Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

August 11, 2008

Bruce McKinley
Main Line #3 Compressor Station
40 East Broadway Street
Butte, Montana 59701

Dear Mr. McKinley:

Air Quality Permit #2997-08 is deemed final as of August 9, 2008, 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,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

Julie Merkel
Air Quality Specialist
Air Resources Management Bureau
(406) 444-3626

VW:JM
Enclosures

AIR QUALITY PERMIT

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

Permit # 2997-08
Application Complete: 05/28/08
Preliminary Determination Issued: 06/23/08
Department Decision Issue: 07/24/08
Permit Final: 08/09/08
AFS# 049-0013

An air quality permit, with conditions, is hereby granted to NorthWestern Energy (NWE) pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

NWE operates a natural gas compressor station located approximately 10 miles east of Augusta in Section 8, Township 20 North, Range 4 West, in Lewis and Clark County, Montana. This facility is known as Main Line #3. A listing of the permitted equipment is contained in Section I.A. of the Permit Analysis.

B. Current Permit Action

On May 28, 2008, NWE submitted a complete application for a modification of Permit #2997-07. The modification request includes the reduction in emission rates for the three existing 1,600 horsepower (hp) Solar Saturn turbine-driven compressors to reflect the updated emission factors from Compilation of Air Pollution Emission Factors in AP-42 for stationary gas turbines, and the manufacturer's guaranteed emission factors.

In addition, NWE proposed to install an additional 1,600 hp Solar Saturn turbine-driven compressor that was previously permitted at NWE's Big Sandy Compressor Station. The engine is the same make and model as the existing three compressors.

NWE also requested to increase the total hours of operation of the three existing and one newly proposed Solar Saturn turbine-driven compressors at the facility from 15,000 hours during any rolling 12-month time period to 17,200 hours during any rolling 12-month time period. With the new emission rates, the facility could operate at the additional hours per rolling 12-month time period and remain a Synthetic Minor source by staying below the Title V Operating Permit threshold.

The facility also requested to increase the total size of the combined miscellaneous building heaters from 0.96 million British thermal units per hour (MMBtu/hr) to 1.33 MMBtu/hr to accommodate the increased size of the building that will house the turbines. The increase in combined heater size has a negligible increase in emissions and is reflected in the emission inventory.

SECTION II: Limitations and Conditions

A. Emission Limitations

1. Emissions from each of the two 1100-horsepower (hp) Cooper-Superior lean-burn compressor engines shall not exceed the following (ARM 17.8.749):

Oxides of Nitrogen (NO_x)	4.85 pounds per hour (lb/hr)
Carbon Monoxide (CO)	7.28 lb/hr
Volatile Organic Compounds (VOC)	1.82 lb/hr

2. Emissions from each of the four 1600-hp Solar Saturn turbine-driven compressors shall not exceed the following (ARM 17.8.749):

NO_x	6.38 lb/hr
CO	1.94 lb/hr
VOC	0.16 lb/hr

3. The combined total hours of operation of the four 1600-hp Solar Saturn turbine-driven compressors shall be limited to a maximum of 17,200 hours during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).

4. The combined total hours of operation of the two natural gas emergency generators shall be limited to a maximum of 1,000 hours during any rolling 12-month time period (ARM 17.8.749).

5. NWE shall 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).

6. 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).

7. 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).

8. NWE 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.7 (ARM 17.8.749).

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

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

11. 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. NWE shall test Unit #051-04 and Unit #051-05 (1100-hp Cooper-Superior compressor engines) for NO_x and CO, concurrently, and demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.1 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 17.8.749).

2. NWE shall test Unit #051-01, Unit #051-02, and Unit #051-03, (1600-hp Solar Saturn turbine-driven compressors) for NO_x and CO, concurrently, and demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.2 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 17.8.749).

3. The newly installed 1600-hp Solar Saturn turbine-driven compressor engine shall be initially tested for NO_X and CO, concurrently, and the results submitted to the Department of Environmental Quality (Department) in order to demonstrate compliance with the emission limitations contained in Section II.A.2 within 180 days of startup. After the initial source test, additional testing shall continue 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).

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

5. 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 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 and shall be in the units required by the Department. This information is required for the annual emission inventory and to verify compliance with permit limitations (ARM 17.8.505).

2. NWE shall document, by month, the total hours of operation of the four 1600-hp Solar Saturn turbines. By the 25th day of each month, NorthWestern shall total the hours of operation of the turbines for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.3. The information for each of the previous months shall be submitted along with the annual inventory (ARM 17.8.749).

3. NWE shall document, by month, the total hours of operation of the two natural gas emergency generators. By the 25th day of each month, NorthWestern shall total the hours of operation of the two natural gas emergency generators for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.4. The information for each of the previous months shall be submitted along with the annual inventory (ARM 17.8.749).

4. NWE shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

5. NWE shall annually certify, as required by ARM 17.8.1204(3)(b), that its actual emissions are less than those that would require the source to obtain an air quality Title V Operating Permit. The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted no later than March 1 and may be submitted with the annual emission inventory information (ARM 17.8.1204).

6. NWE must maintain all records compiled in accordance with this permit 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. Applicant Accepted Conditions Applicable to All Activities of NWE Described in the Record of Decision for the March 14, 2002, Silver Bow Generation Project and Associated Pipeline Construction Activities

NWE has agreed to implement several mitigation measures, as described in the Record of Decision for the CES Silver Bow Generation Project and the measures as imposed at the project sponsors' request pursuant to §75-1-201(5)(b), MCA. These mitigation measures are enforceable conditions in this permit and shall remain in the permit for the lifetime of the facility.

1. Apiary Sites: Prior to building of the gas pipeline, NWE shall coordinate between construction activities and the beehive operators. It may be possible to relocate hives within the same apiary site, causing the hive to be situated in an area farther away from construction activities. Beekeepers typically rotate bees between apiary sites. Ideally, hives must be relocated to another registered apiary site during the period of pipeline construction.

2. Superfund Sites: NWE shall coordinate with ARCO to include pipeline construction in the ARCO long-term Management Plan for wildlife conservation at the Warm Springs Pond Superfund Site.

3. Topsoil Salvage: Pipeline construction activities resulting in soil excavation must salvage the uppermost topsoil horizon(s) and stockpile the materials for reclamation coversoil after regrading. At a minimum, topsoil salvage depth must include all horizons dominated by organic material or containing an accumulation of organic matter to a depth of 12 inches.

4. Multiple Horizon Soil Salvage: For agricultural lands, soil and salvage operations must include multiple horizons (i.e. topsoil and subsoil) salvaged separately and replaced sequentially to help mitigate the potential loss of soil productivity.

5. Soil Compaction Minimization: All salvaged coversoil must be respread over the regraded trench using tracked equipment to minimize soil compaction.

6. 100-year Flood Plain: Temporary access roads must be located, to the maximum degree, on soils outside the 100-year floodplain.

7. Reseeding: NWE shall include in the Weed Control Plan the provisions that all disturbed areas will be reseeded with site-adapted seed mixtures and adequate seed rates of pure live seed in the first appropriate season (Spring or Fall) after construction and at the landowners' discretion. Areas disturbed by the Project that supported native vegetation will be revegetated with native species.

8. Temporary Cover of Disturbed Areas: NWE shall reseed in the same year for all construction completed by August 31, or at landowners' discretion.

9. Minimize Vegetation Cleanup: Existing vegetation may only be cleared from areas scheduled for immediate construction work and only for the width needed for active construction activities.

10. Revegetation Reclamation: NWE must monitor revegetated areas and implement remedial revegetation if necessary until reclamation is successful.

11. Botanical Surveys: NWE shall perform pre-construction botanical surveys (weed inventory) of staging yards, contractor yards, and other associated facilities and mitigate if noxious weeds are not controlled in reclaimed areas.

12. Special-Status Plants: NWE shall use narrowed right-of-way or, where possible, minor reroutes to minimize or avoid impacts to special-status plant populations.

13. NWE and Contractor Compliance: NWE shall ensure contractors adhere to all mitigation measures. NWE will provide an environmental inspector during pipeline construction.

14. Pollution Prevention: All vehicles and equipment utilized during pipeline construction shall be clean, in good repair, and without leaks or oil, gasoline, diesel, or other materials which would contaminate stream water quality. The contractor or NWE shall conduct daily equipment inspection for leaking oil and fuel.

15. Big Game Avoidance: NWE shall consult with Fish, Wildlife, and Parks (FWP) to develop timing restrictions to avoid constructing in big game winter range

during critical periods.

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, 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 all 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 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 Fees — 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 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).

Permit Analysis
NorthWestern Energy
Permit #2997-08

I. Introduction/Process Description

NorthWestern Energy (NWE) operates a gas compressor station located approximately 10 miles east of Augusta in Section 8, Township 20 North, Range 4 West, in Lewis and Clark County, Montana.

A. Permitted Equipment

The NWE facility includes:

1. (4) 1600-horsepower (hp) Solar Saturn Compressor Turbines
2. (2) 1100-hp Cooper-Superior Compressor Engines
3. Miscellaneous Building Heaters.
4. (2) Natural Gas Emergency Generators.
5. (1) Smart Ash Burner

B. Source Description

The NWE facility is located on an 11-acre site in Lewis and Clark County, Montana, approximately 10 miles east of Augusta along Highway 21. The legal description of the facility is Section 8, Township 20 North, Range 4 West, in Lewis and Clark County, Montana.

The facility is a natural gas compressor station. Natural gas is transmitted to the Main Line #3 station from Cut Bank by a 16-inch gas transmission pipeline. The pressure of the gas is boosted to a pressure of approximately 1,000 pounds per square inch guage (psig) by four Solar Saturn gas-fired turbine-driven compressors and two Cooper-Superior reciprocating compressor engines. The two Cooper-Superior compressor engines are also used to transmit natural gas from Big Sandy to Main Line #3 via Great Falls. However, this process only occurs if excess gas is available from the Big Sandy gas fields.

C. Permit History

The original equipment at the Montana Power Company (MPC) – Main Line #3 was installed in 1966 and was, therefore, grandfathered from permitting. On January 27, 1998, MPC submitted a permit application for the addition of two 1100-hp Cooper-Superior compressor engines at the Main Line #3 compressor station. On April 3, 1998, the MPC – Main Line #3 compressor station **Permit #2997-00** became final. Permit #2997-00 permitted two 1100-hp Cooper-Superior compressor engines, three 1100-hp Solar Saturn turbines, miscellaneous building heaters, two natural gas generators, a discharge scrubber tank, and a diesel fuel tank. MPC – Main Line #3 agreed to place operational limits on the three existing 1100-hp Solar Saturn turbines and the two existing natural gas emergency generators to limit emissions below the emission threshold that would require a Title V Operating Permit.

On August 20, 1998, MPC requested that Permit #2997-00 be altered to include a Smart Ash Burner for the disposal of rags and other waste. On October 16, 1998, **Permit #2997-01** replaced Permit #2997-00. The permit still included hourly operational limits

to keep the facility below the Title V Operating Permit threshold.
On March 20, 2000, MPC requested that Permit #2997-01 be altered to facilitate the replacement of two 1100-hp Solar Saturn turbine-driven compressors with two 1600-hp Solar Saturn turbine-driven compressors. On May 13, 2000, **Permit #2997-02** replaced Permit #2997-01. The permit still included hourly operational limits to keep the facility below the Title V Operating Permit threshold.

On June 29, 2001, MPC requested that Permit #2997-02 be altered to facilitate the replacement of an 1100-hp Solar Saturn turbine-driven compressor with a 1600-hp Solar Saturn turbine-driven compressor. The permit still included hourly operational limits to keep the facility below the Title V operating permit threshold. **Permit #2997-03** replaced Permit #2997-02.

On July 30, 2001, MPC requested that Permit #2997-08 be altered to facilitate the addition of three 1600-hp Solar Saturn turbine-driven compressors. The permit still includes hourly operational limits that allow the facility to stay below the emission threshold that would require a Title V operating permit. In addition, through the Montana Environmental Policy Act process, the applicant proposed mitigation measures. The Montana Department of Environmental Quality (Department) has incorporated a portion of those mitigation measures in this permitting action. The conditions pertaining to the mitigation measures are included in Section II.E of the permit and are intended to remain in the permit for the lifetime of the facility. **Permit #2997-04** replaced Permit #2997-03.

On November 23, 2001, the 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 permit action changed the name on this permit from MPC to NorthWestern Corporation. **Permit #2997-05** replaced Permit #2997-04.

On April 11, 2005, the NorthWestern Corporation submitted a request to amend Permit #2997-05. The request included the removal of three of the 1600 hp Solar Saturn compressor turbines that were added to the permit in 2001. The units were never installed. The Department also updated the rule references, reporting language and General Condition language including Sections II.C.2 and 3. **Permit #2997-06** replaced Permit #2997-05.

On February 7, 2008, the Department received a request to change the name on Permit #2997-06 from NorthWestern Corporation to NWE. This permit action was an administrative amendment pursuant to ARM 17.8.764 and changed the permittee name from NorthWestern Corporation to NWE, removed the notification and other requirements for the "future" installation of the last Solar Saturn turbine (installed in 2001), and updated the permit rule references. **Permit #2997-07** replaced Permit #2997-06.

D. Current Permit Action

On May 28, 2008, NWE submitted a complete application for a modification of Permit #2997-07. The modification request includes the reduction in emission rates for the three existing 1,600 hp Solar Saturn turbine-driven compressors to reflect the updated emission factors from Compilation of Air Pollution Emission Factors in AP-42 for stationary gas

turbines, and the manufacturer's guaranteed emission factors.

In addition, NWE proposed to install an additional 1,600-hp Solar Saturn turbine-driven compressor that was previously permitted at NWE's Big Sandy Compressor Station. The engine is the same make and model as the existing three compressors.

NWE also requested to increase the total hours of operation of the three existing and one newly proposed Solar Saturn turbine-driven compressors at the facility from 15,000 hours during any rolling 12-month time period to 17,200 hours during any rolling 12-month time period. With the new emission rates, the facility could operate at the additional hours per rolling 12-month time period and remain a Synthetic Minor source by staying below the title V Operating Permit threshold.

The facility also requested to increase the total size of the combined miscellaneous building heaters from 0.96 million British thermal units per hour (MMBtu/hr) to 1.33 MMBtu/hr to accommodate the increased size of the building that will house the turbines. The increase in combined heater size has a negligible increase in emissions and is reflected in the emission inventory. **Permit #2997-08** replaces Permit #2997-07.

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 quotations 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 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 17.8.105 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. Testing shall occur according to Section II.B. of the permit. The Department may require further testing.

2. 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.

3. 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.

4. 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}

NWE must comply with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. (1) This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes. (2) This rule requires that no person may cause or authorize emissions to be discharged to 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 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 17.8.322 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.

4. 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). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 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. 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines. This subpart shall apply to all stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired and construction, reconstruction, or modification commenced after October 3, 1977. This subpart does not apply to the Main Line #3 facility because each of the turbine-driven compressors has a heat input of 4.29 gigajoules per hour at peak load.

c. 40 CFR 60, Subpart KKK, Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants. Owners or operators of onshore natural gas processing plants, as defined and applied in 40 CFR Part 60, shall comply with standards and provisions of 40 CFR Part 60, Subpart KKK. This subpart does not apply to the Main Line #3 facility because it does not meet the definition of a natural gas processing plant as defined in 40 CFR Part 60, Subpart KKK.

d. 40 CFR 60, Subpart JJJJ — Stationary Spark Ignition Internal Combustion Engines would apply to NWE if they ordered a spark ignition (SI) internal combustion engine (ICE) for operation at this facility after July 1, 2008. The last ICE was installed in 1998, therefore this does not apply.

e. 40 CFR 60, Subpart KKKK — Stationary Combustion Turbines would apply to NWE for any turbine greater than 10.7 gigajoules per hour (10 MMBtu/hr) that commence construction, modification, or reconstruction after February 18, 2005. This subpart does not apply to the Main Line #3 facility because each of the turbine-driven compressors has a heat input of 4.29 gigajoules per hour at peak load.

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

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to 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 standards and provisions of 40 CFR 63, Subpart HH. The Main Line #3 compressor station is not a NESHAP-affected source because the facility does not include an affected emission point as defined in 63.760(b)(1) or 63.760(b)(2).

c. 40 CFR Part 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. In order for a natural gas transmission and storage facility to be subject to 40 CFR 63, Subpart HHH requirements, the facility must be a major source of Hazardous Air Pollutants (HAPs) as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or

paragraphs (a)(2) and (a)(3) of 40 CFR 63, Subpart HHH. The Main Line #3 facility is not subject to the provisions of 40 CFR 63, Subpart HHH, because the facility is not a major source of HAPs.

d. 40 CFR 63, Subpart ZZZZ — National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. As an area source, the two Cooper-Superior lean burn Reciprocating Internal Combustion Engine (RICE) at NWE will be subject to the area source provisions of 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. NWE submitted the appropriate fee for the current permit application.

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. This operation fee is based on the actual or estimated amount of air pollutants emitted during the previous calendar year.

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

E. ARM 17.8, 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. Permits are required for sources that have the Potential to Emit (PTE) greater than 25 tons per year (TPY) of any pollutant. NWE facility has the PTE more than 25 TPY of nitrogen oxide (NO_x), carbon monoxide (CO), and Volatile Organic Compounds (VOCs); 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, alteration, or use of a source. NWE submitted the appropriate permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. NWE submitted an affidavit of publication of public notice for the May 31, 2008, issue of the *Great Falls Tribune*, a newspaper of general circulation in the City of Great Falls in Cascade County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving 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 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, including, but not limited to:

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

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification—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 it is not listed and does not have the PTE more than 250 TPY (excluding fugitive emissions) of any air 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 PM_{10} in a serious PM_{10} nonattainment area.

H. 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 #2997-08 for NWE, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any 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 subject to any current NSPS.

e. This facility is subject to area source provisions of a current 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 nor a solid waste combustion unit.

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

NWE's Permit #2997-08 includes a federally enforceable limit that allows the facility to stay below the Title V Operating Permit threshold. Therefore, the facility is not required to obtain a Title V Operating Permit.

h. ARM 17.8.1203(3). The Department may exempt a source from the requirement to obtain an air quality-operating permit by establishing federally enforceable limitations that limit that source's potential to emit.

i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality-operating permit.

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

1. ARM 17.8.1207 Certification of Truth Accuracy and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this subchapter, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

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 BACT shall be utilized. The BACT analysis addresses the available methods for controlling NO_x and CO emissions from the turbine-driven compressor.

The Department reviewed previous BACT determinations for turbine-driven compressors before making the following BACT determination.

NO_x BACT

NO_x will be formed during the combustion of natural gas in the turbine unit. The formation of NO_x is dominated by the process called thermal NO_x. Thermal NO_x results from the thermal fixation of molecular nitrogen and oxygen in the combustion air. The rate of formation is sensitive to local flame temperature and, to a lesser extent, local oxygen concentrations. Virtually all thermal NO_x is formed in the region of the flame at the highest temperature. Maximum thermal NO_x production occurs at a slightly lean fuel-to-ratio due to the excess availability of oxygen for reaction with the nitrogen in the air and fuel.

The following control technologies were considered as control options for the 1600-hp Solar Saturn turbines:

- Diffusion Flame Turbine Without Controls (baseline case)
- Diffusion Flame Turbine With Water or Steam Injection;
- Diffusion flame Turbine With Selective Catalytic Reduction (SCR);
- Diffusion Flame Turbine With Selective Non-Catalytic Reduction (SNCR);
- Diffusion Flame Turbine With Non-Selective Catalytic Reduction (SNCR);
- Diffusion Flame Turbine With Water or Steam Injection and SCR;
- Lean-premix Turbine Without controls;
- Lean-premix Turbine With Water or Steam Injection;
- Lean-premix Turbine With Selective Catalytic Reduction (SCR);
- Lean premix Turbine With Selective non-Catalytic Reduction (SNCR); and
- Lean-premix Turbine With Non-Selective Catalytic Reduction (NSCR).

Solar Saturn does not make a lean premix turbine below 3500 hp. Research of other manufacturers showed that other companies do not manufacture lean-premix turbines in the 1600-hp range. Therefore, any controls associated with a lean premix turbine are technically infeasible, and are therefore not analyzed any further.

Water injection employed on a diffuser flame turbine is considered technically feasible for these types of small turbines. However, the proposed site for the Solar Saturn turbines will not be located near a source of water. Water would need to be pumped from underground wells, stored on site, and treated in a water treatment facility. For remote compressor stations this is typically very impractical and expensive. Therefore, water or steam injection controls for a diffuser flame turbine are considered technically infeasible.

After the technically infeasible control options were eliminated, the remaining control technology for the Solar Saturn turbine to be installed was the SCR and no controls, which would be considered baseline for this project. The remaining control options were examined based on environmental, energy, and economic impacts.

Control Technology	Emission Rate	Percent Reduction
Diffusion Flame With SCR	10	90
Diffusion Flame Without Controls (Baseline)	100	---

The SCR economic evaluation was conducted based on the methods outlined in EPA 452/B-02-001, EPA Control Cost Manual, 6th Edition (OAQPS) (January 2002). Costs were estimated using the OAQPS cost analysis methods for SCR assuming 90 percent NO_x removal. Equipment costs of $114,209 were provided by the manufacturer in 2004. This cost was scaled up to today's costs by using the CPI factor of 1.141345.

Control Technology	Cost-effectiveness
Diffusion Flame With SCR	$9,230
Diffusion Flame Without Controls	----

The SCR would be cost-prohibitive at $9,230 per ton of NO_x removed. The proposed BACT is proper operation and maintenance with no add-on controls for the diffusion flame combustion turbine. The Solar Saturn turbine will have a NO_x limit of 1.81 grams per brake-horsepower-hour g/bhp-hr (expressed as a limit of 6.38 pound per hour (lb/hr)). The proposed NO_x BACT is consistent with the Department's BACT determination in a previous permit for the identical compressor at the Big Sandy Compressor Station. Therefore, the Department determined that no additional controls would constitute BACT for the Solar Saturn diffusion flame combustion turbine.

CO BACT

CO will be formed during the combustion of natural gas in the turbine unit. CO emission control options for natural gas-fired combustion turbines are listed below:

- Diffusion Flame Turbine Without Controls (baseline)
- Diffusion Flame Turbine With Catalytic Oxidizer;
- Diffusion Flame Turbine With Non-Selective Catalytic Reduction (NSCR);
- Lean-premix Turbine Without controls;
- Lean-premix Turbine With Catalytic oxidizer; and
- Lean-premix Turbine With Selective non-Catalytic Reduction (NSCR).

Solar Saturn does not make a lean premix turbine below 3500 hp. Research of other manufacturers showed that other companies do not manufacture lean-premix turbines in the 1600-hp range. Therefore, any controls associated with a lean premix turbine are technically infeasible, and are therefore not analyzed any further.

Water injection employed on a diffuser flame turbine is considered technically feasible for these types of small turbines. However, the proposed site for the Solar Saturn turbines will not be located near a source of water. Water would need to be pumped from underground wells, stored on site, and treated in a water treatment facility. For remote compressor stations this is typically very impractical and expensive. Therefore, water or steam injection controls for a diffuser flame turbine are considered technically infeasible.

The remaining control technologies for CO are examined based on environmental, energy, and economic impacts.

Control Technology	Emission Rate	Percent Reduction
Diffusion Flame With Catalytic oxidizers	5	90
Diffusion Flame Without Controls (Baseline)	50	---

The use of catalytic oxidation is the only remaining control technology and is the most effective method to control CO emissions for natural gas-fired turbines. Equipment costs of $45,000 were

provided by the manufacturer in 2004. This cost was scaled up to today's costs by using the CPI factor of 1.141345.

Control Technology	Cost-effectiveness
Diffusion Flame With Catalyist	$13,909
Diffusion Flame Without Controls	----

The catalytic oxidizer would be cost-prohibitive at $13,900 per ton of CO removed. The proposed BACT is proper operation and maintenance with no add-on controls for the diffusion flame combustion turbine. The proposed CO emission rate is 0.55 g/bhp-hr (expressed as a limit of 1.94 lb/hr). The proposed CO BACT conforms to the previous BACT determination made by the Department for the identical compressor at the Big Sandy #100 Compressor Station. Therefore, the Department determined the no additional controls constitute BACT for CO on the Solar Saturn turbine.

VOC BACT

The same control measures for CO emissions would be applied to VOC emissions with similar reduction efficiencies. The proposed VOC BACT is proper operation and maintenance with no add-on controls. The proposed VOC emission rate is 0.16 g/bhp-hr (expressed as a limit of 0.56 lb/hr). The proposed VOC BACT conforms to the previous BACT determination made by the Department for the identical compressor at the Big Sandy #100 Compressor Station.

SO_2 BACT

Annual uncontrolled SO_2 emissions are very low and any add-on control would be cost-prohibitive and unreasonable on a cost per ton of SO_2 removed basis, the proposed SO_2 BACt is low sulfur natural gas with no add-on controls. The proposed SO_2 BACT conforms to the previous BACT determination made by the Department for the identical compressor at the Big Sandy #100 Compressor Station. Therefore, the Department determined that no controls constitutes BACT for SO_2 for the Solar Saturn turbine.

PM_{10} BACT

Annual uncontrolled PM_{10} emissions are predicted to be very low and any add-on control would be cost-prohibitive and unreasonable on a cost per ton of PM_{10} removed basis. NWE proposed BACT as combustion of low-ash natural gas and no add-on controls. The proposed PM_{10} BACT conforms to the previous BACT determination made by the Department for the identical compressor at the Big Sandy #100 Compressor Station. Therefore, the Department determined that no additional control constitutes BACT for PM_{10} for the Solar Saturn turbine.

IV. Emission Inventory

Emitting Unit	PM (tpy)	PM_{10} (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)	SO_2 (tpy)	HAPs (tpy)
EU01 – Solar Saturn 1600 Turbine	---	0.22	13.72	4.17	1.21	0.11	0.99
EU02 – Solar Saturn 1600 Turbine	---	0.22	13.72	4.17	1.21	0.11	0.99
EU03 – Solar Saturn 1600 Turbine	---	0.22	13.72	4.17	1.21	0.11	0.99
EU13 – Solar Saturn 1600 Turbine	---	0.22	13.72	4.17	1.21	0.11	0.99
EU04 – Cooper Superior Engine 1100	---	1.33	21.25	31.87	7.97	0.02	2.46
EU05 – Cooper Superior Engine 1100	---	1.33	21.25	31.87	7.97	0.02	2.46
EU06 – Miscellaneous Building Heaters	---	0.04	0.55	0.23	0.03	3.50E-03	1.06E-02
EU07 - Natural Gas Generator (office)	---	1.94E-04	0.22	0.65	0.04	6.12E-05	1.06E-04
EU08 – Natural Gas Generator (House)	---	1.94E-04	0.22	0.65	0.04	6.12E-05	1.06E-04

EU09 – Smart Ash Burner	---	0.03	0.33	0.04	6.08E-04	1.93	---
EU10 – Haul Roads	2.74	1.23	---	---	---	---	---
EU11 – Discharge Scrubber Tank	---	---	---	---	---	---	---
EU12 – Diesel Fuel Tank	---	---	---	---	---	---	---
Total Facility PTE	2.74	4.86	98.68	81.99	20.87	2.44	8.87

- A complete emission inventory is on file with the Department and is available upon request.

V. Existing Air Quality

The facility is located in a remote part of Lewis and Clark County approximately 10 miles east of Augusta, along Highway 21. The plant site is located in Section 8, Township 20 North, Range 4 West, in Lewis and Clark County, Montana. The air quality of this area is classified as either "Better than National Standards" or unclassifiable/attainment of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The nearest Class I area is the Bob Marshall Wilderness, located approximately 30 miles west of the facility. In the view of the Department, the amount of controlled emissions from this facility will not violate any ambient air quality standards.

VI. Takings or Damaging Implication Analysis

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

YES	NO	
		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 pubic 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

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

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
1520 East Sixth Avenue
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FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued For: NorthWestern Energy
Main Line #3
40 East Broadway
Butte, Montana 59701

Permit Number: 2997-08

Preliminary Determination Issued: June 23, 2008
Department Decision Issued: July 24, 2008
Permit Final: August 9, 2008

1. *Legal Description of Site*: Legal Description of Site: NWE – Main Line #3 station is located in Section 8, Township 20 North, Range 4 West, in Lewis and Clark County, Montana.

2. *Description of Project*: This permit is for the operation of a natural gas compressor station that supplies pressure to pipelines that distribute gas to markets in western Montana. The current permit action would reduce the emission rates for the three existing 1,600 hp) Solar Saturn turbine-driven compressors to reflect the updated emission factors from AP-42 for stationary gas turbines, and the manufacturer's guaranteed emission factors. In addition a 1,600 hp Solar Saturn turbine-driven compressor that was previously permitted at NWE's Big Sandy Compressor Station would be installed. The proposed project would increase the total hours of operation of the three existing and one newly proposed Solar Saturn turbine-driven compressors at the facility from 15,000 hours during any rolling 12-month time period to 17,200 hours during any rolling 12-month time period. With the new emission rates, the facility could operate at the additional hours per rolling 12-month time period and remain a Synthetic Minor source by staying below the Title V Operating Permit threshold. The project would increase the total size of the combined miscellaneous building heaters from 0.96 million British thermal units per hour (MMBtu/hr) to 1.33 MMBtu/hr to accommodate the increased size of the building that will house the turbines. The increase in combined heater size would have a negligible increase in emissions and would be reflected in the emission inventory.

3. *Objectives of Project*: Continued business and revenue for the company by increasing the pressure of the received gas to approximately 1,000 psig.

4. *Alternatives Considered*: The "no-action" alternative would consist of not issuing the permit to NWE. This alternative was considered, but dismissed, given that the proposed current permit action would maintain compliance with all applicable rules and regulations as required for permit issuance.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be contained in Permit #2997-08.

6. *Regulatory Effects on Private Property*: The Department has considered alternatives to the conditions imposed by Permit #2997-08. The Department has determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment.* The "no-action" alternative was discussed previously.

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

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

A. Terrestrial and Aquatic Life and Habitats
B. Water Quality, Quantity, and Distribution
C. Geology and Soil Quality, Stability, and Moisture
D. Vegetation Cover, Quantity, and Quality

The proposed project would result in minimal increases in emissions but the emissions would have only a minor impact on existing terrestrial, aquatic life, and habitats of the area; water quality, quantity and distribution; geology and soil quality, stability and moisture; and vegetation cover, quantity, and quality. The proposed project would occur at an established compressor station facility. The Department has determined that any impacts from emissions or deposition of pollutants would be minor due to dispersion characteristics of the pollutants, the atmosphere, and the conditions that would be placed in MAQP #2997-08.

E. Aesthetics

There would be no additional impacts on aesthetics from the current permit action. The site is an existing compressor station and the addition of the 1600-hp Solar Saturn turbine-driven compressor would not change the appearance of the facility, or surrounding area. Therefore, no impacts from the project would be expected.

F. Air Quality

The installation of a 1600-hp Solar Saturn turbine-driven compressor would result in minor impacts on the air quality because in addition to the new turbine, the emission rates of all the turbines would be estimated more accurately resulting in lower emissions of all of the 1600-hp Solar Saturn compressors. Therefore, the project would result in a minimal increase in pollutants being emitted. Limitations provided in Permit #2997-08 would assure that the

emissions meet ambient standards and impacts from the implementation of the project would be minimal. In addition, the compressor would be required to meet BACT and the project would comply with all applicable rules, regulations, and standards.

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

There would be no additional impacts on unique, endangered, fragile, or limited environmental resources from the current permit action. The site is an existing compressor station and the installation and operation of a 1600-hp Solar Saturn turbine-driven compressor would result in a minimal increase in emissions.

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

No additional demands on local water resources or energy would result from the proposed facility. Demands on air resources would be minor due to slight increases of regulated air pollutants.

I. Historical and Archaeological Sites

No additional impacts on historical and archaeological sites would occur due to the current permit action. The site is an existing compressor station and the installation and operation of the 1600-hp Solar Saturn turbine-driven compressor would occur within the boundaries of the compressor station property. According to previous correspondence with the Montana Historical Society, there is low likelihood of adverse disturbance to any known archaeological or historic sites given the previous industrial disturbance within the given area.

J. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor physical and biological impacts to the immediate environment. Air pollution from the facility would be controlled by Department determined BACT and conditions in Permit #2997-08. The Department believes that the facility would be expected to operate in compliance with all applicable rules and regulations as outlined in Permit #2997-08.

8. *The following table summarizes the potential social and economic effects of the proposed project on the human environment.*

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

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

A. Social Structures and Mores

The proposed project would not cause disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project is located at an existing compressor station in a remote area. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of the area would remain unchanged from the proposed project (no impact) because the project would take place at an existing compressor station and the use of the area would remain the same. The applicant and the SHPO both reported that there are no known cultural resources located on or near the property. Therefore, the cultural uniqueness and diversity of the area would not be affected. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor, if any, impacts to the local and state tax base and tax revenue because the proposed project would not require any new permanent employees to be hired. In addition, only minor amounts of construction would be needed to complete the project.

D. Agricultural or Industrial Production

The past land use of the area was predominantly agricultural and grazing. However, the project would occur at an existing compressor station, and the increase in emissions will be minimal. Therefore, impacts to agricultural or industrial production would be minor.

E. Human Health

The proposed project would result in minor, if any, impacts to human health because of the relatively small quantity of potential emissions. As explained in Section 7.F of this EA, deposition of pollutants would occur. However, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to protect human health. Therefore, any impacts to human health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would result in minor, if any, impacts on access to recreational and wilderness activities. The project would take place at an existing compressor station and would deny access to recreational and wilderness activities in the area.

G. Quantity and Distribution of Employment

The proposed project would not affect the quantity and distribution of employment because no permanent employees would be hired as a result of the proposed project. However, temporary construction-related positions could result from this project. Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would not affect distribution of population in the area because the facility would be located in a relatively remote location, at an existing compressor station. The proposed project would not create any new permanent employment that would cause an increase or decrease in population.

I. Demands for Government Services

There would be minor impacts on demands of government services because additional time would be required by government agencies to issue MAQP #2997-08 and to monitor compliance with applicable rules and standards. In addition, the roads in the area may realize a minor increase in vehicle traffic. However, any impacts on government services to regulate would be minor due to the relatively small size of the operation.

J. Industrial and Commercial Activity

Only minor impacts would be expected from industrial and commercial activity because the proposed project is located in a remote location, and the compressor engine will occupy a small area. There may be a slight increase in activity during installation of the compressor station, but this would only be temporary. If any additional compressor engines are added and they have a PTE greater than 15 tons per year of any regulated air pollutant, then the Department would require a MAQP. At that time, the Department would evaluate additional impacts to industrial and commercial activity for each proposed project.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing MAQP #2997-08. This permit would contain limits for protecting air quality and keeping facility emissions in compliance with any applicable ambient air quality standards. Because the project is small, any impacts from the facility would be minor.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the project, industrial production, employment, and tax revenue (etc.) would not be significantly impacted by the proposed project. The Department would not expect other industries to be impacted by the proposed project, and the Department would require that the facility operate in compliance with all applicable rules and regulations as outlined in MAQP #2997-08. In addition, cumulative impacts may result from other companies actively drilling in the natural gas field, but the companies would likely apply for air quality permits for additional facilities.

Recommendation: An Environmental Impact Statement (EIS) is not required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The impacts resulting from this project are expected to be minor.

Other groups or agencies contacted or which may have overlapping jurisdiction: None

Individuals or groups contributing to this EA: Montana Department of Environmental Quality-Air Resources Management Bureau, Montana Historical Society

EA prepared by: Julie Merkel
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