Air Quality Permit

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

Permit: # 2780-03
Administrative Amendment (AA)
Request Received: 2/7/08
Department Decision on AA: 04/22/08
Permit Final: 05/08/08
AFS#: 067-0008

An air quality permit, with conditions, is hereby granted to NorthWestern Energy (NWE), pursuant to Sections 75-2-204 and 211, Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.701, *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 NE ¼, of the NE ¼, of Sections 19 and 20, Township 2 South, Range 9 East, in Park County. This facility is known as the Livingston Compressor Station 1 & 2. A list of permitted equipment is contained in Section I.A. of the Permit Analysis.

B. Current Permit Action

On February 7, 2008, the Department of Environmental Quality (Department) received a request to change the name on Permit #2780-03 from NorthWestern Corporation to NWE. The current permit action is an administrative amendment pursuant to ARM 17.8.764 and changes the permittee name from NorthWestern Corporation to NWE and updates the permit language and rule references.

SECTION II: Limitations and Conditions

A. Emission Limitations

1. Emissions from the 1100-horsepower (hp) White Superior compressor engine (unit #1) shall not exceed the following, on a pounds per hour (lb/hr) basis (ARM 17.8.752):

Oxides of Nitrogen (NO_x[1])	4.85 lb/hr
Carbon Monoxide (CO)	7.28 lb/hr
Volatile Organic Compounds (VOC)	1.82 lb/hr

2. Emissions from the 1100-hp White Superior compressor engine (unit #2) shall not exceed the following (ARM 17.8.752):

NO_x	4.85 lb/hr
CO	7.28 lb/hr
VOC	1.82 lb/hr

[1]NOx reported as NO_2.

3. 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).

4. 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).

5. 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.4 (ARM 17.8.749).

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

7. NWE shall comply with all applicable standards and limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,(RICE) for any applicable RICE engine (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. The 1100-hp White Superior compressor engine (unit #1) shall be tested concurrently for NO_x and CO and compliance demonstrated with the conditions contained in Section II.A.1 on an every four-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and 17.8.749).

2. The 1100-hp White Superior compressor engine (unit #2) shall be tested concurrently for NO_x and CO and compliance demonstrated with the conditions contained in Section II.A.2 on an every four-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM17.8.105 and 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. NWE shall supply the Department with annual production information for all emission points. The information shall be gathered on a calendar-year basis and is to be submitted to the Department by March 1 of the following year 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. For reporting purposes, the equipment should be identified using the source or unit numbers contained in Section I.A. of the permit analysis. 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 17.8.705(1)(r) 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 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 17.8.705(1)(r)(iv) (ARM 17.8.705).

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.

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

Permit Analysis
NorthWestern Energy
Permit #2780-03

I. Introduction/Process Description

NorthWestern Energy (NWE) operates a compressor station and associated equipment, located in the NE ¼, of the NE ¼, of Sections 19 and 20, Township 2 South, Range 9 East, in Park County near Livingston, Montana

A. Permitted Equipment

The station consists of one 550 thousand British thermal unit per hour (MBtu/hr) building heater, two 75 MBtu/hr garage heaters, a 40 MBtu/hr office heater, and two 1100 horsepower (hp) White Superior compressor engines.

B. Source Description

The purpose of this complex is for booster service on the gas transmission pipeline. Compression of the gas is accomplished using either or both compressors described above. The four heaters provide heat to the various station facilities.

C. Permit History

On June 10, 1993, the Montana Power Company (MPC) was issued **Permit #2780-00** for the operation of their compressor station and associated equipment, located in the NE ¼, of the NE ¼, of Sections 19 and 20, Township 2 South, Range 9 East, in Park County near Livingston, Montana. The station is identified as the Livingston Compressor Station 1 & 2.

Based on the Best Available Control Technology (BACT) analysis for the 1100 hp White Superior 8GTLB/MW62 compressor engine (unit #1), the Montana Department of Environmental Quality (Department) determined BACT for this source to be the installation and proper operation of the clean-burn engine to maintain compliance with the emission limitations in Section II.A.1 of the permit.

Based on the BACT analysis for the 1100 hp White Superior 8GTLB/MW62 compressor engine (unit #2), the Department determined BACT for this source to be the installation and proper operation of the clean-burn engine to maintain compliance with the emission limitations in Section II.A.2 of the permit.

The heaters at the Livingston Compressor Station 1 & 2 are considered minor sources. Based on previous determinations, BACT for these sources was no control.

On June 3, 1994, MPC was issued **Permit #2780-01**. The modification was requested because the Air Quality Board (AQB) 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 RPM, operating load (bhp), ambient air temperature, gas temperature, site, elevation, fuel gas quality, air/fuel ratio (AFR), field gas conditions, etc. Rather than limit the engines to a g/bhp-hr limit, an hourly emission limit allowed some needed operational flexibility.

Also, clarified oxides of nitrogen (NO_x) mass emission calculations, NO_x emission limitations were identified as NO_2.

In addition, heater information was updated to account for the extra heat input that was not accounted for in the original permit -- a heat input increase from 550,000 Btu/hr to 740,000 Btu/hr. To be consistent with a policy revising heaters in permit equipment lists, the heaters were calculated at the next 1 million British thermal unit per hour (MMBtu/hr) increment. This allowed MPC some operational flexibility should MPC ever prefer to install additional heaters up to 1 MMBtu/hr.

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 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. The current permit action changes the name on this permit from MPC to NorthWestern Corporation. **Permit #2780-02** replaces Permit #2780-01.

D. Current Permit Action

On February 7, 2008, the Department received a request to change the name on Permit #2780-03 from NorthWestern Corporation to NWE. The current permit action is an administrative amendment pursuant to ARM 17.8.764 and changes the permittee name from NorthWestern Corporation to NWE and updates the permit language and rule references. **Permit #2780-03** replaces Permit #2780-02.

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

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

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

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

1. ARM 17.8.204 Ambient Air Monitoring;
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide;
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide;
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide;
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone;
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide;
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter;
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility;
9. ARM 17.8.222 Ambient Air Quality Standard for Lead; and
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. 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. 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 will consume pipeline quality natural gas in the compressor engines, which will meet this limitation.

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

7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS), including the following subparts:

   a. 40 CFR 60, Subpart KKK - the NWE Station does not meet the definition of a natural gas processing plant defined in 40 CFR 60, Subpart KKK.

   b. 40 CFR 60, Subpart LLL - the NWE Station does not utilize a sweetening unit to process sour gas.

   c. 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) contains NSPS requirements that apply to owners or operators of stationary SI ICE that commence construction, modification, or reconstruction after June 12, 2006. Since the two SI ICE engines have not been constructed, modified, or reconstructed after June 12, 2006, this NSPS does not apply.

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 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. In order for a natural gas production facility to be subject to 40 CFR 63, Subpart HH requirements, the facility must either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. The facility can be either a major or area source of Hazardous Air Pollutants (HAPs). The Livingston compressor station is not a National Emission Standard for Hazardous Air Pollutants (NESHAP)-affected source because the facility does not include an affected emission point as defined in 63.760(b)(1) through 63.760(b)(2).

   c. 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants

From Natural Gas Transmission and Storage Facilities. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, the facility must be a major source of 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. In addition, based on information submitted to the Department, which included a complete HAP emission inventory, the compressor station does not meet the definition of a major source of HAPs as defined in 40 CFR Part 63, Subpart HHH.

d. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). As an area source, the two White Superior ICE will be subject to this rule. Since these two engines were installed before June 12, 2006, the engines are considered ***existing*** stationary RICE, and do not have requirements under this MACT as specified by 40 CFR 63.6590(b)(3).

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 application was not required for the current permit action because the action is considered an administrative 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 of any pollutant. NWE has a PTE greater than 25 tons per year of NO_x and carbon monoxide (CO); therefore, an air quality permit is required.

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

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

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. NWE was not required to submit a permit application for the current permit action because the current action is considered an administrative amendment. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. The current permit action is an administrative amendment, and therefore, did not require publication.

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

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of

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

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

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 since this facility is not a listed source and the facility's potential to emit is below 250 tons per year of any pollutant.

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 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 ten 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 Air Quality Permit #2780-03 for NWE, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for all criteria pollutants.

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 currently subject to any NSPS.

e. This facility is subject to a NESHAP standard: 40 CFR 63, Subpart ZZZZ, although there are currently no requirements for this source.

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

g. This source is not an Environmental Protection Agency (EPA) designated Title V source.

Based on these facts, the Department determined that NWE is a minor source of emissions as defined under Title V. Therefore, the facility is not required to obtain a Title V Operating permit.

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 the best available control technology 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 altered sources are being added.

IV. Emission Inventory

	Tons/Year					
	PM	PM_{10}	SO_X	NO_X	VOC	CO
1100 White Superior 8GTLB/MW62	0.41	0.41	0.02	21.24	7.97	31.87
1100 White Superior 8GTLB/MW62	0.41	0.41	0.02	21.24	7.97	31.87
Heaters	0.02	0.02	0.00	0.44	0.04	0.09
Total	0.8	0.8	0.0	42.9	16.0	63.8

1100 White Superior 8GTLB/MW62 (2)

Brake Horsepower: 1100 hp
Hours of operation: 8760 hr/yr

PM Emissions

Emission Factor: 10 lb/10^6 {2-02-002-02, AFSSCC page 32}
Control Efficiency: 0.0%
Fuel Consumption: 8500 Btu/hp-hr{Maximum Design}
Calculations 8500 Btu/hp-hr * 0.001 ft^3/btu * 1100 hp * 8760 hr/yr = 81906000 ft^3/yr
81906000 ft^3/yr * 10 lb/10^6 ft^3 gas * 0.0005 ton/lb = 0.41 ton/yr

PM-10 Emissions:

Emission Factor: 10 lb/10^6 {2-02-002-02, AFSSCC page 32}
Control Efficiency: 0.0%
Fuel Consumption: 8500 Btu/hp-hr{Maximum Design}
Calculations 8500 Btu/hp-hr * 0.001 ft^3/btu * 1100 hp * 8760 hr/yr = 81906000 ft^3/yr
81906000 ft^3/yr * 10 lb/10^6 ft^3 gas * 0.0005 ton/lb = 0.41 ton/yr

NOx Emissions:

Emission factor: 2.00 g/hp-hr{Manufacturer's Design}
2 g/hp-hr * 1100 hp * 0.002205 lb/g = 4.85 lb/hr
Calculations: 4.85 lb/hr * 8760 hr/yr / 2000 = 21.24 ton/yr

VOC Emissions:

Emission factor: 0.75 g/hp-hr{Manufacturer's Design}
Calculations 0.75 g/hp-hr * 1100 hp * 0.002205 lb/g = 1.82 lb/hr
1.82 lb/hr * 8760 hr/yr / 2000 = 7.97 ton/yr

CO Emissions:

Emission factor: 3.00 g/hp-hr{Manufacturer's Design}
Calculations 3 g/hp-hr * 1100 hp * 0.002205 lb/g = 7.28 lb/hr
7.28 lb/hr * 8760 hr/yr / 2000 = 31.87 ton/yr

SOx Emissions:

Emission factor: 0.002 g/hp-hr{AP-42, Table 3.2-1,9/85}
Calculations: 0.002 g/hp-hr * 1100 hp * 0.002205 lb/g * 8760 hr/yr/2000 = 0.02 ton/yr

Miscellaneous Heaters

Heater Carrier Model 58MX4040-08 40 MBtu/hr
(2) Re-Ferber-Ray Model DTH 5-40-75 N-2 75 MBtu/hr
Weil-Mclain Model EGH-125-PIN Series 3 550 MBtu/hr

PM Emissions

Emission Factor: 5 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr*5 lbs/10^6 ft^3*0.0005 = 0.02 ton/yr

PM-10 Emissions:

Emission Factor: 5 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr*5 lb/10^6 ft^3*0.0005 = 0.02 ton/yr

NOx Emissions:

Emission Factor: 100 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr*100 lb/10^6 ft^3*0.0005 = 0.44 ton/yr

VOC Emissions:

Emission Factor: 8 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr* 8 lb/10^6 ft^3*0.0005 = 0.04 ton/yr

CO Emissions:

Emission Factor: 20 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr* 20 lb/10^6 ft^3*0.0005 = 0.09 ton/yr

SOx Emissions:

Emission Factor: 0.6 lb/10^6{AP-42, 1.4-1}
Control Efficiency: 0.0%
Fuel Consumption: 1 MMBtu/hr {Heater Guidance and Company Information}
Calculations: 1 MMBtu/hr*1000000Btu/MMBtu*.001ft^3/Btu*8760hr/yr* 0.6 lb/10^6 ft^3*0.0005 = 0.00 ton/yr

V. Existing Air Quality and Monitoring Requirements

Bison Engineering (Bison) on behalf of NWE completed a modeling study for the Livingston Compressor Station 1 & 2 in Park County. The analysis used the SCREEN model assuming 42.65 tons per year of NO_x emissions. The two 1100 hp White Superior 8GTLB/MW62 compressor engines are currently permitted to emit 42.9 tons per year of NO_x emissions.

Bison used the "Ozone Limiting Method" to adjust the predicted 1-hour impacts assuming an ozone level of 0.04 parts per million (ppm). The modeling showed no violations of ambient air quality standards associated with NWE's gas compressor network. This modeling analysis demonstrates that this facility will not cause a violation or exceedance of any State or Federal ambient standard. Air modeling was not required for the current permit action because the change reflects an administrative change.

VI. Taking or Damaging Implication Analysis

As required by 2-10-101 through 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

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: Christine Weaver
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