Montana Department of
ENVIRONMENTAL QUALITY
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February 4, 2014

Ross Whelchel
NorthWestern Energy
40 East Broadway Street
Butte, MT 59601

Dear Mr. Whelchel:

Montana Air Quality Permit #2772-12 is deemed final as of February 2, 2014 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
Air Permitting Supervisor
Air Resources Management Bureau
(406) 444-3626

Rhonda Payne
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-5287

JM:RP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2772-12

NorthWestern Energy
CS 102 Natural Gas Compressor Station
40 East Broadway
Butte, MT 59601

February 4, 2014

MONTANA AIR QUALITY PERMIT

Issued To: NorthWestern Energy
40 East Broadway Street
Butte, MT 59701

MAQP# 2772-12
Administrative Amendment (AA)
Request Received: 12/24/2013
Department Decision on AA: 1/17/2014
Permit Final:2/4/2014
AFS #: 015-0001

An air quality permit, with conditions, is hereby granted to NorthWestern Energy (NorthWestern), pursuant to Sections 75-2-204 and 211, 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

The CS 102 Natural Gas Compressor Station is located in the SE¼ of the NW¼ of Section 26, Township 27 North, Range 16 East, in Chouteau County, Montana. A list of permitted equipment can be found in Section I.A. of the Permit Analysis.

B. Current Permit Action

On December 24, 2013 the Department of Environmental Quality – Air Resources Management Bureau (Department) received notification that the CS 102 had been sold from Devon Energy Production Company, L.P to NorthWestern Energy. The current permitting action reflects the change in ownership, as well as to update the permit to reflect current permit language and rule references used by the Department.

Section II: Limitations and Conditions

A. Emission Limitations

1. Emissions from the 738 bhp Waukesha rich-burn compressor engine shall be controlled with the use of Non-Selective Catalytic Reduction (NSCR) technology with an air-to-fuel ratio (AFR) controller and shall not exceed the following limits (ARM 17.8.752):

NO_x[1]	1.63 pounds per hour (lb/hr)
CO	1.63 lb/hr
VOC	1.63 lb/hr

2. Emissions from the 772 bhp Superior compressor engine shall not exceed the following limits (ARM 17.8.749 and ARM 17.8.752)

NO_x[1]	2.98 lb/hr
CO	3.06 lb/hr
VOC	2.12 lb/hr

1 NO_x reported as NO_2

3. The natural gas compressor engine with a maximum rated design capacity of up to 1547 bhp shall be a rich-burn engine controlled by NSCR technology and an AFR controller. The lb/hr emission limits for the engine shall be determined using the following equation and pollutant specific grams per brake horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

Equation

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

Emission Factors

NO_x[1]	1.0 g/bhp-hr
CO	1.0 g/bhp-hr
VOC	1.0 g/bhp-hr

4. NorthWestern 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).

5. NorthWestern shall not cause or authorize emissions to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. NorthWestern shall treat all unpaved portions of the access roads, parking lots, and general plant area with fresh water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.6 (ARM 17.8.749).

B. Testing Requirements

1. NorthWestern shall test the 738 bhp Waukesha rich-burn compressor engine for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.1. Testing shall be conducted on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749).

2. Within 180 days of initial start-up of the rich-burn compressor engine identified in Section II.A.3, NorthWestern shall test the engine for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.3. After the initial source test, additional testing shall be conducted on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department in writing (ARM 17.8.105 and ARM 17.8.749).

3. All compliance source tests shall be conducted in accordance with 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. NorthWestern 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 Section I of 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 units as 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. NorthWestern shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emissions 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 NorthWestern 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).

D. Notification

NorthWestern shall provide the Department with written notification of the actual start-up date of the engine described in Section II.A.3 within 15 days after the actual start-up date of the affected engine (ARM 17.8.749).

SECTION III: General Conditions

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

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

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

Montana Air Quality Permit (MAQP) Analysis
NorthWestern Energy
CS 102 Compressor Station
MAQP #2772-12

I. Introduction/Process Description

A. Permitted Equipment

NorthWestern Energy (NorthWestern) owns and operates the following equipment at the CS 102 Compressor Station:

- 738 brake horsepower (bhp) Waukesha compressor engine
- 772 bhp Superior compressor engine
- Up to 1547 bhp rich-burn compressor engine
- 0.5 Million British thermal units/hour (MMBtu/hr) ALCO TEG Dehydrator
- 120-MBtu/hr Heater
- 75-MBtu/hr Heater
- 300-bhp Ajax DPC Compressor Engine
- 100-bhp Arrow 330 TA Engine for engine-driven chiller

B. Source Description

The CS 102 Natural Gas Compressor Station is located in the SE¼ of the NW¼ of Section 26, Township 27 North, Range 16 East, in Chouteau County, Montana. The CS 102 Compressor Station compresses pipeline gas for transport to major market areas. This facility also removes the moisture from the gas during the process. This is accomplished with the dehydrator, also called a reboiler or glycol unit.

C. Permit History

Montana Power Company (MPC) was issued **MAQP #2772-00** for the operation of a compressor station and associated equipment at the Big Sandy Field, Station 102-1.

On March 1, 1994, the Department of Environmental Quality (Department) issued **MAQP #2772-01**. This modification was requested by MPC to revise the emission limitation units. The revision was due to varying parameters, such as engine revolutions per minute (RPM), operating load (bhp), ambient air temperature, gas temperature, site, elevation, fuel gas quality, air-to-fuel ratio (AFR), field gas conditions, etc. Rather than expressing the limit for engines in a grams per brake horsepower-hour (g/bhp-hr), an emission limit expressed in pound per hour (lb/hr) was requested for operational flexibility. Also, to clarify NO_x mass emission calculations, NO_x emission limitations were identified as NO_2.

MAQP #2772-02 was issued on November 1, 1997. The reason for the modification was the transfer of the ownership of the Big Sandy Field Station 102-1 from MPC to UMC Petroleum Corporation. Also, an Ajax DPC 300 bhp compressor engine was added. With this change, the facility requested an operational limit to keep the emissions below the Title V operating permit threshold. The addition of the engine was covered under the Administrative Rules of Montana (ARM) 17.8.705(1)(r) because the potential emissions of the new equipment were below 15 tons per year, the de minimis threshold. The rule references were also updated. MAQP #2772-02 replaced MAQP #2772-01.

On June 3, 1999, the Department received notification that UMC Petroleum Corp had merged with Ocean Energy, Inc., Havre Pipeline Inc. (HPC). The HPC, Big Sandy Field Station 102 compressor station began operating as a subsidiary of Ocean Energy, Inc. Subsequently, on June 11, 1999, the Department issued **MAQP #2772-03**, which replaced MAQP #2772-02.

On October 15, 1999, HPC requested a de minimis determination for the installation of a 772 bhp Superior 6GTLE compressor engine and an ALCO Dehydrator at the Big Sandy Field Compressor Station 102. HPC planned to remove the existing 600 bhp White Superior compressor engine and the Sivalls Dehydrator after installation of the new equipment. **MAQP #2772-04** replaced MAQP #2772-03.

On July 29, 2000, HPC requested a modification of MAQP #2772-04. The modification added a 1607 bhp Waukesha Compressor Engine and a 607 bhp Waukesha Compressor Engine. The modification also removed a 600 bhp White Superior Compressor Engine and a 300-MBtu/hr Sivalls Reboiler from the permit. In addition, the emission inventory for the 300 bhp Ajax Compressor Engine was corrected and the operational limitations introduced in MAQP #2772-02 were removed because the hours of operation limitation was no longer needed to keep the facility below the Title V threshold. **MAQP #2772-05** replaced MAQP #2772-04.

On July 10, 2001, HPC requested a modification of MAQP #2772-05 for the addition of a 738 bhp Waukesha Compressor Engine. Further, HPC requested that the 1607 bhp and the 607 bhp Waukesha Compressor Engines be removed from the permit. **MAQP #2772-06** replaced MAQP #2772-05.

On April 3, 2003, the Department received a request from HPC for the addition of a 100 bhp Arrow VRG 330 TA engine to provide power for an engine-driven chiller. On October 31, 2003, the Department received a letter from HPC for the determination of applicability of Subpart KKK to the facility. This permit action added the 100 bhp Arrow engine to the permit according to the provisions of ARM 17.8.745, addressed the applicability of Subpart KKK, and updated the permit to reflect current permit language and rule references used by the Department. **MAQP #2772-07** replaced MAQP #2772-06.

On July 9, 2004, the Department received from HPC a complete permit application for the modification of MAQP #2772-07. Specifically, Devon requested to add one 738 bhp Waukesha 3521 GSI rich-burn compressor engine to the facility. The 738 bhp engine was removed from the Blaine County #5 Compressor Station (MAQP #3145) to be used at the CS 102 Compressor Station. In addition, HPC Energy Corporation requested that the Department change the corporate name on MAQP #2772-07 from Ocean Energy, Inc. to Devon Energy Corporation. This permit action added the 738 bhp Waukesha 3521 GSI rich-burn compressor engine to MAQP #2772-07, changed the corporate name, and updated the permit to reflect current permit language and rule references used by the Department. **MAQP #2772-08** replaced MAQP #2772-07.

The Department received a letter dated August 19, 2004, from Devon-Louisiana Corporation to change the corporate name on MAQP #2772-07 from Ocean Energy, Inc. to Devon-Louisiana Corporation. Prior to that request (and to the subsequent permit action being issued final in MAQP #2772-08), Ocean Energy, Inc. had requested a name change to Devon Energy Corporation. The Department transferred ownership of MAQP #2772-08 from Devon Energy Corporation to Devon-Louisiana Corporation. **MAQP #2772-09** replaced MAQP #2772-08.

On March 13, 2006, the Department received a request to change the corporate name on MAQP #2772-09 from Devon-Louisiana Corporation to Devon Energy Production Company, L.P. The permit action changed the corporate name as requested. **MAQP #2772-10** replaced MAQP #2772-09.

On February 26, 2007, the Department received a complete application for a permit modification from Devon. Specifically, under the current permit action Devon requested removal of the older of two existing 738 bhp capacity Waukesha 3521GSI rich-burn natural gas compressor engines and space heaters #3 and #4 from permitted operations and the addition of a rich-burn natural gas compressor engine with a capacity of up-to 1547 bhp. In accordance with the requirements of ARM 17.8.752, emissions from the new rich-burn natural gas compressor engine with a capacity of up to 1547 bhp shall be controlled by non-selective catalytic reduction (NSCR) and an AFR controller. **MAQP #2772-11** replaced MAQP #2772-10.

D. Current Permit Action

On December 24, 2013 the Department received notification that the CS 102 had been sold from Devon Energy Production Company, L.P to NorthWestern Energy. The current permit action updates #2772-11 to reflect the change in ownership, as well as to update the permit to reflect current permit language and rule references used by the Department. **MAQP #2772-12** replaces MAQP #2772-11.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for locations 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 emissions 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).

NorthWestern 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 which, 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 that a public nuisance is created.

B. ARM 17.8, Subchapter 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
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}

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

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged 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 (PM). (2) Under this rule, NorthWestern shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne PM.

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

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

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

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

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS). NorthWestern's CS 102 facility may potentially be considered an NSPS affected facility under 40 CFR Part 60, and may become 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 applies to owners and operators of stationary spark ignition internal combustion engines that commence modification or reconstruction after June 12, 2006. Because this permit would allow the operation of other engines, 40 CFR 60, Subpart JJJJ may apply directly to those future units.

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

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

   b. 40 CFR 63, Subpart HH – National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR 63, Subpart HH requirements, certain criteria must be met. First, a facility must either process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category, or is delivered to a final end user. Second, the facility must also contain an affected source as specified in paragraphs

(b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally if the criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. The facility can be either a major or area source of HAPs. For area sources, the affected source includes each TEG dehydration unit. Therefore, because NorthWestern's CS 102 Compressor Station includes an affected source, it would be subject to 40 CFR 63, Subpart HH.

c. 40 CFR 63, Subpart HHH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR 63, Subpart HHH. Based on the information submitted by NorthWestern, the CS 102 Compressor 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 Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. Subpart ZZZZ applies to owners and operators of stationary internal combustion engines at major and area sources of HAPs. This facility is an area source of HAPs therefore the engines are subject to this regulation.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

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; and 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 pro-rate the required fee amount.

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. NorthWestern has a PTE greater than 25 tons per year of carbon monoxide (CO) and nitrogen oxides (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 do not require a permit under 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.

   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. (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. NorthWestern was not required to submit an affidavit of publication of public notice because the current permit action is an administrative action.

5. 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 NorthWestern of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

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

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

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

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

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

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 source since the facility is not a listed source and does not have a PTE greater than 250 tons per year of any pollutant (excluding fugitive emissions).

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

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary 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 serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2772-12 for NorthWestern's CS 102 Natural Gas Compressor Station 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 of any one HAP and less than 25 tons/year of all HAPs.

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

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

   e. This facility is subject to a current NESHAP standard (40 CFR 63, Subparts A, HH, and ZZZZ).

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

   g. This source is not an EPA designated Title V source.

   Based on these facts, the Department has determined that NorthWestern's CS 102 Compressor Station 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. NorthWestern 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.

A BACT analysis was not required for the current permit action because the current permit action is considered an administrative permit action..

IV. Emission Inventory

Emitting Unit	PM	PM_{10}	NO_x	CO	VOC	SO_x
738-bhp Waukesha Compressor Engine	0.24	0.24	7.13	7.13	7.13	0.02
772 bhp Superior Compressor Engine	0.54	0.54	13.02	13.39	9.30	0.03
300 bhp Ajax Compressor Engine	0.10	0.10	13.04	2.61	2.90	0.01
1547 bhp Rich-Burn Compressor Engine	0.37	0.37	14.93	14.93	14.93	0.02
Alco Dehydrator Reboiler and Still Vent	0.02	0.02	0.22	0.18	0.01	0.00
100 bhp Arrow Engine	0.03	0.03	9.74	2.90	0.97	0.00
Total	**1.30**	**1.30**	**58.08**	**41.14**	**35.24**	**0.08**

738 bhp Waukesha Compressor Engine

Fuel Combustion Rate: 5.805 MMBtu/hr
Heat Content of Natural Gas: 1,000MMBtu/MMscf
Fuel Usage[MMSCF]: = Fuel Combustion Rate [MMBtu/hr]/Heat Content of Fuel [MMBtu/MMSCF]* Hour/Year
Calculated Fuel Usage: (5.805 MMBtu/hr/1,000 MMBtu/MMSCF) * 8760 hr/yr = 50.85 MMscf/yr
Hours of Operations: 8760 hr/yr
Break Horsepower: 738 bhp

PM Emissions

All PM emissions assumed to be PM_{10} emissions

PM_{10} Emissions

Emission Factor: 0.0095 lb/MMBtu (AP-42 Table 3.2-3 (07/00))
Calculations: E(PM_{10}) =(0.0095 lb/MMBtu) x (5.805 MMBtu/hr) x (8,760 hr/yr) x (1 ton/2000 lb) = 0.24 ton/yr
= (0.24 ton/yr) x (2000 lb/ton) x (1 yr/8760 hr) = 0.054 lb/hr

NO_x Emissions

Emission Factor: 1.00 g/bhp-hr (Department BACT Determination)
Calculations: E(NO_x) = (1.00 g/bhp-hr) x (738 bhp) x (1 lb/453.6 g) x (0.0005 ton/lb) x (8760 hr/yr) =7.13 ton/yr
= (7.13 ton/yr) x (2000 lb/ton) x (1 yr/8760 hr) = 1.63 lb/hr

VOC Emissions

Emission Factor: 1.00 g/bhp-hr (Department BACT Determination)
Calculations: E(VOC) = (1.00 g/bhp-hr) x (738 bhp) x (1 lb/453.6 g) x (0.0005 ton/lb) x (8760 hr/yr) =7.13 ton/yr
= (7.13 ton/yr) x (2000 lb/ton) x (1 yr/8760 hr) = 1.63 lb/hr

SO_x Emissions

Emission Factor: 0.000588 lb/MMBtu (AP-42 Table 3.2-3 (07/00))
Calculations: E(SO_x)= (0.000588 lb/MMBtu) x (5.805 MMBtu/hr) x (8,760 hr/yr) x (1 ton/2000 lb) = 0.01495 ton/yr
= (0.01495 ton/yr) x (2000 lb/ton) x (1 yr/8760 hr) = 0.003 lb/hr

CO Emissions

Emission Factor: 1.0 g/bhp-hr (Department BACT Determination)
Calculations: E (CO)= (1.0 g/bhp-hr) x (738 bhp) x (1 lb/453.6 g) x (0.0005 ton/lb) x (8760 hr/yr) = 7.13 ton/yr
= (7.13 ton/yr) x (2000 lb/ton) x (1 yr/8760 hr) = 1.63 lb/hr

772-bhp Superior Compressor Engine

Heat Content of Natural Gas: 1,000 MMBtu/MMSCF
Fuel Consumption Rate: 15.98 MBtu/bhp-hr
Number of hours of operation per year: 8760hr/yr
Fuel Combustion Rate: 15.98 MBtu/bhp-hr * 772hp* 1MMBtu/1,000MBtu=12.34 MMBtu/hr
Fuel Usage: 12.34 MMBtu/hr * 1,000 MMBtu/MMSCF * 8760hr/yr =108.10 MMSCF/yr

PM Emissions

All PM emissions assumed to be PM_{10} emissions

PM_{10} Emissions

Emission Factor: 10.0 lb/MMSCF (Fire Version 5.0, 8/95 2-02-002-02)
Control Efficiency: 0%
Calculations: E(PM_{10}) = 10.0 lb/MMSCF * 108.10 MMSCF/yr * 0.0005 ton/lb = 0.54 ton/yr.

SO_x Emissions
Emission Factor: 0.6 lb/MMSCF (Fire Version 5.0, 8/95 2-02-002-02)
Control Efficiency: 0%
Calculations: E(SO_x) = 0.6 lb/MMSCF * 108.10 MMSCF/yr * 0.0005 ton/lb = 0.03 ton/yr

VOC Emissions
Emission Factor: 1.25 g/bhp-hr (Manufacturer's data)
Control Efficiency: 0%
Calculations: E(VOC) = 1.25 g/bhp-hr * 772 bhp * 0.0022 lb/g * 0.0005 ton/lb * 8760 hr/yr = 9.30 ton/yr

NO_x Emissions
Emission Factor: 1.75 g/bhp-hr (Manufacturer's data)
Control Efficiency: 0%
Calculations: E(NO_x) = 1.75 g/bhp-hr * 772 bhp* 0.0022 lb/g * 0.0005 ton/lb* 8760 hr/yr = 13.02 ton/yr

CO Emissions
Emission Factor: 1.80 g/bhp-hr (Manufacturer's data)
Control Efficiency: 0%
Calculations: E(CO)=1.80 g/bhp-hr * 772 bhp * 0.0022 lb/g * 0.0005 ton/lb * 8760 hr/yr = 13.39 ton/yr

300 bhp Ajax Compressor Engine
Brake Horsepower: 300 bhp
Hours of Operation: 8760 hr/yr
Max Fuel Combustion Rate: 8.50 MBtu/bhp-hr * 300 bhp = 2,550 MBtu/hr = 2.25MMBtu/hr
Fuel Heating Value: 1,000 Btu/SCF=1,000 MMSCF/MMBtu
Calculated Fuel Usage [MMSCF]: (Fuel Combustion Rate [MMBtu]/Heat Content of Fuel [MMBtu/MMCSF])*Hours/Year
Calculated Fuel Usage: (2.25 MMBtu/hr/1000MMSCF/MMBtu)*8760 hr/yr = 19.71MMSCF

PM Emissions
All PM emissions assumed to be PM_{10} emissions

PM_{10} Emissions
Emission Factor: 10.0 lbs/MMSCF (FIRE, PC Version, 1/95, 2-02-002-02)
Calculations: E(PM_{10}) = 10.0 lb/MMSCF * 19.71 MMSCF* 0.0005 ton/lb = 0.10 ton/yr

NO_x Emissions
Emission Factor: 4.5g/bhp-hr (Data from Manufacturer)
Calculations: E(NO_x) = 4.5 g/bhp-hr * 300 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb = 13.04 ton/yr

CO Emissions
Emission Factor: 0.9g/bhp-hr (Data from Manufacture)
Calculations: E(CO) = 0.9 g/bhp-hr * 300 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb = 2.61 ton/yr

VOC Emissions
Emission Factor: 1.0 g/bhp-hr (Data from Manufacturer)
Calculations: E(VOC) = 1.0 g/bhp-hr * 300 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb = 2.90 ton/yr

SO_x Emissions
Emission Factor: 0.6 lbs/MMSCF (FIRE, PC Version, 1/95, 2-02-002-02)
Calculations: E(SO_x) = 0.6 lb/MMSCF * 19.71 MMSCF * 0.0005 ton/lb = 0.01 ton/yr

Up to 1547 bhp Capacity Compressor Engine
Fuel Combustion Rate: 7.917 MMBtu/hr (Company Information Permit Application #2772-11)
Heat Content of Natural Gas: 1,000MMBtu/MMSCF
Fuel Usage[MMSCF]: 73.00 MMSCF/yr (Company Information Permit Application #2772-11)
Hours of Operations: 8760 hr/yr
Break Horsepower: 1547 bhp (Permit Limit)

PM Emissions
All PM emissions assumed to be PM_{10} emissions

PM_{10} Emissions
Emission Factor: 10.00 lb/MMSCF (Fire 5.0, 20-200-202, 8/95)
Calculations: E(PM_{10}) =10.00 lb/MMBtu * 73.00 MMSCF/yr * 0.0005 ton/lb = 0.37 ton/yr

NO_x Emissions
Emission Factor: 1.00 g/bhp-hr (BACT Determination)
Calculations: 1.00 g/bhp-hr * 1547 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb =14.93 ton/yr

VOC Emissions
Emission Factor: 1.00 g/bhp-hr (BACT Determination)
Calculations: 1.00 g/bhp-hr * 1547 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb =14.93 ton/yr

SO_x Emissions
Emission Factor: 0.6 lb/MMSCF (Fire 5.0, 20-200-202, 8/95)
Calculations: 0.6 lb/MMSCF * 73.00 MMSCF/yr * 0.0005 ton/lb = 0.02 ton/yr

CO Emissions
Emission Factor: 1.00 g/bhp-hr (BACT Determination)
Calculations: 1.00 g/bhp-hr * 1547 bhp * 1 lb/453.6 g * 8760 hr/yr * 0.0005 ton/lb =14.93 ton/yr

ALCO Dehydrator Reboiler and Stil Vent
Fuel Combustion Rate: 0.50 MMBtu/hr
Heat Content of Natural Gas: 1,000 MMBtu/MMSCF
Fuel Usage: 4.38 MMSCF/yr
Number of Hours of Operation: 8760 hr/yr

PM Emissions
PM Emission Factor is equal to PM_{10} Emission Factor, so the PM Emissions are equal to PM_{10} Emissions

PM_{10} Emissions
Emission factor: 7.6 lb/MMSCF (AP 42 Sec.1.4-2, 3/98)
Control Efficiency: 0%
Calculations: E(PM_{10})=7.6 lb/MMSCF * 4.38 MMSCF/yr * 0.0005 ton/lb = 0.017 ton/yr

NO_x Emissions
Emission Factor: 100.00 lb/MMSCF (AP 42 Sec.1.4-1, 3/98)
Control Efficiency: 0%
Calculations: E(NO_x)= 100.00 lb/MMSCF * 4.38 MMSCF/yr * 0.0005 ton/lb=0.22 ton/yr

CO Emissions
Emission Factor: 84.00 lb/MMSCF (AP 42 Sec.1.4-2, 3/98)
Control Efficiency: 0%
Calculations: E (CO)= 84.lb/MMSCF * 4.38 MMSCF/yr * 0.0005 ton/yr = 0.18 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMSCF (AP 42 Sec.1.4-2, 3/98)
Control Efficiency: 0%
Calculations: E (VOC)=5.5 lb/MMSCF * 4.38 MMSCF/yr * 0.0005 ton/yr = 0.01 ton/yr

SO_x Emissions
Emission Factor: 0.60 lb/MMSCF (AP 42 Sec.1.4-2, 3/98)
Control Efficiency: 0%
Calculations: E (SO_x)= 0.60 lb/MMSCF * 4.38 MMSCF/yr * 0.0005 ton/lb = 0.00ton/yr

100 bhp Arrow VRG 330 TA engine-driven chiller
Fuel Combustion Rate: 0.731MMBtu/hr
Heat Content of Natural Gas: 1,000MMBtu/MMCSF
Fuel Usage[MMSCF]: = Fuel Combustion Rate [MMBtu/hr]/Heat Content of Fuel [MMBtu/MMSCF]* Hour/Year
Calculated Fuel Usage: (0.731 MMBtu/hr/1,000 MMBtu/MMSCF) * 8760 hr/yr = 6.40 MMSCF/yr
Hours of Operations: 8760 hr/yr
Break Horsepower: 100 bhp

PM Emissions
PM Emission Factor is equal to PM_{10} Emission Factor, so the PM Emissions are equal to PM_{10} Emissions

PM_{10} Emissions
Emission Factor: 10.00 lb/MMSCF (Fire PC Version 1/95, 2-02-002-02)
Control Efficiency: 0%
Calculations: E (PM_{10}) =10.00 lb/MMCSF * 6.40 MMSCF* 0.0005ton/lb = 0.03ton/yr

SO_x Emissions
Emission Factor: 0.6 lb/MMSCF (Fire Version 5.0, 8/95 2-02-002-02)
Control Efficiency: 0%
Calculations: E(SO_x) = 0.6 lb/MMSCF * 6.40 MMSCF/yr * 0.0005 ton/lb = 0.002 ton/yr

VOC Emissions
Emission Factor: 1.0 g/bhp-hr (BACT guideline EF used; manufacturer's data < permit determination value)
Control Efficiency: 0%
Calculations: E(VOC) = 1.0 g/bhp-hr * 100 bhp * 0.0022 lb/g * 0.0005 ton/lb * 8760 hr/yr = 0.97 ton/yr

NO_x Emissions
Emission Factor: 10.084 g/bhp-hr (CAT G3608 SITA Engine Specifications)
Control Efficiency : 0%
Calculations: E(NO_x) = 10.084 g/bhp-hr * 100 bhp* 0.0022 lb/g * 0.0005 ton/lb* 8760 hr/yr = 9.74 ton/yr

CO Emissions
Emission Factor: 3.0 g/bhp-hr (BACT guideline EF used; manufacturer's data < permit determination value)
Control Efficiency: 0%
Calculations: E(CO)=3.0 g/bhp-hr * 100 bhp * 0.0022 lb/g * 0.0005 ton/lb * 8760 hr/yr = 2.90 ton/yr

V. Existing Air Quality

The air quality classification for the area is "Better than National Standards" or unclassifiable attainment for the National Ambient Air Quality Standards for criteria pollutants. There are no nonattainment areas in the nearby area.

VI. Taking or Damaging Implication Analysis

As required by 2-10-101 through105, 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.

VII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required

Permit Analysis Prepared by Rhonda Payne
Date: 1/17/2014