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

July 25, 2011

Andrea Stomberg
Montana-Dakota Utilities Co.
Miles City Generating Station
400 North Fourth Street
Bismarck, North Dakota 58501

Dear Ms. Stromberg:

Montana Air Quality Permit #0901-02 is deemed final as of July 23, 2011, by the Montana Department of Environmental Quality (Department). This permit is for an electrical generating station and associated equipment. 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) 444-9741

Doug Kuenzli
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-4267

VW:DCK
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #0901-02

Montana-Dakota Utilities Co.
Miles City Generating Station
4642 East Leighton Blvd.
Miles City, MT 59301

July 23, 2011

MONTANA AIR QUALITY PERMIT

Issued to: Montana-Dakota Utilities Co.
Miles City Generating Station
4642 East Leighton Blvd.
P.O. Box 1098
Miles City, MT 59301-1098

MAQP: #0901-02
Administrative Amendment (AA) Request Received: 05/02/2011
Department Decision on AA: 07/07/2011
Final Permit Issued: 07/23/2011
AFS #: 017-0002

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

SECTION I: Permitted Facilities

A. Plant Location

Montana-Dakota owns and operates an electrical generating station and associated equipment located in the NW¼ of Section 36, Township 8 North, Range 47 East, in Custer County, Montana. This facility, known as the Miles City Generating Station, is primarily used as a peaking unit. A list of the permitted equipment is located in Section I.A of the permit analysis.

B. Current Permit Action

On May 2, 2011, the Department of Environmental Quality (Department) received correspondence from Montana-Dakota requesting an administrative amendment to remove all reference of the Turbine Ice Peaking Power (TIPP) equipment. MAQP #0901-01 was modified on April 1, 2000, to allow for the installation of fogging and TIPP equipment at the Miles City Generating Station. However, the TIPP portion of the project was never installed. Current permit action removes all reference to TIPP equipment and incorporates current language and rule references used by the Department.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Montana-Dakota 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 six consecutive minutes (ARM 17.8.304).

2. Montana-Dakota 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 six consecutive minutes (ARM 17.8.304).

3. Montana-Dakota shall not cause or authorize the use of any street, haul roads, access roads, parking lots, or general plant area without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

4. Montana-Dakota shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

5. The total hours of operation of the Montana-Dakota facility, while using fogging equipment, shall be limited to a maximum of 3,650 hours during any rolling 12-month period (ARM 17.8.749).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

2. The Department of Environmental Quality (department) may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Montana-Dakota shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

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

3. All records compiled in accordance with this permit must be maintained by Montana-Dakota as a permanent business record for at least five 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).

4. Montana-Dakota shall document, by month, the total hours of operation of the facility while using fogging equipment. By the 25th day of each month, Montana-Dakota shall total the hours of operation of each for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.5. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – Montana-Dakota 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 (Continuous Emissions Monitoring System (CEMS), Continuous Emissions Rate Monitoring System (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 Montana-Dakota fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Montana-Dakota 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, failure to pay the annual operation fee by Montana-Dakota may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

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

Montana Air Quality Permit (MAQP) Analysis
Montana-Dakota Utilities Co.
Miles City Generating Station
MAQP #0901-02

I. Introduction/Process Description

The Montana-Dakota Utilities Co. – Miles City Generating Station (Montana-Dakota) owns and operates an electrical generating facility located in the NW ¼ of Section 36, Township 8 North, Range 47 East, in Custer County, Montana. The site is approximately 13 miles east of Miles City, Montana.

A. Permitted Equipment

The Miles City Generating Station is used for electrical power generation, transmission, and distribution. The Standard Industrial Classification (SIC) code and definition for this facility is "4911 Electric Services – Establishments engaged in the generation, transmission, and/or distribution of" for this facility is "Electrical Power Generation, Transmission, and Distribution of electric energy for sale".

The generating station consists of the following permitted equipment;

1. 1973 General Electric MS-5000 Combustion Turbine/Generator Peaking Plant - The General Electric MS-5000 dual-fuel turbine has a name plate rating of the combustion turbine at 28-megawatts (MW) with 30-MW peak capability at optimum conditions. The unit is fitted with fogging equipment, which consists of an electric water pumping station and distribution system that feeds the spray or fogging system located in air inlet duct. Water supply for the fogging equipment is provided by a 25,000 gallon water storage tank. The turbine is capable of maintaining full load using either natural gas or No.2 fuel oil.

2. 1971 Detroit Diesel 7123-7300 Starting Motor – No. 2 fuel oil-fired 500 brake-horsepower (bhp) internal combustion engine.

3. No. 2 Fuel Oil Storage Tank [E3] - 215,000 Gallon Vertical Fixed Roof Tank [1975]

4. No. 2 Fuel Oil Storage Tank [E4] - 59,000 Gallon Vertical Fixed Roof Tank [1971]

5. No. 2 Fuel Oil Storage Tank [E5] - 185 Gallon Horizontal Starting Motor Day Tank

Other associated equipment is also located on site.

B. Process Description

The combustion turbine consists of an upstream rotating compressor coupled to a downstream turbine, and a combustion chamber in-between. Fuel is added to the gas stream in the combustor, where fuel is mixed with air and ignited. In the high pressure environment of the combustor, combustion of the fuel increases the temperature. The products of the combustion are forced into the turbine section. There, the high velocity and volume of the gas flow is directed through a nozzle over the turbine's blades, spinning the turbine which powers the compressor and drives the mechanical output that drives the electric generator.

The 500 bhp engine is operated during turbine start-up to rotate the main drive shaft, which provides initial compressing of incoming air within the combustion chamber. The starting Motor operates until sufficient pressure, combustion temperature, and air gas flow is available to sustain the turbine.

The turbine is used to provide electricity during peak electrical demand. These periods are normally of limited duration during summer or winter seasons. The unit is capable of sustaining maximum generation for long periods of time when needed.

C. Permit History

On August 11, 1971, Montana-Dakota was issued a permit for the operation of a Gas Turbine Generating Plant to be operated 10 miles east of Miles City, Montana. The permit was given permit **#337-110171**.

On October 20, 1975, Montana-Dakota was issued a new permit for the construction of an additional liquid fuel oil tank at the Miles City Turbine Site on East Leighton Boulevard in Miles City, Montana. The new permit incorporated the conditions of permit #337-110171. The new permit was assigned permit **MAPQ #0901-00.**

On April 1, 2000, Montana-Dakota was issued an alteration of MAQP #0901-00 based on a permit modification request to add fogging and TIPP equipment to the Miles City Generating Station. The addition of this equipment was to allow the combustion turbine to operate more efficiently during periods of warm weather. The modification only presented an increase in the actual emissions and no increase to permit allowable emissions occurred. Montana-Dakota had requested an hourly restriction limit of 3,650 hours per year when using fogging equipment and 360 hours per year while using TIPP equipment. The hourly restrictions limited the potential increase in actual emissions to levels below the significance threshold for New Source Review (NSR). The addition of fogging and TIPP equipment allowed the facility to increase its true potential above the de minimis levels, therefore Montana-Dakota was required to submit a permit application for the changes. **MAQP #0901-01** replaced MAQP #0901-00.

D. Current Permit Action

On May 2, 2011, the Department of Environmental Quality (Department) received correspondence from Montana-Dakota requesting an administrative amendment of MAQP #0901-01 to remove all reference of Turbine Ice Peaking Power (TIPP) equipment. On April 1, 2000, MAQP #0901-01 was modified to allow for the installation of fogging and TIPP equipment at the Miles City Generating Station, however, the TIPP portion of the project was never installed. The current permit action removes all reference to TIPP equipment and incorporates current language and rule references used by the Department. Additionally the emission inventory was updated to reflect current emissions estimate methods, fuel content, and apply to correct heat input ratings. **MAQP #0901-02** replaces MAQP #0901-01

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the 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).

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

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

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

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO_2)
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
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 (PM)
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 Particulate Matter within an aerodynamic diameter of 10 microns of less (PM_{10})

Montana-Dakota must maintain compliance with the applicable ambient air quality standards.

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

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

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, Montana-Dakota 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. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. Montana-Dakota will burn only pipeline quality natural gas while consuming gaseous fuel or burn No. 2 fuel oil where it has been demonstrated through fuel analysis that the sulfur content is not in excess of 1 pound per million Btu fired, 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 and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS). The Montana-Dakota – Miles City Generating Station is subject to NSPS (40 CFR 60), as follows:

   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 does not apply because the facility commenced construction prior to October 3, 1977.

   c. 40 CFR 60, Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978. The storage vessels associated with MAQP #0901-02 are not subject to this subpart because of the tanks capacity not exceeding the applicability threshold, specific content exclusions due to the tanks only storing No. 2 fuel oil, and/or the installation of the tank was prior to the applicability date.

   d. 40 CFR 60, Subpart Ka – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984. The storage vessels associated with MAQP #0901-02

are not subject to this subpart because of tank capacity below the applicability threshold, specific content exclusions due to the tanks only storing No. 2 fuel oil, and/or the installation was prior to the applicability date.

e. 40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. The storage vessels associated with MAQP #0901-02 are not subject to this subpart because of the applicability threshold for tank capacity not being exceeded, exclusions due to the true vapor pressure of No. 2 fuel oil being below the applicability threshold , and/or the installation of the tank was prior to the applicability date.

f. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition (CI) Combustion Engines (ICE). This subpart indicates that NSPS requirements apply to owners or operators of stationary CI ICE that commence construction after July 11, 2005, or are manufactured after April 1, 2006. This subpart also applies to fire pump engines manufactured and certified by the National Fire Protection Association (NFPA) after July 1, 2006. The starting motor associated with MAQP #0901-02 is not subject to this subpart as it was manufacturer prior to applicability date.

g. 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines. This subpart does not apply since the turbine was constructed and installed prior to February 18, 2005. If the turbine were to undergo a reconstruction or modification, it would become subject to 40 CFR, Subpart KKKK.

8. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This section incorporates, by reference, 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAP). Since the emission of HAPs from the Montana-Dakota facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAPs combined, the facility is not subject to the provisions of 40 CFR Part 61.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This section incorporates, by reference, 40 CFR Part 63, NESHAP for Source Categories. When the emission of HAP from a facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAP combined, the facility is not subject to the major source provisions of 40 CFR Part 63.

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

b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary RICE at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. Montana-Dakota is subject to the area source provisions of this subpart.

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

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

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

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

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Montana-Dakota has a PTE greater than 25 tons per year of nitrogen oxides (NO_x), CO, and SO_2; 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, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

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

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

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

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Montana-Dakota of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

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

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

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

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

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

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

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

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

   This facility is not listed source; however, this facility is a major stationary source because it has the potential to emit more than 250 tons per year (excluding fugitive emissions) of NOx. The current permit action is considered an administrative permit change and will not cause a net emission increase.

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

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

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

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

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

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #0901-02 for Montana-Dakota, the following conclusions were made:

   a. The facility's PTE is greater than 100 tons/year for CO and NO_x

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

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

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

   e. This facility is subject to the area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).

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

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

   Based on these facts, the Department determined that Montana-Dakota is subject to the Title V operating permit program.

III. BACT Determination

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

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

IV. Emission Inventory

The emissions listed in the following table for the 28 MW GE Combustion Turbine presents the worst case scenario for individual pollutants either burning No.2 fuel oil or natural gas on a continuous basis (8760 hours per year).

Emission Source	Emissions Tons/Year [PTE]						
	PM	PM_{10}	$PM_{2.5}$	CO	NOx	SOx	VOC
MS-5000 Combustion Turbine	15.82	15.82	15.82	108.11	421.88	43.51	5.27
Detroit Diesel Starting Motor [500 hp]	4.82	4.82	0.85	14.63	116.02	4.490	5.50
Miscellaneous - Fuel Storage Loses	0.0	0.0	0.0	0.0	0.0	0.0	0.11
Total Emissions ►	20.64	20.64	16.67	122.74	537.90	48.00	10.88

CO, carbon monoxide
MMBtu, million British Thermal Units
MMscf, million standard cubic feet
NO_X, oxides of nitrogen
PM, particulate matter
PM_{10}, particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$, particulate matter with an aerodynamic diameter of 2.5 microns or less
SO_2, oxides of sulfur
TPY, tons per year
VOC, volatile organic compounds

MS-5000 Combustion Turbine Engine: Natural Gas Fired [SCC 2-02-002-01]

Fuel Input: MMBtu/hr	301.0	MMBtu/hr
Fuel Heat Content:	307020.0	MMscf/hr
Hours of Operation:	8760	hours/year

Particulate Emissions:

PM Emissions (uncontrolled):

Emission Factor	0.0066 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0066 lb/MMBtu) * (301 MMBtu/hr) =	1.99	lbs/hr
	(1.99 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	8.70	TPY

PM_{10} Emissions (uncontrolled):

Emission Factor	0.0066 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0066 lb/MMBtu) * (301 MMBtu/hr) =	1.99	lbs/hr
	(1.99 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	8.70	TPY

$PM_{2.5}$ Emissions (uncontrolled):

Emission Factor	0.0066 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0066 lb/MMBtu) * (301 MMBtu/hr) =	1.99	lbs/hr
	(1.99 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	8.70	TPY

$PM_{CONDENSABLE}$ Emissions (uncontrolled):

Emission Factor	0.0047 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0047 lb/MMBtu) * (301 MMBtu/hr) =	1.41	lbs/hr
	(1.41 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	6.20	TPY

CO Emissions (uncontrolled):

Emission Factor	0.082 lb/MMBtu	[AP-42 3.1-1, 4/00]	
Calculations	(0.082 lb/MMBtu) * (301 MMBtu/hr) =	24.68	lbs/hr
	(24.68 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	108.11	TPY

NO_x Emissions (uncontrolled):

Emission Factor	0.320 lb/MMBtu	[AP-42 3.1-1, 4/00]	
Calculations	(0.32 lb/MMBtu) * (301 MMBtu/hr) =	96.32	lbs/hr
	(96.32 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	421.88	TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.0034 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0034 lb/MMBtu) * (301 MMBtu/hr) =	1.02	lbs/hr
	(1.02 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.48	TPY

VOC Emissions (uncontrolled) :

Emission Factor	0.0021 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0021 lb/MMBtu) * (301 MMBtu/hr) =	0.63	lbs/hr
	(0.63 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	2.77	TPY

MS-5000 Combustion Turbine Engine: No. 2 Fuel Oil Fired [2-02-001-01]

Fuel Input: MMBtu/hr	301.0	MMBtu/hr
Fuel Consumption:	2196.6	gallons/hour [Estimated]
Hours of Operation:	8760	hours/year

Particulate Emissions:

PM Emissions (uncontrolled):

Emission Factor	0.0120 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.012 lb/MMBtu) * (301 MMBtu/hr) =	3.61	lbs/hr
	(3.61 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	15.82	TPY

PM_{10} Emissions (uncontrolled):

Emission Factor	0.0120 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.012 lb/MMBtu) * (301 MMBtu/hr) =	3.61	lbs/hr
	(3.61 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	15.82	TPY

$PM_{2.5}$ Emissions (uncontrolled):

Emission Factor	0.0120 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.012 lb/MMBtu) * (301 MMBtu/hr) =	3.61	lbs/hr
	(3.61 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	15.82	TPY

$PM_{CONDENSABLE}$ Emissions (uncontrolled):

Emission Factor	0.0072 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.0072 lb/MMBtu) * (301 MMBtu/hr) =	2.17	lbs/hr
	(2.17 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	9.49	TPY

CO Emissions (uncontrolled):

Emission Factor	0.0033 lb/MMBtu	[AP-42 3.1-1, 4/00]	
Calculations	(0.0033 lb/MMBtu) * (301 MMBtu/hr) =	0.99	lbs/hr
	(0.99 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.35	TPY

NOx Emissions (uncontrolled):

Emission Factor	0.088 lb/MMBtu	[AP-42 3.1-1, 4/00]	
Calculations	(0.088 lb/MMBtu) * (301 MMBtu/hr) =	26.49	lbs/hr
	(26.49 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	116.02	TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.033 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.033 lb/MMBtu) * (301 MMBtu/hr) =	9.93	lbs/hr

(9.93 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	43.51	TPY

VOC Emissions (uncontrolled):

Emission Factor	0.0040 lb/MMBtu	[AP-42 3.1-2a, 4/00]	
Calculations	(0.004 lb/MMBtu) * (301 MMBtu/hr) =	1.20	lbs/hr
	(1.20 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	5.27	TPY

Detroit Diesel Engine - Starting Motor

Engine Rating:	500	hp
Fuel Input: MMBtu/hr	3.50	MMBtu/hr
Fuel Consumption:	25.5	gallons/hour [Estimated]
Hours of Operation:	8760	hours/year

Particulate Emissions:

PM Emissions (uncontrolled):

Emission Factor	0.0022 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0022 lb/hp-hr) * (500 hp) =	1.10	lbs/hr
	(1.10 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.82	TPY

PM_{10} Emissions (uncontrolled):

Emission Factor	0.0022 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0022 lb/hp-hr) * (500 hp) =	1.10	lbs/hr
	(1.10 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.82	TPY

$PM_{2.5}$ Emissions (uncontrolled):

Emission Factor	0.0479 lb/MMBtu	[AP-42 3.4-2, 10/96]	
Calculations	(0.0479 lb/MMBtu) * (MMBtu/hr) =	0.17	lbs/hr
	(0.17 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.73	TPY

$PM_{CONDENSABLE}$ Emissions (uncontrolled):

Emission Factor	0.0077 lb/MMBtu	[AP-42 3.4-2, 10/96]	
Calculations	(0.0077 lb/MMBtu) * (3.5 MMBtu/hr) =	0.03	lbs/hr
	(0.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	0.12	TPY

CO Emissions (uncontrolled):

Emission Factor	0.00668 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.00668 lb/hp-hr) * (500 hp) =	3.34	lbs/hr
	(3.34 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	14.63	TPY

NO_x Emissions (uncontrolled):

Emission Factor	0.031 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.031 lb/hp-hr) * (500 hp) =	15.50	lbs/hr
	(15.50 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	67.89	TPY

SO_2 Emissions (uncontrolled):

Emission Factor	0.0021 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0021 lb/hp-hr) * (500 hp) =	1.03	lbs/hr
	(1.03 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =	4.49	TPY

VOC Emissions (uncontrolled):

Emission Factor	0.0025	lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0025 lb/hp-hr) * (500 hp) =		1.26	lbs/hr
	(1.26 lbs/hr) * (8760 hrs/yr) * (0.0005 tons/lb) =		5.50	TPY

Miscellaneous - Fuel Storage

Tank ID	VOC Working & Breathing Loses [Lbs/Year]	[TPY]
Tank E3 [215,000 Gal]	172.33	0.0864
Tank E4 [59,000 Gal]	85.55	0.0428
Tank E5 [185 Gal]	0.77	0.00385
Total Tank Emissions ►	258.65	0.113

Basis: U.S. EPA TANKS 4.0.9d Emissions Estimate Software

V. Existing Air Quality

Custer County is designated as an Unclassifiable/Attainment area for National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined, based on emission inventory and previous Department analysis, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

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

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

		taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

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

VIII. Environmental Assessment

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

Analysis Prepared By: D. Kuenzli
Date: June 15, 2011