May 9, 2018

Beth Stimatz
Environmental Compliance Specialist
11 E. Park Street
Butte, MT 59701

Dear Ms. Stimatz:

Montana Air Quality Permit #2943-03 is deemed final as of May 4, 2018, by the Department of Environmental Quality (Department). This permit is for a Natural Gas Compressor Station. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

John P. Proulx
Air Quality Specialist
Air Quality Bureau
(406) 444-5391

JM:JPP
Enclosure

Montana Department of Environmental Quality
Air, Energy, and Mining Division

Montana Air Quality Permit #2943-03

NorthWestern Energy
Absarokee Field Station
11 East Park St.
Butte, MT 59701

May 4, 2018

MONTANA AIR QUALITY PERMIT

Issued To: NorthWestern Energy
Absarokee Field Station
11 East Park St.
Butte, MT 59701

MAQP: #2943-03
Application Complete: 2/21/2018
Preliminary Determination Issued: 4/2/2018
Department Decision Issued: 4/18/2018
Permit Final: 5/4/2018
AFS #: 095-0003

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to NorthWestern Energy (NWE), 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

NWE operates a natural gas compressor station and associated equipment located in the SE¼ of the SW¼ of Section 30, Township 3 South, Range 19 East, in Stillwater County. This facility is known as the Absarokee Compressor Station, Station #054-1. A list of permitted equipment is included in Section I.A of the Permit Analysis.

B. Current Permit Action

On February 21, 2018, the Department received a permit application to modify MAQP #2943 from NWE. NWE requested that the existing 660 brake horsepower (bhp) Ingersoll Rand 62KVG natural gas compressor engine and the 0.65 million British Thermal Unit per hour (MMBtu/hr) National Boiler be removed from the permit. NWE also requested that three (3) Caterpillar B3516B natural gas compressor engines up to 1,380 bhp each and a 105 bhp natural gas-fired emergency generator be added.

Section II: Conditions and Limitations

A. Emission Limitations

1. NWE shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources or stacks installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

2. NWE 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).

3. NWE 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).

4. NWE 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).

5. NWE shall operate all equipment as designed to provide the maximum control of air pollutants (ARM 17.8.749).

6. NWE shall not operate more than three natural gas compressor engines at any time with a max rated capacity not to exceed 1,380 bhp each (ARM 17.8.749).

7. The natural gas compressor engines shall be four-stroke, lean burn design utilizing an oxidization catalyst with electronic air-fuel ratio (AFR) controllers (ARM 17.8.752).

8. The pound per hour (lb/hr) emission limitations for the natural gas compressor engines shall be determined using the following equation and pollutant-specific g/bhp-hr emission factors (ARM 17.8.752):

   Equation:
   Lb/hr = Emission Factor x bhp x 0.002205 lb/g

   Emission Factors:
   Oxides of Nitrogen (NO_X) 1.0 g/bhp-hr (.002205 lb/bhp·hr)
   Carbon Monoxide (CO) 0.5 g/bhp-hr (0.0011 lb/bhp·hr)
   Volatile Organic Compounds (VOC) 0.7 g/bhp-hr (0.000838 lb/bhp·hr)

9. The natural gas-fired emergency backup generator shall not exceed a rated design capacity of 105 bhp (ARM 17.8.749).

10. NWE shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart JJJJ and 40 CFR 60, Subpart OOOOa (ARM 17.8.340 and 40 CFR 60, Subpart JJJJ and Subpart OOOOa).

11. NWE shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, and notification requirements contained in 40 CFR 63, Subpart ZZZZ (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 dated of the compressor engine(s). The compressor engine(s) shall be tested on an every 4-year basis, or according to another testing/monitoring schedule as may be approved by the Department, for NO_X and CO concurrently (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. Notification

NWE shall provide the Department with notification of the actual startup date of each natural gas compressor engine within 15 days of the actual startup date (ARM 17.8.749).

D. Operational Reporting Requirements

1. NWE 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. NWE shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a 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 or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by NWE 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 – NWE 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 (CEMS, 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 NWE fails to appeal as indicated below.

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

Montana Air Quality Permit (MAQP) Analysis
NorthWestern Energy
Permit #2943-03

I. Introduction/Process Description

NorthWestern Energy (NWE) owns and operates a natural gas compressor station facility. The facility is located in the SE¼ of the SW¼ of Section 30, Township 3 South, Range 19 East, in Stillwater County, Montana and is known as the Absarokee Field Station.

A. Permitted Equipment

This facility includes three (3) 1380 brake horsepower (bhp) Caterpillar B3516B natural gas compressor engines as well as one (1) 105 bhp emergency natural gas fired emergency generator, various heaters (with less than one million British thermal unit (BTU)/hour capacity combined) and associated equipment.

B. Source Description

The complex has two primary purposes. The first is to pump the field gas up to the required pressure in the natural gas transmission system primarily during winter peaking conditions. The station is also used to boost transmission line pressure during normal operating conditions in the event of an upstream compressor failure. Compression of the gas is accomplished using the compressor described above. Heaters provide heat to the various station facilities.

C. Permit History

On September 19, 1997, Montana Power Company (MPC) was issued **Permit #2943-00** for the operation of their compressor station and associated equipment, located in the SE¼ of the SW¼ of Section 30, Township 3 South, Range 19 East, in Stillwater County, Montana. The station was identified as the Absarokee Station (#054-1).

A Best Available Control Technology (BACT) determination was required for each new or altered source. Since the 660 Hp Ingersoll Rand 62KVG compressor engine was an existing source (it was operating at the same location prior to March 16, 1979), a BACT determination was not required.

On March 5, 2002, MPC notified the Department of a pending merger of MPC with and into Montana Power, L.C.C. (MPC LCC). Due to questions regarding the length of time the new company name would be valid, the Department decided to delay the name change pending further information. On October 18, 2002, the Department received a request to administratively amend Permit #2943-00 to incorporate a name change from MPC to NorthWestern Corporation (NorthWestern). **Permit #2943-01** incorporated the name change into the permit. Permit #2943-01 replaced Permit #2943-00.

On February 7, 2008, the Department received an administrative amendment request from NWE for Permit #2943-01. NWE requested a name change from NorthWestern Corporation to NorthWestern Energy (NWE). **MAQP #2943-01** replaced #2943-02.

D. Current Permit Action

On February 21, 2018, the Department received a permit application to modify MAQP #2943 from NWE. NWE requested that the existing 660 bhp Ingersoll Rand 62KVG natural gas compressor engine and the 0.65 million British Thermal Unit per hour (MMBtu/hr) National Boiler be removed from the permit. NWE also requested that three (3) 1,380 bhp Caterpillar B3516B four-stroke lean-burn natural gas compressor engines and a 105 bhp natural gas fired emergency generator be added. In addition to the permit modification, the current permit action updates permit language and rule references as well as updates the emission inventory. **MAQP #2943-03** replaces MAQP #2943-02.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

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

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

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

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

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

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

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality 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}

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

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

1. ARM 17.8.304 Visible Air Contaminants. (1) 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) This rule requires that no person may cause or authorize emissions to be discharged to an 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, NWE 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 (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 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. (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. NWE burns pipeline quality natural gas in the compressor engine, boiler and heaters, which complies with these limitations.

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). The Absarokee facility is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of 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 JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. This subpart applies 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 hp (except lean burn engines with a maximum engine power greater than or equal to 500 hp and less than 1,350 hp). Therefore, the newly proposed 1,380 hp lean-burn engines are subject to this subpart.

   c. 40 CFR 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015. This subpart applies to owners and operators of crude oil and natural gas facilities that commenced construction, modification, or reconstruction after September 18, 2018. This facility is subject to this subpart because the facility is considered a reciprocating compressor facility that is being modified on or after September 18, 2015.

8. ARM 17.8.342 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 NESHAPs Subpart as listed below.

   b. 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 area source of HAP emissions is a source that is not a major source. The RICE equipment to be used under MAQP #2943-03 is subject to this subpart because the facility is considered an area source of HAPs.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. NWE 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, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year (TPY) of any pollutant. NWE has a PTE greater than 25 TPY of NO_x; 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. NWE 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. NWE submitted an affidavit of publication of public notice for the March 1, 2018 issue of the *Stillwater County News*, a newspaper of general circulation in the Town of Absarokee, in Stillwater County, as proof of 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 NWE 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 17.8.762 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 1 year after the permit is issued.

11. 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).

12. 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.

13. 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.

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

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

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

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

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

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

   a. PTE > 100 tons/year of any pollutant;

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

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

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2943-03 for NWE, the following conclusions were made:

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

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

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

   d. This facility is subject to current NSPS (40 CFR 60, Subpart A, Subpart JJJJ, and Subpart OOOOa).

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

   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 has determined that NWE will be a minor source of emissions as defined under Title V.

III. BACT Determination

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

Bison Engineering, on behalf of NWE energy proposed specific emission limitations and that oxidation catalysts and electronic Air Fuel Ratio (AFR) controllers constitute BACT for the current permit action.

During normal operation, the oxidation catalyst converts carbon monoxide (CO) into carbon dioxide (CO_2) by passing the gas over a catalyst. The AFR controller works by keeping the air-fuel mixture as close to stoichiometric ratio as possible which allows for both economic fuel usage and the oxidation catalyst to operate at peak performance, thus reducing overall emissions from the engine.

The Department concurs that oxidation catalyst and electronic AFR controllers constitute the appropriate control technology for achieving the proposed BACT emission limits. These limits are:

NOx 1.0 g/bhp-hr
CO 0.5 g/bhp-hr
VOC 0.7 g/bhp-hr

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

Pollutants	NO_X	CO	SO_X	VOC	PM	$PM_{Cond.}$	$PM_{Filt.}$
3 Caterpillar G3516B	39.98	19.95	0.01	15.20	0.001	0.13	0.001
1 Emergency Backup Generator	0.08833	0.00686	0.00001	0.00255	0.00000	0.00021	0.00000
Heaters (<1 mmBtu)	0.10200	0.00793	0.00001	0.00295	0.00000	0.00025	0.00000
Total Potential to Emit (ton/year)	40.07	19.95	0.01	15.20	0.001	0.13	0.001

Calculations:

Caterpillar Engines:

NO_X	BACT Limit		0.002205 lb / bhp·hr	X	bhp	X	8760 hr / yr	X	ton / 2000 lb	=	39.98	ton / yr		
CO	BACT Limit		0.0011 lb / bhp·hr	X	bhp	X	8760 hr / yr	X	ton / 2000 lb	=	19.95	ton / yr		
SO_X	Btu / hr	X	1 SCF / 1020 Btu	X	5.88E-4 lb / MMSCF	X	8760 hr / yr	X	ton / 2000 lb	=	0.01	ton / yr		
VOC	BACT Limit		8.38E-4 lb / bhp·hr	X	bhp	X	8760 hr / yr	X	ton / 2000 lb	=	15.20	ton / yr		
PM	Btu / hr	X	1 SCF / 1020 Btu	X	7.71E-5 lb / MMSCF	X	8760 hr / yr	X	ton / 2000 lb	=	0.001	ton / yr		
$PM_{Cond.}$	Btu / hr	X	1 SCF / 1020 Btu	X	9.91E-3 lb / MMSCF	X	8760 hr / yr	X	ton / 2000 lb	=	0.13	ton / yr		
$PM_{Filt.}$	Btu / hr	X	1 SCF / 1020 Btu	X	7.71E-5 lb / MMSCF	X	8760 hr / yr	X	ton / 2000 lb	=	0.001	ton / yr		

Emergency Backup Generator and Facility Heater Emissions based on emission rates located in AP-42, Chapter 3, Table 3.2-2.

$$Calculaiton: \frac{lb}{Btu} \times Btu \times \frac{hr}{yr} \times \frac{ton}{lb} = \frac{ton}{yr}$$

Hazardous Air Pollutant	Emission Rate (lb/10^6 scf)	Emissions (ton/year)
2-Methylnaphthalene	2.40E-05	0.000003
2-Methylchloranthrene	1.80E-06	0.000000
7,12-Dimethylbenz(a)anthracene	1.60E-05	0.000002
Acenaphthene	1.80E-06	0.000000
Acenaphthylene	1.80E-06	0.000000
Anthracene	2.40E-06	0.000000
Benz(a)anthracene	1.80E-06	0.000000
Benzene	2.10E-03	0.000286
Benzo(a)pyrene	1.20E-06	0.000000
Benzo(b)fluoranthene	1.80E-06	0.000000
Benzo (g, h, i) perylene	1.20E-06	0.000000
Benzo(k)fluoranthene	1.80E-06	0.000000
Hazardous Air Pollutant	**Emission Rate (lb/10^6 scf)**	**Emissions (ton/year)**
Butane	2.10E+00	0.285823
Chrysene	1.80E-06	0.000000
Dibenzo (a, h) anthracene	1.20E-06	0.000000
Dichlorobenzene	1.20E-03	0.000163
Ethane	3.10E+00	0.421930
Fluoranthene	3.00E-06	0.000000
Fluorene	2.80E-06	0.000000
Formaldehyde	7.50E-02	0.010208
Hexane	1.80E+00	0.244991
Indenol (1,2,3-cd) pyrene	1.80E-06	0.000000
Naphthalene	6.10E-04	0.000083
Pentane	2.60E+00	0.353877
Phenanathrene	1.70E-05	0.000002
	Total HAPs (ton/yr)	**1.32**

$$Calculation: \frac{mmBtu}{hr} \times \frac{SCF}{Btu} \times \frac{lb}{mmSCF} \times \frac{hr}{yr} \times \frac{Ton}{lb} = \frac{Ton}{yr}$$

V. Existing Air Quality

The existing air quality of the area is expected to be in compliance with all state and federal requirements. There is a decrease in emissions associated with the current permit action.

VI. Ambient Air Impact Analysis

The Department determined, based on the information provided and conditions established in MAQP #2943-03, that the impacts from this permitting action will be minor. There is a decrease in emissions associated with the current permit action. The Department believes it 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)

VIII. Environmental Assessment

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

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

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: NorthWestern Energy

Montana Air Quality Permit number (MAQP): 2943-03

EA Draft: **April 2, 2018**
EA Final: **April 18, 2018**
Permit Final: **May 4, 2018**

1. *Legal Description of Site:* The natural gas compressor station and associated equipment located in the SE¼ of the SW¼ of Section 30, Township 3 South, Range 19 East, in Stillwater County.

2. *Description of Project:* NorthWestern Energy (NWE) requested that the existing 660 brake horsepower (bhp) Ingersoll Rand 62KVG natural gas compressor engine and the 0.65 million British Thermal Unit per hour (MMBtu/hr) National Boiler be removed from the permit. NWE also requested that three (3) 1,380 bhp Caterpillar B3516B natural gas compressor engines and a 105 bhp emergency natural gas fired emergency generator be added.

3. *Objectives of Project:* The objectives of the project are to remove the existing natural gas compressor engine and boiler and replace them with more efficient natural gas compressor engines in order to bring additional compression capabilities to the source and to reduce emissions.

4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. If no-action were to be taken on the current permit modification, the compressor station would continue to operate using the old compressor engine and there would be no reduction in emissions. Therefore, the "no-action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the BACT analysis, Section III of the permit analysis.

5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #2943-03.

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

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

A. *Terrestrial and Aquatic Life and Habitats*

The current permit action would have no effect on terrestrial and aquatic life and habitats because the permitting action would occur in an already existing site.

B. *Water Quality, Quantity and Distribution*

The current permit action would have no effects on water quality, quantity, and distribution because the permitting action would occur in an already existing site.

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

The current permit action would possibly have a minor impact on geology and soil quality due to heavy equipment used to remove and subsequently install the compressor engines. There would be no effect on stability and moisture because the site is an already existing site that would not need any soil compaction with the intent of creating a stable base for the compressor engines.

D. *Vegetation Cover, Quantity, and Quality*

The current permit action would have no effect on vegetative cover, quantity, and quality because the permitting action would occur in an already existing site.

E. *Aesthetics*

The current permit action would have minor effects on the aesthetics. NWE intends to install three new compressor engines.

F. *Air Quality*

NWE plans to remove the existing compressor engine and replace it with three new compressor engines. The new compressor engines have combined total emissions that are less than that of the existing compressor engine, resulting in a decrease in total emissions. Therefore, the current permit action would not have adverse impacts to air quality.

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

The current permit action would have no impact on unique, endangered, fragile animals or limited environmental resources because the permitting action would occur in an already existing site.

H. *Sage Grouse Executive Order*

The Department recognizes that the initial site selection in not within the Greater Sage Grouse habitat as defined by Executive Order No. 12-2015.

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

The current permit action would have no demands for environmental resources for water or air. However, there could possibly be a minor effect on the demand for energy in the form of natural gas that will be used as a fuel source for the new compressor engines.

J. *Historical and Archaeological Sites*

The current permit action would have no impact on unique, endangered, fragile animals or limited environmental resources because the permitting action would occur in an already existing site.

K. *Cumulative and Secondary Impacts*

Cumulative or secondary impacts are not expected as a result of the project. The facility would be considered a minor source of emissions by institutional standards and no changes in operation are expected beyond using different engines to achieve the required compression.

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

A. *Social Structures and Mores*

The current permit action would have no impact on social structures and mores because the permitting action would occur in an already existing site with no changes to the nature of source operations.

B. *Cultural Uniqueness and Diversity*

The current permit action would have no impact on cultural uniqueness and diversity because the permitting action would occur in an already existing site with no changes to the nature of source operations.

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

The current permit action would have no impact on local and state tax base or tax revenue because the permitting action would occur in an already existing site with no changes to the nature of source operation.

D. *Agricultural or Industrial Production*

The current permit action would have no impact on agricultural or industrial production because the permitting action would occur in an already existing site.

E. *Human Health*

MAQP #2943-03 would incorporate conditions to ensure that the facility would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health. The current action is expected to have no negative impacts to human health.

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

The current permit action would have no impact on access and quality of recreation and wilderness activities because the permitting action would occur in an already existing site.

G. *Quantity and Distribution of Employment*

The current permit action would have no impact on quantity and distribution of employment because the permitting action would occur in an already existing site with no new employees.

H. *Distribution of Population*

The current permit action would have no impact on distribution of population because the permitting action would occur in an already existing site with no new employees.

I. *Demands for Government Services*

Government services would be required for acquiring the appropriate permits and ensuring compliance with the permits that are issued; however, the government services required would be minor.

J. *Industrial and Commercial Activity*

The current permit action would have no impact on industrial and commercial activity because the permitting action would occur in an already existing site with no changes to the nature of source operation.

K. *Locally Adopted Environmental Plans and Goals*

There are no known locally adopted environmental plans or goals associated with the current permit action.

L. *Cumulative and Secondary Impacts*

Overall, the impact generated with this project would result in minor cumulative and secondary impacts that affect the economic and social environment in the immediate area. The Department believes that this facility would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #2943-03.

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 three natural gas compressor engines. MAQP #2943-03 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 – Montana Sage Grouse Conservation Program

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

EA prepared by: John P. Proulx
Date: 3/15/2018