

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
TITLE V OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division  
Air Resources Management Bureau  
1520 E. Sixth Avenue  
P.O. Box 200901  
Helena, Montana 59620-0901**

**Montana-Dakota Utilities, Co.  
Miles City Generating Station  
NW ¼ of Section 36, Township 8 North, Range 47 East in Custer County  
East Leighton Blvd  
P.O. Box 1098  
Miles City, MT 59301-1098**

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required		X	
Ambient Monitoring Required		X	
COMS Required		X	
CEMS or PEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
<b>Applicable Air Quality Programs</b>			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #0901-01
New Source Performance Standards (NSPS)		X	
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR)		X	
Prevention of Significant Deterioration (PSD)		X	
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP
Compliance Assurance Monitoring Plan (CAM)		X	

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## **I. GENERAL INFORMATION**

### **A. Purpose**

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the U.S. Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the operating permit. Conclusions in this document are based on information provided in the renewal application submitted by Montana Dakota Utilities Co. (MDU) and received by the Department of Environmental Quality (Department) on March 9, 2004. The renewal application incorporated information from the original operating permit application submitted to the Department on June 10, 1996; and Permit #0901-01, issued April 1, 2000.

### **B. Facility Location**

MDU owns and operates the Miles City Generating Station. This facility is located in the NW ¼ of Section 36, Township 8 North, Range 47 East in Custer County, Montana. Custer County is designated as an Unclassifiable/Attainment area for National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The Miles City Generating Station is located approximately 1¼ miles east of Miles City. The generation site is bordered by Interstate highway 94 to the west. The Yellowstone River is approximately two miles northwest. All other boundaries are essentially undeveloped. The closest schools, hospital, parks, or residential area are to the east, located within the city limits of Miles City over a mile away. In the immediate area surrounding the generation site, there are several single family dwellings.

### **C. Facility Background Information**

On August 11, 1971, MDU was issued a permit for the operation of a Gas Turbine Generating Plant to be operated 1¼ miles east of Miles City, Montana. The permit was given Permit #337-110171.

On October 20, 1975, MDU 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, MT. The new permit incorporated the conditions of Permit #337-110171. The new permit was assigned Permit #901.

On April 1, 2000, MDU was issued Permit #0901-01. The permit modification included the addition of fogging equipment and Turbine Ice Peaking Power (TIPP) for more efficient operation during times of warm weather. The addition of the equipment resulted in an increase of emissions; therefore, hourly limits were added to limit the potential increase in actual emissions to levels that are below the significance threshold for New Source Review (NSR). Permit #0901-01 replaced Permit #0901-00.

On June 10, 1996, the Department received an application from MDU for an operating permit for the Miles City Generating Station. The permit application was assigned Permit #OP0901-00. Permit #OP0901-00 became final and effective on July 9, 1999.

#### **D. Current Permit Action**

On March 5, 2004, the Department received an application for the renewal of Title V Permit #OP0901-00. The permitting action will include the addition of fogging equipment and Turbine Ice Peaking Power (TIPP). **Permit #OP0901-01** will replace Permit #OP0901-00.

#### **E. Taking and Damaging Analysis**

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. The checklist was completed on March 28, 2005.

#### **F. Compliance Designation**

On March 23, 2004, the facility was inspected by the Department. The facility was off-line and unmanned during the inspection; as a result, the inspection was completed from outside the property and was limited in scope. The Department requested operational data from MDU, and the Miles City Generating Station was found to be in compliance with their permit at that time.

## **II. SUMMARY OF EMISSION UNITS**

### **A. Facility Process Description**

The MDU Miles City Generating Station is used for electrical power generation, transmission, and distribution. The Standard Industrial Classification (SIC) for this facility is "Electrical Power Generation, Transmission, and Distribution" which has an SIC Code of "4911."

The Miles City combustion turbine (Unit 1) is a General Electric Model MS-5000 dual fuel unit. Name plate rating of the combustion turbine is 28-MW with 30-MW peak capability at optimum conditions. The turbine is capable of maintaining full load using either natural gas or No.2 fuel oil. A Detroit Diesel starting motor rated at 500-hp, burning No.2 fuel oil, is used for starting the turbine.

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

### **B. Emission Units and Pollution Control Device Identification**

Currently, the Miles City Generating Station consists of one General Electric MS-5000 combustion turbine (natural gas and/or No.2 fuel oil), one diesel starting motor, and two No.2 fuel oil storage tanks. No control equipment is currently in operation on the starting motor, or any of the storage tanks.

### **C. Categorically Insignificant Sources/Activities**

The Administrative Rules of Montana (ARM) 17.8.1201(22)(a) defines an insignificant emissions unit as one that emits less than 5 tons per year of any regulated pollutant, has the potential to emit less than 500 pounds per year of lead or any hazardous air pollutant, and is not regulated by any applicable requirement other than a generally applicable requirement. The insignificant emitting units at the MDU-Miles City facility are the starting motor, storage tank, and the fugitive emissions from in-plant vehicle traffic.

### **III. PERMIT TERMS**

#### **A. Emission Limits and Standards**

The emission units at this facility are not subject to any current Maximum Available Control Technology (MACT) or National Emission Standards of Hazardous Air Pollutants (NESHAP) standards. This facility is not subject to Prevention of Significant Deterioration (PSD) regulations. General emission limits apply to the 28-MW General Electric MS-5000. Several of the conditions will vary according to the fuel type that is used (refinery quality No.2 fuel oil or pipeline quality natural gas).

An opacity limit of 20% is required for the 28-MW General Electric MS-5000, the 500-hp Detroit Diesel Starting Motor, and the Fuel Oil Storage Tanks. This limit was established through ARM 17.8.304(2) for Visible Air Contaminants. A particulate matter from fuel combustion limit is applicable to the 28-MW General Electric MS-5000, and the 600-hp Detroit Diesel Starting Motors. The particulate from fuel combustion limit was established through ARM 17.8.309.

Additional limits have been incorporated in the permit for sulfur compounds in fuel (gaseous and liquid). The sulfur compounds in fuel (gaseous) limit was established through ARM 17.8.322(5) and is applicable to the 28-MW General Electric MS-5000 while burning natural gas. The sulfur compounds in fuel (liquid) limit was established through ARM 17.8.322(4) and is applicable to the 500 Hp Detroit Diesel Starting Motor and the 28-MW General Electric MS-5000 while burning No.2 fuel oil.

An operational limit has been placed on the fogging equipment and the TIPP. The fogging equipment is limited to 3,650 hours of operation per rolling 12-month period. The TIPP equipment is limited to 360 hours of operation per rolling 12-month period.

One additional limit was placed on the 28-MW General Electric MS-5000. Only refinery quality No.2 fuel oil or pipeline quality natural gas may be used as fuel for the 28-MW General Electric MS-5000.

#### **B. Monitoring Requirements**

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required by any applicable requirement be contained in the operating permit. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit. The requirement for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emissions units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions.

When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (i.e., no monitoring) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring and/or recordkeeping for all generally applicable requirements such as ARM 17.8.304, 309, 322, 324, and 749. However, the Department may request additional testing to determine compliance with the emission limits and standards. If it is determined through testing, using test methods identified in the Montana Source Testing Protocol, that any emissions unit is out of compliance

with any applicable requirement, MDU will not be shielded from an enforcement action even if the required monitoring methods listed in the permit indicate compliance with the applicable requirement. Since the fuel consumed by the emission units is pipeline quality natural gas and No.2 fuel oil, the potential to exceed the opacity, particulate, or sulfur in fuel conditions in this permit is negligible. However, while burning No.2 fuel oil, MDU shall provide a fuel analysis from the fuel provider on a semiannual basis to demonstrate compliance with sulfur compounds in fuel requirements (gaseous and liquid). Furthermore, the recordkeeping provisions of this permit should demonstrate compliance with the permit conditions.

**C. Test Methods and Procedures**

This operating permit contains requirements for performing Method 9 tests as required by the Department. Method 9 tests must be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106). Each observation period must be a minimum of six minutes unless any one reading is 20% or greater, then the observation period must be a minimum of 20 minutes or until a violation of the standard has been documented, whichever is a shorter period of time.

**D. Recordkeeping Requirements**

The recordkeeping provisions shall be sufficient to meet the provisions of the monitoring requirements and shall include, as necessary, the installation, use, and maintenance of the monitoring equipment or methods. The following information shall also be provided as necessary: the date the analyses were performed, the place and time of the sampling, the company or entity performing the sampling, the analytical techniques or methods used, the results of such analyses, and the operating conditions at the time of the analyses. Retention of the records of all required monitoring data and support information shall be for a period of at least five years from the date of measurement. Support information includes all calibration and maintenance records and copies of all reports required by the operating permit.

**E. Reporting Requirements**

MDU is required to submit, to the Department, reports of any required monitoring at least every six months and to annually certify compliance with the applicable requirements contained in the permit. All deviations from permit requirements must be clearly identified in these reports. All reports must be certified by a responsible official. The permittee is also required to promptly report any deviations from the permit requirements due to upset conditions and the probable cause of the upset condition along with any corrective actions or preventive measures taken.

**F. Public Notice**

In accordance with ARM 17.8.1232, a public notice was published in the *Miles City Star* newspaper on April 29, 2005. The Department provided a 30-day public comment period on the draft Operating Permit from April 29, 2005, to May 31, 2005. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process.

**G. Draft Permit Comments: Permit #OP0901-01**

The Department did not receive comments on draft Permit #OP0901-01.

#### IV. NON-APPLICABLE REQUIREMENTS ANALYSIS

Section IV of the operating permit “Non-applicable Requirements” contains the requirements that the Department determined were non-applicable. MDU did not identify any non-applicable requirements on a facility-wide basis or an individual emissions unit basis.

Although Section IV of the operating permit lists numerous federal requirements that are not applicable to the MDU facility, several required a more detailed analysis. Specifically, Subparts K, Ka, and Kb do not apply to the facility because of the following:

- A. The No.2 Fuel Oil Storage Tank with Source ID #3 is not an NSPS source as identified in 40 CFR 60, Subparts K and Ka because the capacity of the storage vessel is well below the 40,000-gallon cutoff. Source ID#3 is not an NSPS source as identified in 40 CFR Subpart Kb because the capacity of the storage vessel is well below the 40 cubic meter cutoff.
- B. Although the No.2 Fuel Oil Storage Tank with Source ID #4 capacity is greater than the thresholds in 40 CFR 60, Subparts K, Ka, and Kb, the source is not an NSPS source as identified in 40 CFR 60, Subparts K, Ka, and Kb because the storage vessel was installed in 1971, which is well before the dates identified in these subparts.

The provisions of ARM 17.8.324 do not apply to Source ID #4 because the tank has a capacity less than 65,000 gallons.

- C. Furthermore, 40 CFR 60, Subpart GG does not apply to the MDU Miles City Turbine because the facility commenced construction prior to October 3, 1977. Subparts KKK and LLL do not apply because the facility does not process natural gas. The remainder of the subparts listed in Section IV of the operating permit do not apply because the facility is not an affected source as defined in these regulations.

## **V. FUTURE PERMIT CONSIDERATIONS**

### **A. MACT Standards**

As of April 29, 2005, the Department is unaware of any future MACT Standards that may be promulgated that will affect this facility.

### **B. NESHAP Standards**

As of April 29, 2005, the Department is unaware of any future NESHAP Standards that may be promulgated that will affect this facility.

### **C. NSPS Standards**

As of April 29, 2005, the Department is unaware of any future NSPS Standards that may be promulgated that will affect this facility.

### **D. Risk Management Plan**

As of April 29, 2005, this facility does not have any substance listed in 40 CFR 68.115 or 40 CFR 68.130, which exceeds the minimum threshold quantities. Consequently, this facility is not required to submit a Risk Management Plan.