision on this permit, Koch requested that Source #02 be removed from the permit. Operational changes in the area required less horsepower to be generated at the facility; therefore, this second engine was no longer needed at the site. On July 25, 1996, the Department issued Permit #1546-02 requiring Koch to permanently remove Source #02 from service by November 1, 1996.

On August 29, 1996, the Department received an application for **Permit #1546-03**. It requested that Source #02 be added back into the permit. NO<sub>x</sub> and CO emissions from this source are controlled by an NSCR unit and an AFR controller. This facility is a synthetic minor source and will be subject to the "Monitoring and Record Keeping" requirements in Section II.D of this permit. On October 19, 1996, the Department issued Permit #1546-03 placing Source #02 back into the permit.

On March 24, 1997, the Department received a request to modify Permit #1546-03. The modification reflected the fact that the Bainville Compressor Station had changed ownership. This modification transferred ownership of Permit #1546-03 from Koch Hydrocarbon Co. to Bear Paw Energy, Inc. **Permit #1546-04** replaced Permit #1546-03.

On July 30, 2001, Bear Paw submitted a request to modify Permit #1546-04. Bear Paw requested that the permit be written in a *de minimis* friendly manner by removing all equipment serial numbers. The permit action removed the equipment serial numbers and updated the permit format. In addition, a condition was added to specify that only two compressor engines may be operated at any given time. **Permit #1546-05** replaced Permit #1546-04.

The Department received notification on June 18, 2012, from Bear Paw Energy, LLC requesting an amendment to MAQP #1546-05 to change ownership name to ONEOK Rockies Midstream, LLC. All permit references to the facility's name with the exception of the permit history were changed throughout this document. In

addition, rule references and permit language were updated. The mailing address for ONEOK was also updated under this action. **MAQP #1546-06** replaced MAQP#1546-05.

D. Current Permitting Action

On October 20, 2014, the Department received an application to modify the Bainville Compressor Station air quality permit to include the replacement of the flare unit and two condensate storage tanks. Additionally, ORM requested federally enforceable limits on the condensate storage tanks to reduce potential emissions below the applicability thresholds of 40 Code of Federal Regulations (CFR) 60, Subpart OOOO. The Department issued an incompleteness letter on November 18, 2014. ORM submitted additional information to complete the permit application on December 11, 2014 (via email). Incompleteness notices were issued via email by the Department on December 30, 2014. The Department received the final component necessary for a complete permit application, the affidavit of publication of public notice, on May 21, 2015. **MAQP #1546-07** replaces MAQP #1546-06.

E. Additional Information

Additional information, such as applicable rules and regulations, BACT determinations, air quality impacts, and environmental assessments are 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 the 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).

ORM 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 in 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, Sub-Chapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO<sub>2</sub>)
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide (NO<sub>2</sub>)
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone (O<sub>3</sub>)
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide (H<sub>2</sub>S)
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<sub>10</sub>

C. ARM 17.8, Sub-Chapter 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, ORM 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. 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. To comply with this requirement, ORM will fire each compressor engine and the line heater on propane because the pipeline natural gas contains 7% H<sub>2</sub>S and is too sour to use as fuel.
6. 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 Regulation (CFR) 60, Standards of Performance for New Stationary Sources (NSPS). The owner and operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the NSPS.
  - a. 40 CFR Part 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 for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011. Owners or operators of onshore natural gas processing plants, as defined and applied in 40 CFR Part 60, shall comply with standards and provisions of 40 CFR Part 60, Subpart KKK. This subpart does not apply to the ORM Bainville facility because it does not meet the definition of a natural gas processing plant as defined in 40 CFR Part 60, Subpart KKK.
  - c. 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The provisions of this subpart are applicable to owners and operators of stationary spark ignition internal combustion engines (SI ICE) that commence construction after June 12, 2006, where the stationary SI ICE are manufactured on or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 horsepower. As the engines operated under this permit were ordered and manufactured prior to June 12, 2006, nor modified or reconstructed after this date, these engines are not currently considered affected units.
  - d. 40 CFR 60, Subpart OOOO – Crude Oil and Natural Gas Production, Transmission and Distribution. This subpart established emission standards for equipment that commences construction, is modified or reconstruction on or after August 23, 2011, at crude oil and natural gas production, transmission and distribution facilities. Potentially affected facilities at the Bainville Station included condensate tanks, pneumatic controllers, and the reciprocating

compressors. ORM requested federally enforceable limits to restrict potential emissions from the condensate tanks to below the 6 tons per year (tpy) applicability threshold.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Century is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts:
    - a. 40 CFR 63, Subpart A – General Provisions. Apply to all equipment of facilities subject to a 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 standards and provisions of 40 CFR 63, Subpart HH. The Bainville Station is not a NESHAP-affected source under this Subpart because the facility does not include an affected emission point as defined in 63.760(b)(1) or 63.760(b)(2).
    - c. 40 CFR Part 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, the facility must be a major source of Hazardous Air Pollutants (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. The Bainville Station 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 (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An existing stationary RICE is existing if construction or reconstruction of the stationary RICE commenced before June 12, 2006. Engines E-1 and E-2 were constructed prior to June 12, 2006, therefore, ORM is subject to the work practice standards under this subpart
- D. ARM 17.8, Sub-Chapter 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. ORM submitted the appropriate permit application fee for the current permit action.

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, as 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 pro-rate the required fee amount.

E. ARM 17.8, Sub-Chapter 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 (tpy) of any pollutant. ORM has a PTE greater than 25 tpy of NO<sub>x</sub>, and CO; 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. ORM submitted the required permit application for the current permit action. (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. ORM submitted an affidavit of publication of public notice for the January 8, 2015, issue of the *Herald News*, a newspaper of general circulation in the Town of Wolf Point in Roosevelt County, as proof of compliance with the public notice requirements.

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 ORM 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 of the transferor and the transferee, is sent to the Department.
16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215 Montana Code Annotated (MCA).

F. ARM 17.8, Sub-Chapter 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 it is not listed and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Sub-Chapter 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 tpy of any pollutant;
  - b. PTE greater than 10 tpy of any one hazardous air pollutant (HAP), PTE greater than 25 tpy of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE greater than 70 tpy of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) in a serious PM<sub>10</sub> nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 #1546-07, the following conclusions were made:
- a. The facility's PTE is less than 100 tpy for any pollutant.
  - b. The facility's PTE is less than 10 tpy of any single HAP and less than 25 tpy of combined HAPs.
  - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
  - d. This facility is potentially subject to a current NSPS (40 CFR 60, Subpart OOOO).
  - e. This facility is not subject to any current NESHAP standards.
  - f. This source is not a Title IV affected source
  - g. This source is not a solid waste combustion unit.
  - h. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that the Bainville Compressor Station is a synthetic minor source of emissions as defined under Title V. Therefore, this facility is not subject to Title V Operating Permit requirements because federally enforceable limitations have been established that limit this source's potential to emit below the major source threshold.

- i. As allowed by 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 that limit the source's potential to emit (ARM 17.8.1203(3)).
  - i. In applying for an exemption under this section the owner or operator of the source shall certify to the Department that the source's potential to emit does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on the potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

ORM has taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. ORM shall annually certify that its actual 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 requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the Department determined that ORM will be a minor source of emissions as defined under Title V based on a requested federally enforceable permit limit

### III. BACT Determination

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

#### Condensate Tanks

The Bainville Compressor Station will have emissions of VOC resulting from the flashing, working, and breathing losses during storage tank operations. The only pollutant emitted from the 400 bbl condensate storage tanks is VOC.

A BACT analysis was submitted by ORM in permit application #1546-07, addressing some available methods of controlling VOC emissions from condensate storage tanks and addressing emissions from the emergency flare. The Department reviewed these methods, as well as previous BACT determinations.

Quantifying evaporative losses depends on several parameters. These include the characteristics of the material to be contained in the tank, tank dimensions, meteorological conditions at the site, methods of filling the tank, pressure and temperature of the material going into the tank, and pressure of the tank itself.

Two primary methods of filling are used; splash and submerged. During splash filling the fill pipe is only lowered partially into the tank and therefore results in the highest levels of vapor generation and emission losses due to the turbulence and vapor to liquid contact that occurs. Submerged filling reduces this turbulent effect by keeping the fill pipe below the liquid surface level and therefore results in fewer emissions. Submerged filling can be accomplished by the use of a fill pipe that extends nearly to the bottom of the tank or through a permanent fill pipe that is attached at the bottom of the tank.

Emissions from tanks can be further reduced through the use of external control devices such as flares, vapor recovery units (VRU), or enclosed combustors which capture the various emissions and either combust them or capture them for sales.

The tanks at the ORM Bainville facility are equipped with a submerged fill pipe. Emissions at the tanks are such that there is no need for any external control device to keep them below levels that would subject them to NSPS Subpart OOOO.

The Department determined that a submerged fill pipe and best management practices will constitute BACT for VOC emissions from the condensate storage tanks. Best management practices would include operating the equipment as it was designed to be operated and fixing any malfunctions as soon as reasonably practicable.

Emergency Flare

There will also be emissions from the emergency flare. A flare is a device which combusts waste gas to convert the hydrocarbon heavy gas to carbon dioxide, carbon monoxide, some nitrogen oxides, and water in order to reduce facility-wide emissions of VOC. BACT for an emergency flare is unique because a flare serves as both process equipment as well as control equipment. The largest concerns with a flare are either incomplete burning or non-burning of the gas stream. Incomplete burning results in visible smoke and is the result of an inadequate air to gas mixture. Non-burning occurs when the pilot flame is not ignited and the flare stream passes through the stack without being combusted.

To eliminate these inefficiencies, the flare at the ORM facility is designed to handle more volume than will be generated at the facility, and thus will sufficiently combust the stream. The flare is also equipped with a type K thermocouple to monitor the presence of the pilot flame and will be operated only in emergency situations. The Department determined that over-sizing the flare, best management practices, and no additional controls will constitute BACT for the flare.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Potential Emissions					
Emission Source	NO <sub>x</sub> [tpy]	CO [tpy]	VOC [tpy]	SO <sub>2</sub> [tpy]	PM <sub>Total</sub> [tpy]
687-hp Waukesha L-7042 G Engine w/catalytic converter	83.26	23.22	5.71	0.01	0.42
687-hp Waukesha L-7042 G Engine w/catalytic converter	13.27	19.90	6.63	0.01	0.42
Glycol Line Heater	0.58	0.49	0.03	<0.01	0.04
Condensate Tanks (2 - 400 bbl)	-	-	5.96	-	-
Condensate Truck Loading	-	-	0.75	-	-
Methanol Tank	-	-	0.05	-	-
Emergency Flare (including flare pilot)	0.06	0.12	0.03	0.40	0.00
Fugitive Emissions	-	-	4.88	-	-
Total Emissions	97.16	43.73	24.05	0.43	0.88

**687 hp Waukesha 7042G Compressor Engine**

Brake Horse Power: 687 bhp @ 750 rpm

Hours of Operation: 8,760 hr/yr

Max Fuel Combustion Rate: 7.142 MBtu/hp-hr \* 687 bhp = 4,906.55 MBtu/hr \* 1 MMBtu/1,000 MBtu = 4.907 MMBtu/hr

**CRITERIA POLLUTANT EMISSION FACTORS\***

Design Class	Fuel Input (lb/MMBtu)						
	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10/2.5</sub>	PM Cond	PM Total
4S-RB	2.21E+00	3.72E+00	2.96E-02	5.88E-04	9.50E-03	9.91E-03	1.94E-02

\*AP-42 Tables 3.2-3 (7/00)

\*NO<sub>x</sub>, CO, and VOC emissions based on manufacturer data and/or permit limit; all others based on AP-42.

Note: Total particulate matter (PM) is the sum of filterable PM (PM<sub>10/2.5</sub>) and condensable PM. All PM from natural gas combustion is assumed to be less than 1.0 micrometer in diameter.

PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions (Filterable & Condensable)

Emission Factor: 1.941E-02 lb/MMBtu (filterable + condensable; AP-42, Chapter 3, Table 3.2-3, 7/00)

Calculations: 1.941E-02 lb/MMBtu \* 4.907 MMBtu/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.42 ton/yr

NO<sub>x</sub> Emissions

Emission Factor: 19.01 lb/hr (permit limit)

Calculations: 19.01 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 83.26 ton/yr

CO Emissions

Emission Factor: 5.03 lb/hr (permit limit)

Calculations: 5.03 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 23.22 ton/yr

VOC Emissions

Emission Factor: 1.3 lb/hr (permit limit)

Calculations: 1.3 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 5.71 ton/yr

SO<sub>x</sub> Emissions

Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)

Calculations: 5.88E-04 lb/MMBtu \* 4.907 MMBtu/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.012 ton/yr

**687 hp Waukesha 7042G Compressor Engine**

Brake Horse Power: 687 bhp @ 750 rpm

Hours of Operation: 8,760 hr/yr

Max Fuel Combustion Rate: 7.142 MBtu/hp-hr \* 687 bhp = 4,906.55 MBtu/hr \* 1 MMBtu/1,000 MBtu = 4.907 MMBtu/hr

PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions (Filterable & Condensable)

Emission Factor: 1.941E-02 lb/MMBtu (filterable + condensable; AP-42, Chapter 3, Table 3.2-3, 7/00)

Calculations: 1.941E-02 lb/MMBtu \* 4.907 MMBtu/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.42 ton/yr

NO<sub>x</sub> Emissions

Emission Factor: 3.03 lb/hr (permit limit)

Calculations: 3.03 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 13.27 ton/yr

CO Emissions

Emission Factor: 4.54 lb/hr (permit limit)

Calculations: 4.54 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 19.90 ton/yr

VOC Emissions

Emission Factor: 1.51 lb/hr (permit limit)

Calculations: 1.51 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 6.63 ton/yr

SO<sub>x</sub> Emissions

Emission Factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)

Calculations: 5.88E-04 lb/MMBtu \* 4.907 MMBtu/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.012 ton/yr

**1.2 MMBtu/hr Glycol Line Heater**

Max Fuel Combustion Rate: 1.20 MMBtu/hr  
 Hours of Operation: 8,760 hr/yr  
 Fuel Heating Value: 900 Btu/SCF (avg natural gas higher heating value)  
 Fuel Use: 1.2 MMBtu-hr (Burner design) / 900 Btu/SCF = 0.0013 scf/hr

**CRITERIA POLLUTANT EMISSION FACTORS\***

Combustor Type		Emission Factor (lb/MMSCF)						
Heat Input MMBTUH	Emission Controls?	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM (Condensable)	PM (Filterable)	PM (Total)
Small Boilers (<100)	Uncontrolled	100	84	5.5	0.6	5.7	1.9	7.6

\*AP-42 Tables 1.4-1 and 1.4-2 (7/98)

PM-Total

Emission Factor: 7.6 lb/MMSCF  
 Calculations: 7.6 lb/MMSCF \* 1.20 MMBtu/hr / 900 Btu/SCF = 0.01 lb/hr  
 0.0101 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.04 ton/yr

NO<sub>x</sub> Emissions

Emission Factor: 100 lb/MMSCF  
 Calculations: 100 lb/MMSCF \* 1.20 MMBtu/hr / 900 Btu/SCF = 0.13 lb/hr  
 0.13 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.58 ton/yr

CO Emissions

Emission Factor: 84 lb/MMSCF  
 Calculations: 84 lb/MMSCF \* 1.20 MMBtu/hr / 900 Btu/SCF = 0.11 lb/hr  
 0.11 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.49 ton/yr

VOC Emissions

Emission Factor: 5.5 lb/MMSCF  
 Calculations: 5.5 lb/MMSCF \* 1.20 MMBtu/hr / 900 Btu/SCF = 0.01 lb/hr  
 0.00001 lb/hr \* 8,760 hr/yr \* 0.0005 ton/lb = 0.03 ton/yr

SO<sub>x</sub> Emissions

Emission Factor: 0.60 lb/MMSCF  
 Calculations: 0.6 lb/MMSCF \* 1.20 MMBtu/hr / 900 Btu/SCF = 0.0008 lb/hr  
 0.0008 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.0035 tons/yr

**Condensate Tanks (400 bbl)**

**Storage Losses**

Material	Unit ID	Tank Capacity bbl	Condensate Throughput gal/yr	VOC Emissions			
				Working Loss lb/yr	Breathing Loss lb/yr	Total Losses lb/yr TPY	
Condensate	TK-1	400	225,000	2,292.29	1,662.51	3,954.80	1.98
Condensate	TK-2	400	225,000	2,292.29	1,662.51	3,954.80	1.98
<b>Total Condensate Throughput, gal/yr<sup>2</sup> =</b>			<b>225,000</b>	<b>Total Working and Breathing Losses (TPY) =</b>			<b>3.95</b>

<sup>1</sup> EPA TANKS 4.0.9d Emissions Report attached.

<sup>2</sup> Rather than an individual limit for each site, BPE requests a total condensate throughput limit for the site.

### Flashing Losses <sup>3</sup>

Material	Unit ID	Condensate Throughput		Emission Factor	nC6 Emissions	Emission Factor	VOC Emissions
		gal/yr	bbl/yr	lb nC6 per bbl	TPY	lb VOC per bbl	TPY
Condensate	TK-1, TK-2	225,000	5,357	0.000	<b>0.00</b>	0.750	<b>2.01</b>

<sup>3</sup> Condensate flashing loss factor based on ProMax process simulation. According to liquid sample and process simulation, no VOC flashing is expected to occur.

### Loading Losses <sup>4</sup>

Source	Unit ID	Throughput	Emission Factor	Emissions Control	Control Efficiency %	VOC Emissions
		mgal/yr	lb/mgal loaded			TPY
Truck Loading	LOAD-1	225	6.65	No	0%	<b>0.75</b>

<sup>4</sup> Using AP-42 (1/95) Section 5.2-4 Equation (1) for condensate loading emissions.

Loading loss [lb/1,000 gallon loaded] = 12.46\*S\*P\*M/T, where:

- 0.6 = S (saturation factor, submerged fill method)
- 8.3896 = P (True vapor pressure of liquid loaded, average psia)
- 53.4695 = M (Molecular weight of vapor, lb/lb-mol)
- 43.97 = T (Temperature of bulk liquid loaded, average °F + 460 = °R)

### Methanol Tank

Material	Unit ID	Tank Capacity	Throughput	VOC Emissions <sup>1</sup>			
				Working	Breathing	Total	
		gal	gal/yr	lb/yr	lb/yr	lb/yr	TPY
Methanol	TK-3	8,400	42,000	28.95	62.50	91.45	0.05
<b>TOTAL (TPY) =</b>							<b>0.05</b>

### Flare

#### Emissions Summary

Pollutant	NO <sub>x</sub>		CO		VOC		SO <sub>2</sub>		PM <sub>Total</sub>	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Flare Gas	0.170	0.015	0.925	0.083	0.350	0.031	4.456	0.401	-	-
Pilot	0.010	0.044	0.008	0.037	0.001	0.002	0.000	0.000	0.001	0.003
<b>Flare Gas + Pilot =</b>	<b>0.18</b>	<b>0.06</b>	<b>0.93</b>	<b>0.12</b>	<b>0.35</b>	<b>0.03</b>	<b>4.46</b>	<b>0.40</b>	<b>0.00</b>	<b>0.00</b>

### Flare Gas Combustion

Operating Hours =	180	hr/yr
Flare Gas Throughput =	1,889	scf/hr
Flare Gas Throughput =	340,020	scf/yr
Heating Value =	1,323	BTU/scf
Flare destruction efficiency =	98%	

Component	Throughput	Flare Rating	Emission Factor <sup>1,2</sup>	Emissions	
	scf/yr	MMBTU/yr	lb/MMBTU	lb/hr	TPY
NO <sub>x</sub>	340,020	450	0.068	0.170	0.015
CO	340,020	450	0.37	0.925	0.083
VOC	340,020	450	0.14	0.350	0.031
SO <sub>2</sub>	340,020	450	1.78	4.456	0.401

<sup>1</sup> AP-42 Table 13.5-1 (1/95)

<sup>2</sup> SO<sub>2</sub> emissions based on a concentration of 10000 ppm H<sub>2</sub>S in flared gas with 100% conversion to SO<sub>2</sub>.

### Pilot Gas Combustion

Operating Hours = 

8,760
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 hr/yr  
Pilot Rating = 

876,000
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 scf/yr

Component	Throughput	Emission Factor <sup>1</sup>	Emissions	
	scf/yr	lb/10 <sup>6</sup> SCF	lb/hr	TPY
NO <sub>x</sub>	876,000	100	0.010	0.044
CO	876,000	84	0.008	0.037
VOC	876,000	5.5	0.001	0.002
SO <sub>2</sub>	876,000	0.6	0.000	0.000
PM Total	876,000	7.6	0.001	0.003

### Fugitives

Source Description	Number of Sources <sup>1</sup>	Service	TOC Emission Factors <sup>2</sup>	Control Efficiency	VOC wt% <sup>3</sup>	VOC Emissions		
			lb/hr/source			lb/hr	TPY	
Compressor Seals	4	Gas	0.01940	0%	29%	0.02	0.10	
Connectors	400	Gas	0.00044	0%	29%	0.05	0.22	
Flanges	250	Gas	0.00086	0%	29%	0.06	0.27	
Valves	200	Gas	0.00992	0%	29%	0.58	2.53	
Connectors	100	Light Liquid	0.00046	0%	100%	0.05	0.20	
Flanges	65	Light Liquid	0.00024	0%	100%	0.02	0.07	
Open Ended Lines	2	Light Liquid	0.00309	0%	100%	0.01	0.03	
Pump Seals	2	Light Liquid	0.02867	0%	100%	0.06	0.25	
Valves	50	Light Liquid	0.00551	0%	100%	0.28	1.21	
<b>Total Fugitive Emissions (TPY) =</b>							<b>4.88</b>	

<sup>1</sup> Number of sources based on fugitive count for similar site with similar equipment

<sup>2</sup> Source: *Protocol for Equipment Leak Emissions Estimates*, EPA Document 453/R-95-017, Table 2-4 (11/95)

<sup>3</sup> Gas VOC weight % based on gas analysis dated 8/5/2008. Liquid VOC weight % assumed to be 100%.

V. Existing Air Quality

The facility is located in the NE¼ of the NE¼ of Section 20, Township 28 North, Range 58 East, in Roosevelt County, Montana. The air quality of this area is classified as unclassifiable/attainment for all the National Ambient Air Quality Standards (NAAQS) 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, operating under the limits and conditions included in this permit, will not cause or contribute to a violation of any applicable ambient air quality standard.

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 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.

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**  
**Permitting and Compliance Division**  
**Air Resources Management Bureau**  
**P.O. Box 200901, Helena, Montana 59620**  
**(406) 444-3490**

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* ONEOK Rockies Midstream, LLC.  
Bainville Compressor Station  
P.O. Box 871  
Tulsa, OK 74102

*Montana Air Quality Permit Number:* #1546-07

*Preliminary Determination Issued:* May 28, 2015

*Department Decision Issued:* June 30, 2015

*Permit Final:* July 16, 2015

1. *Legal Description of Site:* ONEOK Rockies Midstream, LLC. (ORM) operates a natural gas processing plant and associated equipment located in the NE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> of Section 20, Township 28 North, Range 58 East, in Roosevelt County, Montana.
2. *Description of Project:* The current project would modify the Bainville Compressor Station air quality permit to include the replacement of the emergency flare unit to sufficiently combust the exhaust gas stream and replacement of two condensate storage tanks. Additionally, ORM would include federally enforceable limits on the condensate storage tanks to reduce potential emissions below the applicability thresholds of 40 Code of Federal Regulations (CFR) 60, Subpart OOOO.
3. *Objectives of Project:* The current project would replace the existing emergency flare with a new flare and replace the existing 210 BBL and 200 BBL condensate tanks with two new 400 –BBL tanks.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because ORM demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #1546-07.
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. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources				X		Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

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 permitting action would be expected to have a minor effect on terrestrial and aquatic life and habitats, as the proposed project would take place within the existing range of the facility. Furthermore, the air emissions would likely have only minor effects on terrestrial and aquatic life because the facility emissions would be well dispersed in the area of the operations (see section 7.F of this EA). Therefore, only minor effects to terrestrial and aquatic life and habitat would be expected from the proposed project.

B. Water Quality, Quantity and Distribution

Water would be required for dust suppression as necessary on the surrounding roadways and the area of operation during the construction phase of this project as well as during normal operation. Typical application of water spray for dust suppression typically results in the water being evaporated to the atmosphere shortly after its application. Due to evaporation, water’s dust suppression effects are temporary. Heavy applications of water can create soft mud or penetrate a road to the sub-base which can cause major road failure; therefore, heavy applications of water are typically not utilized. Consequentially, several light applications of water are preferable to one heavy application. Pollutant deposition and water use would cause minor impacts to water resources because the facility is relatively small with seasonal and intermittent operations. The benefits of using water to control emissions outweigh the potential minor impacts to the surroundings.

### C. Geology and Soil Quality, Stability and Moisture

The proposed project would have minor impacts on geology, soil quality, stability, and moisture of soils. Minor impacts from deposition of air pollutants on soils would result (as described in Section 7.F of this EA) and minor amounts of water would be used for pollution control and only as necessary in controlling particulate emissions. Thus, minimal water runoff would occur. Since a small amount of additional pollution would be generated and corresponding emissions would be widely dispersed before settling upon vegetation and surrounding soils (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment and operation would be minor.

### D. Vegetation Cover, Quantity, and Quality

The facility would be considered a minor source of emissions by industrial standards. The potential increase in air emissions from the facility would be small, so the affect to quantity and quality of vegetative cover in the area would be minimal. There are no occurrence reports of plant species of concern within sections located near the proposed project section.

In addition, water use at the facility, soil disturbance from water application, and the associated runoff would also be minimal. Overall, impacts to vegetation from the project would be minor.

### E. Aesthetics

The storage tanks and flare would be visible with noise levels unchanged from the pre-project levels. There would be some general construction noise during the construction phase of the project. MAQP #1546-07 would include conditions to control emissions (including visible emissions) from the equipment and the surrounding work area. The emergency flare would be used to flare excess gases periodically and would create excess light in the immediate area; however, its operation would not differ from pre-project practices. The Department considers these changes in aesthetics to be minor.

### F. Air Quality

Air quality impacts from the proposed project would be minor because of the low level of associated potential emissions increase. MAQP # 1546-07 would include conditions limiting the total emissions from the condensate tanks and emergency flare.

Further, the Department determined that the compressor station would be a minor source of emissions as defined under the Title V Operating Permit Program because the source's potential emissions are below the major source threshold of 100 tons per year for any regulated pollutant due to federally enforceable permit conditions which limit the total through put of the condensate tanks and hours of operation for the flare stack. Pollution deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would have minimal deposition on the surrounding area. Therefore, air quality impacts from the project in this area would be minor.

#### G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (NE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> of Section 20, Township 28 North, Range 58 East, in Roosevelt County, Montana) search results concluded that there are no known species of concern in the project area. The search area, in this case, is defined by section, township, and range of the project area of operation. Based on the conclusion presented, the Department determined that no impacts to unique endangered, fragile, or limited environmental resources would be expected from this permit action.

#### H. Demands on Environmental Resource of Water, Air and Energy

The compressor station would not experience a change in its energy requirements based on the proposed project. Water would be required for control of fugitive particulate matter emissions in the plant area and surrounding roads. Impacts to air resources would be minimal due to the relatively low level of associated potential emissions increase. Because air pollutants generated by the plant would be widely dispersed (see Section 8.F of this EA), there are no projected changes to energy requirements, and water use would be minimal, any impacts to water, air, and energy resources would be minor.

#### I. 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 sites that may be present in the location of the facility. According to correspondence from the Montana State Historic Preservation Office, several previously recorded sites within the designated search areas. As this plant will likely operate in an existing industrial site there is low likelihood of disturbance to any known archaeological or historic site given previous industrial disturbance in the area. Therefore, it is unlikely that the asphalt plant would have an effect on any known historic or archaeological sites.

#### J. Cumulative and Secondary Impacts

The proposed project would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment. Emissions and noise generated from the equipment would, at most, result in only minor impacts to the area of operation because it would be the same in nature as before the proposed project. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would be minor.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production				X		Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

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

A. Social Structures and Mores

The proposed project would cause no disruption to the social structures and mores of the area because the facility operations would remain the same. The proposed project construction is within the existing facility with no associated changes to social structures or mores. The Department has determined that no impact to the social structure and mores would be expected.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not be impacted by the operation of the new equipment because the facility operations would be the same in nature as before the project. The predominant use of this area would not change as a result of the proposed operation. Therefore, the cultural uniqueness and diversity of the area would not be impacted.

C. Local and State Tax Base and Tax Revenue

Only minor impacts to the local and state tax base and revenue could be expected from the construction activities. ORM has indicated that no people would move to the area as a result of this project.

#### D. Agricultural or Industrial Production

The proposed project would have no impact on local industrial production since the proposed equipment is replacing existing equipment and there is no associated increase in facility capacity to compress gas. The proposed equipment would be located on the existing site location on private land with no change to the facility boundaries.

#### E. Human Health

Conditions would be incorporated into MAQP #1546-07 to ensure that the proposed equipment would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F of this EA, the air emissions from this project would be minimized by the use of a water spray for fugitive emissions, and other process limits that would be required by MAQP #1546-07.

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

Access to recreational opportunities would not be limited or modified by this project. The equipment would be located within an existing industrial site that has been established for this use. All recreational opportunities, if available in the area, would still be accessible. Noise from the facility would be minimal and identical to pre-project levels. All equipment described in MAQP #1546-07 is located on private land and the Department has determined that the project would be a minor industrial source of emissions. Therefore, no changes in the quality of recreational and wilderness activities created by operating the equipment are expected.

#### G. Quantity and Distribution of Employment

ORM has stated that they do not plan to add any new employees as this is an unmanned facility and that operators check the site periodically. Therefore, there would be no effects on the quantity and distribution of employment in this area.

#### H. Distribution of Population

ORM has stated that the facility is an unmanned facility with regular operational check by operators. No individuals would be expected to permanently relocate to this area. Therefore, the operation would not impact the normal population distribution in the area of operation.

#### I. Demands for Government Services

The operation of the proposed equipment would cause minimal demand for government services. Government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, any increase or demand for government services would be minor.

J. Industrial and Commercial Activity

The proposed project would not change the industrial activity in the area of operation because the facility's processes and compression capacity would remain unchanged. Some additional industrial or commercial activity would be expected as a result of construction; however, these impacts to the industrial and commercial activity would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans and goals in the proposed project location. MAQP #1546-07 contain conditions and limits for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the facility has continuous operations with periodic inspections for operational purposes, any impacts from the facility would be minor and short-lived.

L. Cumulative and Secondary Impacts

Overall, the proposed project would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source is unmanned and the footprint of the facility would remain the same. Furthermore, no other industrial operations are expected to result from this permitting action. Any increase in traffic would have minor effects on local traffic in the immediate area.

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

If an EIS is not required, explain why the EA is an appropriate level of analysis:

The current permitting action is for the construction and operation of a compressor station. MAQP #1546-07 includes conditions and limitations to ensure the facility will 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

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

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