December 30, 2019

Beth Stimatz
Environmental Compliance Specialist
NorthWestern Energy – Dry Creek Field, Station 056
40 East Broadway
Butte, Montana 59701

Dear Ms. Stimatz:

Montana Air Quality Permit #2784-06 is deemed final as of December 24, 2019, by the Department of Environmental Quality (Department). This permit is for a natural gas processing plant. 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

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

JM:EW
Enclosure

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #2784-06

NorthWestern Energy – Dry Creek Field, Station 056
40 East Broadway
Butte, Montana 59701

December 24, 2019

MONTANA AIR QUALITY PERMIT

Issued To:
NorthWestern Energy
Dry Creek Compressor Station
40 East Broadway
Butte, Montana 59701

MAQP: #2784-06
Administrative Amendment (AA)
Request Received: 11/18/2019
Department's Decision on AA: 12/6/2019
Permit Final: 12/24/2019

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

Section I: Permitted Facilities

A. Plant Location

The facility consists of a natural gas processing plant and associated equipment located in the SE¼ of the SW¼ of Section 34, Township 6 South, Range 21 East, Carbon County. This facility is known as the Dry Creek Field, Station 056. A list of permitted equipment is contained in Section I.A of the Permit Analysis.

B. Current Permit Action

On November 18, 2019, NWE notified the Montana Department of Environmental Quality (Department) of the transfer of ownership of the two Ajax engines at the Dry Creek Field, Station 056 from NWE to Big Sky Energy, LLC and requested that all conditions related to the two Ajax engines be removed from NWE's air quality permit. The two engines are an Ajax DPC-300 and an Ajax DPC-360. All applicable permit conditions for the two Ajax engines have been transferred to MAQP #5237-00. This action also updates language and rule references to current Department practices.

Section II: Limitations and Conditions

A. Operational Requirements

1. Emissions from the 800 horsepower (hp) White Superior 8G825/W64 compressor engine shall not exceed the following (ARM 17.8.749):

Oxides of Nitrogen (NO_x)[1]	26.5 pounds per hour (lb/hr)
Carbon Monoxide (CO)	3.17 lb/hr
Volatile Organic Compounds (VOC)	0.35 lb/hr

2. NWE shall comply with all applicable standards and limitations, and the reporting, record-keeping, and notification requirements contained in 40 CFR 60, Subpart

[1] NO_x reported as NO_2.

KKK for the Joule-Thompson Refrigeration Unit (ARM 17.8.340 and 40 CFR 60, Subpart KKK).

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

4. NWE may 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. NWE 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. NWE shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.7 (ARM 17.8.749).

7. NWE shall not cause or authorize to be discharged into the atmosphere from the Smart Ash Burner any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752).

8. NWE shall not incinerate any material other than oil-soaked rags, oil adsorbents, and filters in the Smart Ash Burner. Hazardous waste may not be incinerated in the Smart Ash Burner (ARM 17.8.749).

B. Emission Testing Requirements

1. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

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

C. 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 for calculating 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 the addition of a new emissions unit, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

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 such as continuous emissions monitoring systems (CEMS) or continuous emissions rate monitoring systems (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 the 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 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 Department personnel at the location of the permitted source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, 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.

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

Montana Air Quality Permit Analysis
NorthWestern Energy
MAQP #2784-06

I. Introduction/Process Description

A. Permitted Equipment

The NorthWestern Energy (NWE) Dry Creek Field, Station 056 is located within the SE¼ of the SW¼ of Section 34, Township 6 South, Range 21 East, in Carbon County. This facility includes the following equipment.

UNIT #	YEAR INST.	MAKE	MODEL	SIZE	SOURCE
1	1966	Ingersoll Rand	62-KVG	660 hp	01
2	1971	White Superior	8G825/W64	800 hp	02
5	pre-1968	Solar	Saturn	1100 hp	15
Reboiler	-----	BS & B	-----	175 MBtu/hr	05
Reboiler	-----	-----	-----	256 MBtu/hr	06
Reboiler	-----	-----	-----	900 MBtu/hr	07
Reboiler	-----	-----	-----	1000 MBtu/hr	08
Heater	-----	BS & B	-----	110 MBtu/hr	09
Heater	-----	-----	-----	200 MBtu/hr	10
Heater	-----	-----	-----	288 MBtu/hr	11
12	1979	Mechanical Refrigeration Unit	-----	-----	12
13	1985	Joule-Thompson Refrigeration Unit	-----	-----	13
Incinerator	1998	Smart Ash Burner	Model 100	-----	14

B. Source Description

The Ingersoll Rand 62-KVG compressor engine was installed at the Dry Creek Field compressor station in 1966, the White Superior 8G825/W62 compressor engine was installed in 1971, the Ajax DPC-300 compressor engine was installed in 1974 (no longer owned by NWE), the Ajax DPC-360 compressor engine was installed in January 1979 (no longer owned by NWE), and NWE installed a Solar Saturn 1100 horsepower (hp) compressor turbine in 2001. The station consists of a reboiler rated at 175Million British Thermal Units per hour (MBtu/hr), BS & B reboiler, (1) 256-MBtu/hr reboiler, (1) 900-MBtu/hr reboiler, (1) 1000-MBtu/hr BS & B reboiler, (1) 110-MBtu/hr heater, (1) 200-MBtu/hr heater, (1) 288-MBtu/hr heater, (1) mechanical refrigeration unit installed in 1979, (1) Joule-Thompson refrigeration unit installed in 1985, and the following engines:

- 600-hp Ingersoll Rand 62-KVG Compressor Engine;
- 800-hp White Superior 8G825/W64 Compressor Engine;
- 300-hp Ajax DPC-300 Compressor Engine;
- 360-hp Ajax DPC-360 Compressor Engine; and
- 1100-hp Solar Saturn Compressor Turbine.

The 800-hp White Superior 8G825/W64 compressor engine, the 300-hp Ajax DPC-300 compressor engine, and the 360-hp Ajax DPC-360 compressor engine were initially tested in November 1993 and demonstrated compliance with the conditions for oxides of nitrogen (NO_x) and carbon monoxide (CO) contained in Sections II.A.1, II.A.2, and II.A.3 of Montana Air Quality Permit (MAQP) #2784-05.

The storage units are used primarily to inject natural gas into the storage field during the off season to replace gas withdrawn by natural feed during the previous heating season. The storage units can be used to withdraw from storage or in transmission service; however, this is rarely done. During withdrawal from storage, the gas is first dehydrated using the glycol contactor vessel(s) and then stripped of heavy-end hydrocarbons by passing through a Joule-Thompson type refrigeration plant before entering the transmission line at approximately 500 to 700 pounds per square inch, gauge pressure (psig).

The production compressors withdraw natural gas from local production wells and increase the gas pressure before entering the mechanical refrigeration plant, which removes both water and heavy-end hydrocarbons. The production gas stream then either enters the pipeline to be transmitted west or enters the inlet of the storage compressors for injection into the storage field. Discharge pressures on the production compressors may range from 350 to 700 psig. Emissions from both the mechanical refrigeration unit and the Joule-Thompson type refrigeration unit are assumed to be negligible because they are both completely enclosed systems and are contained under pressure.

The complex also has two other purposes. The first is to pump the field gas up to the required pressure in the natural gas transmission system. Compression of the gas is accomplished using the compressors described above. Three heaters provide heat to the various station facilities.

The second purpose of the complex is to "dry" the gas as it is being processed. The gas contains some moisture, which must be removed from the system prior to being sent into the transmission system. This is accomplished with a dehydrator, also commonly called a reboiler or glycol unit.

The gas is treated with a glycol solution, which absorbs the water in the gas stream. The glycol solution is then heated to about 300°F to drive off the water and return the glycol. The heat necessary for this activity is generated by burning natural gas in the dehydrator reboiler. These units will have heat inputs ranging from approximately 175 to 1,000 MBtu/hr. The reboilers are small by industrial standards, having a size approximately equivalent to a typical natural gas-fired small office heating system.

C. Permit History

On July 14, 1993, Montana Power Company (MPC) was issued **MAQP #2784-00** for the operation of their natural gas processing plant and associated equipment, located in the SE¼ of the SW¼ of Section 34, Township 6 South, Range 5 East, Carbon County near Red Lodge, Montana. The facility was identified as the Dry Creek Field, Station 056-1 through 4.

Most of the Dry Creek Field was an existing source (it was operating at the same location prior to March 16, 1979) and a Best Available Control Technology (BACT) determination was not required. However, the Joule-Thompson refrigeration unit was a new or modified source since it was installed in 1985. Therefore, a BACT analysis was required for the Joule-Thompson refrigeration unit.

The Joule-Thompson refrigeration unit at this facility is used to separate the heavy-end hydrocarbons from the gas storage field. The unit is completely enclosed and there should be no emissions from the unit during operation. In addition, the flanges and connections are state of the art, further preventing any loss of product from the unit. This Joule-Thompson refrigeration unit is subject to the New Source Performance Standards (NSPS) stated in 40 CFR 60, Subpart KKK because it meets the definition of a natural gas processing plant and was installed after January 20, 1984. Some of the NSPS requirements are monthly monitoring of applicable equipment to detect leaks, additional reporting and recordkeeping requirements, notification requirements, etc. The Montana Department of Environmental Quality (Department) determined that BACT for this source was the proper operation of the Joule-Thompson refrigeration unit to maintain compliance with all standards and limitations, and the reporting, recordkeeping, and notification requirements as set forth in 40 CFR 60, Subpart KKK.

On March 7, 1994, **MAQP #2784-01** was issued to the Dry Creek Field Station. This modification was requested because the Department revised the emission limitation units from grams per brake horsepower–hour (g/bhp-hr) to pounds per hour (lb/hr). The revision was due to varying parameters such as engine's revolution per minute (RPM), operating load (bhp), ambient air temperature, gas temperature, site, elevation, fuel gas quality, air/fuel ratio (AFR), field gas conditions, etc. Rather than limiting the engines to a g/bhp-hr limit, an hourly emission limit allowed some needed operational flexibility. Also, to clarify NO_x mass emission calculations, NO_x emission limitations were identified as nitrogen dioxide (NO_2).

On November 6, 1998, **MAQP #2784-02** was issued to MPC. A Smart Ash Incinerator was added to the Dry Creek Station as part of this permit action. Furthermore, General Condition F was removed from the language that was contained in Permit #2784-01 and the rule references were updated. MPC requested to add the Smart Ash Burner to the facility to incinerate oil-soaked rags, oil adsorbents, and filters. Also, the rule references in the permit were updated. MPC requested to add the Smart Ash Burner to the facility to incinerate oil-soaked rags, oil absorbents, and filters. Also the rule references in the permit were updated.

On August 24, 2000, MPC requested an modification of MAQP #2784-02. MPC requested to add an 1100-hp Solar Saturn turbine-driven compressor to the Dry Creek facility. After issuance of the Preliminary Determination (PD), the Department

determined that informational testing was necessary to ensure that the 1100-hp Solar Saturn turbine-driven compressor could operate within the emission levels specified in the emission inventory; and thus, to ensure that the Dry Creek facility was a minor source of emissions in regard to the New Source Review Program. **MAQP #2784-03** replaced MAQP #2784-02.

On November 23, 2001, 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 wait on the name change for the permit. On October 18, 2002, the Department received a request to change the permit from MPC LLC to NorthWestern Corporation. This permit action changed the name on this permit from Montana Power Company to NorthWestern Corporation. **MAQP #2784-04** replaced MAQP #2784-03**.**

On February 7, 2008, NWE requested that the Department change the name on their permit from NorthWestern Corporation to NWE. MAQP #2784-05 was also updated to reflect the current permit language and rule references used by the Department. **MAQP #2784-05** replaced MAQP #2784-04.

D. Current Permit Action

On November 18, 2019, NWE notified the Department of the transfer of ownership of the two Ajax engines at the Dry Creek Field, Station 056 from NWE to Big Sky Energy, LLC and requested that all conditions related to the two Ajax engines be removed from NWE's air quality permit. The two engines are an Ajax DPC-300 and an Ajax DPC-360. All applicable permit conditions for the two Ajax engines have been transferred to MAQP #5237-00. **MAQP #2784-06** replaces MAQP #2784-05.

E. Additional Information

Additional information, such as applicable rules and regulations, BACT determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

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

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

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

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment

(including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

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

   NWE shall comply with all 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. 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:

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

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

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

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, 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.

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. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

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. The owner and operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60.

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

   b. The Joules-Thompson refrigeration unit, which removes heavy-end hydrocarbons, meets the definition of a natural gas processing plant in 40 CFR Part 60, therefore, the NWE Dry Creek Field Compressor Station is subject to 40 CFR 60, Subpart KKK, Standards of Performance for Equipment Leaks of VOC Onshore Natural Gas Processing Plants.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The owner or operator of any affected source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as applicable.

   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 #2784-06 are subject to this subpart because they are stationary RICE operating at an area source of HAP emissions.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. NWE shall 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. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. NWE has the potential to emit more than 25 tons per year of NO_x, CO, and volatile organic compounds (VOC); therefore, a permit is required.

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

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

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. NWE was not required to submit a 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. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

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 17.8.759 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 modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

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 Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

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

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 stationary source having:

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

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

   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. 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 #2784-06 for the NWE Dry Creek Field, Station 056, the following conclusions were made:

   a. The facility's PTE is > 100 tons/year for NO_x.

   b. The facility's PTE is < 10 tons/year of any single hazardous air pollutant (HAP) and < 25 tons/year of all HAPs.

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

   d. This facility is subject to 40 CFR 60, Subpart KKK.

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

   f. This source is not a Title IV affected source or a solid waste combustion unit.

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

   Based on the facility's PTE for NO_x, the Department determined that the NWE Dry Creek Station is a major source of emissions as defined under Title V. The most recent final Title V Operating Permit #OP2784-10 was issued by the Department on June 24, 2016.

H. Montana Code Annotated (MCA) 75-2-103, definitions, provides in part as follows:

   1. "Incinerator" means any single or multiple chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

   2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, including, but not limited to...air pollution control facilities.

I. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:

   1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators. NWE therefore incorporated the Smart Ash Burner into air quality Permit #2784-02.

   2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants, from the incineration of solid waste. The Department determined that the information submitted in Permit #2784-02 is sufficient to fulfill this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety and welfare. Bison Engineering, Inc. (Bison) submitted a health risk assessment on behalf of NWE. Based on the results of the emission inventory, modeling, and the health risk assessment submitted by Bison, the Department has determined that NWE's proposal complies with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or BACT. The Department has determined that the proposed incinerator constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source. NWE shall install on the new or modified source the maximum air pollution control capability, which is technically practicable and economically feasible, except that the BACT shall be utilized. A BACT analysis was not required for the current permit action because the permit action is considered administrative and no new or modified sources are being added.

IV. Emission Inventory

	Tons/Year					
	TSP	PM_{10}	SO_x	NO_x	VOC	CO
660 Ingersoll Rand 62-KVG	0.25	0.25	0.01	70.10	28.04	8.92
800 White Superior 8G825/W64	0.26	0.26	0.02	115.87	1.54	13.90
1100 Hp Solar Saturn	0.69	0.69	0.03	31.12	7.26	50.68
BS & B Reboiler	0.00	0.00	0.00	0.08	0.01	0.02
Reboiler	0.01	0.01	0.00	0.11	0.01	0.02
Reboiler	0.02	0.02	0.00	0.39	0.03	0.08
BS & B Reboiler	0.02	0.02	0.00	0.44	0.04	0.09
Heaters (3)	0.01	0.01	0.00	0.26	0.02	0.05
Mechanical Refrig.	0.00	0.00	0.00	0.00	0.00	0.00
Joule-Thompson Refrig.	0.00	0.00	0.00	0.00	0.00	0.00
Smart Ash Burner	0.00	0.00	0.97	0.33	0.00	0.04
Total	1.26	1.26	1.03	218.70	36.95	73.80

V. Existing Air Quality and Monitoring Requirements

The existing air quality of the area is expected to be in compliance with all state and federal requirements. NWE previously conducted ambient air quality modeling for all compressor stations in and near Glacier, Toole, Liberty, and Pondera Counties using two EPA guideline models: ISC2 and COMPLEX. The meteorological data used was taken from the Great Falls Airport National Weather Service station. The modeling submitted assumed approximately 278.5 tons per year of NO_x and 278.5 tons per year of CO. This modeling did not show violations of the annual or hourly ambient standards. The modeling analysis demonstrated that this facility would not cause a violation or exceedance of any state or federal ambient standard. No additional modeling is required since NO_x emissions from the facility are less than those initially modeled by over 30 tons per year for NO_x and nearly 200 tons per year for CO. Since the modeling did not indicate problems with the ambient standards, no ambient monitoring is necessary.

Bison ran ISCT3 to determine the ambient annual concentrations of HAPs resulting from the Smart Ash Burner. Upper air and surface air data from the National Weather Service for Great Falls (1991) were used to assist in determining the impacts. The results satisfied the conditions of MCA 75-2-215 and ARM 17.8.748. Further information can be found in Permit Application #2784-02. Air modeling was not required for the current permit action because the change reflects an administrative change.

VI. Health Risk Assessment

A health risk assessment was conducted by Bison on behalf of NWE's Dry Creek Field station to demonstrate that the Smart Ash Burner would comply with the negligible risk requirement of MCA 75-2-215. The results from the assessment can be found in MAQP Application #2784-02.

VII. Taking or Damaging Implication Analysis

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

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

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

VIII. 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: Ed Warner
Date: December 2, 2019