

**Permit #:** #28.2202-49

**Effective Date:** Draft

**Expiration Date:** Draft



**SOUTH DAKOTA**  
**DEPARTMENT OF ENVIRONMENT**  
**AND**  
**NATURAL RESOURCES**  
**MINOR AIR QUALITY OPERATING PERMIT**

**Steven M. Pirner, Secretary**  
**Department of Environment and Natural Resources**

**Under the South Dakota Air Pollution  
Control Regulations**

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to operate the source unit(s) at the location designated below and under the listed conditions.

A. Owner

1. Company Name and Mailing Address

Veterans Affairs Black Hills Health Care System – Fort Meade  
VA BHHCS, Fort Meade VA Medical Center  
113 Comanche Road  
Fort Meade, South Dakota 57741

2. Actual Source Location if Different from Above

113 Comanche Road  
Fort Meade, South Dakota 57741

3. Permit Contact

Jon R. Holmgren, Engineering Program Manager  
(605) 721-7135

4. Facility Contact

Thomas Smith, Operations Supervisor  
(605) 720-7135

5. Responsible Official

Steven R. DiStasio, Director  
(605) 720-7172

B. Permit Revisions or Modifications

Not Applicable

C. Type of Operation

The facility consists of a medical center, National Guard camp and living quarters.

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## 1.0 Standard Conditions

### 1.1 Operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:04:15(9), the owner or operator shall operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application received February 4, 2015, unless modified by the conditions of this permit. Except as otherwise provided herein, the control equipment shall be operated at all times in accordance with the manufacturer's specification and in a manner that achieves compliance with the conditions of this permit. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

*Table 1-1 – Description of Permitted Units, Operations, and Processes*

Unit	Description	Maximum Operating Rate	Control Device
#1	Boiler #1 – 1957 Murray steam boiler, model 9443, fired with natural gas and distillate oil.	500 horsepower heat output	Not Applicable
#2	Boiler #2 – 1957 Murray steam boiler, model 9444, fired with natural gas and distillate oil.	500 horsepower heat output	Not Applicable
#3	Boiler #3 – 1968 Cleaver Brooks steam boiler, model D42, fired with natural gas and distillate oil.	500 horsepower heat output	Not Applicable
#5	Emergency Generator #4 - building 113, 2006 Katolight, model 350DFCC3604E, diesel fired compression ignition generator.	350 kilowatt	Not Applicable
#7	Emergency Generator #7-2008 Detroit Diesel-Main Stand-by- model CD2000SX6T2, diesel fired compression ignition generator.	3,057 horsepower	Not Applicable
#8	Emergency Generator #8-2009 Cummins Power-fire department- model DSKCA-1933029, diesel fired compression ignition generator.	49 horsepower	Not Applicable
#9	Emergency Generator # 9 - 2013 Cummins, Model DSGAA-1321189, diesel fired compression ignition generator	100 kilowatts	Not Applicable
#10	Emergency Generator #10 - 2013 Cummins, Model DSGAA-1321187, diesel fired compression ignition generator	125 kilowatts	Not Applicable

### 1.2 Duty to comply

In accordance with ARSD 74:36:04:15(12), the owner or operator shall comply with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for

enforcement, reopening this permit, permit termination, or denial of a permit renewal application. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit. This permit does not waive compliance with federal, state, or local laws and ordinances.

### **1.3 Property rights or exclusive privileges**

In accordance with ARSD 74:36:04:15(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

### **1.4 Penalty for violating a permit condition**

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than \$10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

### **1.5 Inspection and entry**

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary, upon presentation of credentials, to:

1. Enter the premises where a regulated activity is located or where pertinent records are stored;
2. Have access to and copy any records required under this permit;
3. Inspect operations regulated under this permit; and/or
4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

### **1.6 Severability**

In accordance with ARSD 74:36:04:15(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

### **1.7 Permit termination, modification, or revocation**

In accordance with ARSD 74:36:04:27, the Secretary may recommend that the Board of Minerals and Environment terminate, modify, or revoke this permit for violations of SDCL 34A-1 or the federal Clean Air Act or for nonpayment of any outstanding enforcement penalty.

## **2.0 Permit Amendments and Modifications**

### **2.1 Permit flexibility**

In accordance with ARSD 74:36:04:18, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

The Secretary will notify the owner or operator whether the change is an administrative permit amendment, a minor permit amendment, or a permit modification. A proposed change that is considered an administrative permit amendment or a minor permit amendment can be completed immediately after the Secretary receives the written notification. The owner or operator must comply with both the applicable requirements governing the change and the proposed permit terms and conditions until the Secretary takes final action on the proposed change.

A proposed change that is considered a modification cannot be implemented until the Secretary takes final action on the proposed change or the owner or operator was issued an air quality construction permit. Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

### **2.2 Administrative permit amendment**

In accordance with ARSD 74:36:04:20, the Secretary has 15 days from receipt of a written notice to verify the proposed change is an administrative permit amendment. As provided in ARSD 74:36:01:03, the Secretary considers a proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

1. Corrects typographical errors;
2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change;
3. Requires more frequent monitoring or reporting;
4. The ownership or operational control changes and the Secretary determines no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
5. Any other changes the Secretary and the administrator of EPA determines to be similar to those requirements in this condition.

### **2.3 Minor permit amendment**

In accordance with ARSD 74:36:04:20.04, the Secretary has 90 days from receipt of a written notice to take final action on a minor permit amendment. Final action consists of issuing or denying a minor permit amendment or determining the proposed change is a permit

modification. As provided in ARSD 74:36:04:20:02, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

1. Does not violate any applicable requirements;
2. Does not involve significant changes to existing monitoring, reporting, or recordkeeping requirements;
3. Does not require or change a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. Does not seek to establish or change a permit term or condition for which the source has assumed to avoid an applicable requirement, a federally enforceable emission cap, or an alternative emission limit. An alternative emission limit is approved pursuant to regulations promulgated under section 112(i)(5) of the federal Clean Air Act.

#### **2.4 Permit modification**

In accordance with ARSD 74:36:04:21, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

1. An increase in the amount of an air pollutant emitted by the source or results in the emission of an air pollutant not previously emitted;
2. A significant change to existing monitoring, reporting, or recordkeeping requirements in the permit;
3. The change requires or changes a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. The change seeks to establish or change a permit term or condition for which there is a corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement, a federally enforceable emissions cap assumed to avoid classification as a modification under a provision of the Title I of the Clean Air Act, or an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Clean Air Act.

Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except the required review shall cover only the proposed changes.

#### **2.5 Permit revision**

In accordance with ARSD 74:36:04:23, the Secretary may reopen and revise this permit to meet requirements of SDCL 34A-1 or the federal Clean Air Act. In accordance with ARSD 74:36:04:24, the Secretary shall notify the owner or operator at least 30 days before reopening this permit. The 30-day period may be less in the case of an emergency.

#### **2.6 Testing new fuels or raw materials**

In accordance with ARSD 74:36:11:04, an owner or operator may request permission to test a new fuel or raw material to determine if it is compatible with existing equipment before

requesting a permit amendment or modification. A complete test proposal shall consist of the following:

1. A written proposal describing the new fuel or raw material, operating parameters, and parameters that will be monitored and any testing associated with air pollutant emissions during the test;
2. An estimate of the type and amount of regulated air pollutant emissions resulting from the proposed change; and
3. The proposed schedule for conducting the test. In most cases the owner or operator will be allowed to test for a maximum of one week. A request for a test period longer than one week will need additional justification. A test period shall not exceed 180 days.

The Secretary shall approve, conditionally approve, or deny in writing the test proposal within 45 days after receiving a complete proposal. Approval conditions may include changing the test schedule or pollutant sampling and analysis methods. Pollutant sampling and analysis methods may include, but are not limited to performance testing, visible emission evaluation, fuel analysis, dispersion modeling, and monitoring of raw material or fuel rates.

If the Secretary determines the proposed change will result in an increase in the emission of a regulated air pollutant or result in the emission of an additional regulated air pollutant, the Secretary shall give public notice of the proposed test for 30 days. The Secretary shall consider all comments received during the 30-day public comment period before making a final decision on the test.

The Secretary will not approve a test if the test would cause or contribute to a violation of a national ambient air quality standard.

### **3.0 Permit Renewal**

#### **3.1 Permit effective**

In accordance with ARSD 74:36:04:05, this permit shall expire five years from date of issuance unless reopened or terminated for cause. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the renewal application.

#### **3.2 Permit renewal**

In accordance with ARSD 74:36:04:06, the owner or operator shall submit an application for a permit renewal at least 90 days before the date of permit expiration if the owner or operator wishes to continue to operate an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the timely permit renewal application.

#### **3.3 Permit expiration**

In accordance with ARSD 74:36:04:16, permit expiration terminates the owner's or operator's right to operate any unit covered by this permit.

## **4.0 Recordkeeping and Reporting**

### **4.1 Recordkeeping and reporting**

In accordance with ARSD 74:36:04:15(10), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application unless otherwise specified in this permit. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources  
PMB 2020, Air Quality Program  
523 E. Capitol, Joe Foss Building  
Pierre, SD 57501-3182

### **4.2 Signatory requirements**

In accordance with ARSD 74:36:04:07, all applications, reports or other information submitted to the Secretary shall be signed and certified by a responsible official or a duly authorized representative. A responsible official for a corporation is a responsible corporate officer and for a partnership or sole proprietorship is a general partner or the proprietor, respectively. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to the Secretary; and
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

The duly authorized representative must be designated prior to or together with any reports or information to be signed by a duly authorized representative. The responsible official shall notify the Secretary if an authorization is no longer accurate.

### **4.3 Certification statement**

In accordance with ARSD 74:36:04:15(10), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

“I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete.”

### **4.4 Reporting permit violations**

In accordance with ARSD 74:36:04:15(10), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first

business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-4068.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

1. A description of the permit violation and its cause(s);
2. The duration of the permit violation, including exact dates and times; and
3. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

The Secretary may waive the written report on a case-by-case basis if the oral report has been received within the reporting period and dependent upon the severity of the permit violation.

## **5.0 Control of Regulated Air Pollutants**

### **5.1 Visibility limit**

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement.

### **5.2 Visibility exceedances**

In accordance with ARSD 74:36:12:02, an exceedance of the opacity limit in permit condition 5.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator is not a malfunction and is considered a violation.

### **5.3 Total suspended particulate matter limits**

In accordance with ARSD 74:36:06:02(1), the owner or operator shall not allow the emission of total suspended particulate matter in excess of the emission limit specified in Table 5-1 for the appropriate permitted unit, operation, and process.

***Table 5-1 – Total Suspended Particulate Matter Emission Limit***

<b>Unit</b>	<b>Description</b>	<b>Emission Limit</b>
<b>#1</b>	Boiler 1	0.6 pounds per million Btu heat input
<b>#2</b>	Boiler 2	0.6 pounds per million Btu heat input
<b>#3</b>	Boiler 3	0.6 pounds per million Btu heat input

#### **5.4 Sulfur dioxide limits**

In accordance with ARSD 74:36:06:02(2) and/or ARSD 74:36:06:03(2) “delete out a section if it is not applicable”, the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 5-2 for the appropriate permitted unit, operations, and process.

*Table 5-2 – Sulfur Dioxide Emission Limit*

<b>Unit</b>	<b>Description</b>	<b>Emission Limit</b>
<b>#1</b>	Boiler 1	3.0 pounds per million Btu heat input
<b>#2</b>	Boiler 2	3.0 pounds per million Btu heat input
<b>#3</b>	Boiler 3	3.0 pounds per million Btu heat input

Compliance with the sulfur dioxide emission limit is based on a three-hour rolling average, which is the arithmetic average of three contiguous one-hour periods.

#### **5.5 Circumvention not allowed**

In accordance with ARSD 74:36:04:31, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

#### **5.6 Minimizing emissions**

In accordance with ARSD 74:36:04:15(9), the owner or operator shall at all time, when practicable, maintain and operate all permitted units in a manner that minimizes air pollution emissions.

### **6.0 Performance Tests**

#### **6.1 Performance test may be required**

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test during the term of this permit. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A performance test conducted while operating less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

#### **6.2 Test methods and procedures**

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not federally applicable or federally required.

### **6.3 Representative performance test**

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

### **6.4 Submittal of test plan**

In accordance with ARSD 74:36:11:01, the owner or operator shall submit the proposed testing procedures to the Secretary at least 30 days prior to any performance test. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification outlining what needs to be completed for approval.

### **6.5 Notification of test**

In accordance with ARSD 74:36:11:03, the owner or operator shall notify the Secretary at least 10 days prior to the start of a performance test to arrange for an agreeable test date when the Secretary may observe the test. The Secretary may extend the deadline for the performance test in order to accommodate schedules in arranging an agreeable test date.

### **6.6 Performance test report**

In accordance with ARSD 74:36:04:15(10), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

1. A brief description of the process and the air pollution control system being tested;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results represented in the same terminology as the permit limits;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test necessary for demonstrating compliance with the permit limits, preparation of standards, and calibration procedures;
7. Raw data sheets for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. All data recorded and used to establish parameters for compliance monitoring; and
10. Any other information required by the test method.

## **7.0 Emergency Generator NSPS Requirements for Unit #5**

### **7.1 Emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4205(a) and 60.4206, the owner or operator shall operate and maintain Unit #5 that achieves the emission limits in Table 7-1 over the entire life of the emergency engine.

**Table 7-1 – Emission limits for emergency engine**

<b>Hydrocarbon</b>	<b>Nitrogen Oxide</b>	<b>Carbon Monoxide</b>	<b>Particulate Matter</b>
1.3 grams per kilowatt-hour	9.2 grams per kilowatt-hour	11.4 grams per kilowatt-hour	0.54 grams per kilowatt-hour
or			
1.0 grams per horsepower-hour	6.9 grams per horsepower-hour	8.5 grams per horsepower-hour	0.40 grams per horsepower-hour

### **7.2 Fuel requirements for emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4207(b), the owner or operator shall only combust diesel fuel in Unit #5 that meets the following per gallon standards:

1. Maximum sulfur content of 15 parts per million; and
2. Minimum cetane index of 40; or
3. Maximum aromatic content of 35 volume percent.

### **7.3 Operating requirements for emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(a), the owner or operator shall comply with the following, except as specified in permit condition 7.5:

1. Operate and maintain Unit #5 according to the manufacturer's emission-related written instructions;
2. Change only those emission-related settings that are permitted by the manufacturer; and
3. Meet the applicable requirements in 40 CFR Part 89, 94, and/or 1068.

### **7.4 Compliance with emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(b), the owner or operator shall demonstrate compliance with the emission limits in permit condition 7.1 by conducting an initial performance test. The performance test shall meet the requirements specified in permit condition 7.7.

### **7.5 Annual operation of emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(f), the owner or operator may operate Unit #5 for the purpose of maintenance checks and readiness testing, provided the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of Unit #5 in emergency situations. The owner or operator may petition the Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not

required if the owner or operator maintains records indicating Federal, State, or local standards require maintenance and testing of Unit #5 beyond 100 hours per year. Unit #5 may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

#### **7.6 Alternative requirements for emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(g)(3), if the owner or operator does not install, configure, operate, and maintain Unit #5 according to the manufacturer's emission-related written instructions or changes the emission-related settings in a way that is not permitted by the manufacturer, the owner or operator must demonstrate compliance as follows:

1. Maintain a maintenance plan and records of conducted maintenance;
2. To the extent practicable, maintain and operate Unit #5 in a manner consistent with good air pollution control practice for minimizing emissions;
3. Conduct an initial performance test to demonstrate compliance with the emission limits in permit condition 7.1 within 1 year of startup, within 1 year after Unit #5 is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the owner or operator changes emission-related settings in a way that is not permitted by the manufacturer; and
4. Conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

#### **7.7 Performance test requirements for emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4212(a) and (d), if the owner or operator conducts a performance test to demonstrate compliance with permit condition 7.1, the following procedures shall be followed, except as provided in permit condition 7.8:

1. The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F; and
2. Exhaust emissions from the emergency generator must not exceed the "NTE" numerical requirements, rounded to the same number of decimal places as the applicable emission limit in permit condition 7.1 and determined by Equation 7-1.

#### ***Equation 7-1 – NTE formula***

$$NTE = 1.25 \times STD$$

Where:

- NTE = Numerical requirement for each pollutant identified in Table 7-1; and
- STD = Emission limit for each pollutant identified in Table 7-1.

### **7.8 Alternative performance test requirements for emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4212(d) and 60.4213, the owner or operator may use the following performance test procedures to demonstrate compliance with permit condition 7.1:

1. The performance test must be conducted according to the requirements in 40 CFR § 60.8 and under the specific conditions in Table 7 of 40 CFR Part 60, Subpart III. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load;
2. The owner or operator may not conduct the performance test during periods of startup, shutdown, or malfunction;
3. The owner or operator shall conduct three separate test runs for each performance test and each test run must last at least 1 hour; and
4. To determine compliance with the nitrogen oxide mass per unit output emission limit, convert the concentration of nitrogen oxide in the engine exhaust using Equation 7-2.

#### ***Equation 7-2 – Particulate matter conversion***

$$ER = \frac{C_d \times 1.912 \times 10^{-3} Q \times T}{KW - hour}$$

Where:

- ER = Emission rate, in grams per KW-hour;
  - $C_d$  = Measured nitrogen oxide concentration, in parts per million;
  - $1.912 \times 10^{-3}$  = Conversion constant for parts per million nitrogen oxide to grams per standard cubic meter at 25 degrees Celsius;
  - Q = Stack gas volumetric flow rate, in standard cubic meter per hour;
  - T = Time of test run, in hours; and
  - KW-hour = Brake work of the engine, in kilowatt-hour.
5. To determine compliance with the particulate matter mass per unit output emission limit, convert the concentration of particulate matter in the emergency engine exhaust using Equation 7-3.

#### ***Equation 7-3 – Particulate matter conversion***

$$ER = \frac{C_{adj} \times Q \times T}{KW - hour}$$

Where:

- ER = Emission rate, in grams per KW-hour;
- $C_{adj}$  = Calculated particulate matter concentration, in grams per standard cubic meter;
- Q = Stack gas volumetric flow rate, in standard cubic meter per hour;
- T = Time of test run, in hours; and
- KW-hour = Energy output of emergency engine, in kilowatts.

**7.9 Maintain records**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4214(a)(2), the owner or operator shall maintain the following records:

- 1. Maintenance conducted on Unit #5; and
- 2. Documentation that Unit #5 meets the emission standards in permit condition 7.1.

**7.10 Non-resettable clock**

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall install, maintain, and operate a non-resettable hour meter on Unit #5 prior to the initial performance test required in permit condition 7.4.

**8.0 Emergency Generator NSPS Requirements for Units #7 and #8**

**8.1 Emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4205(b) and 60.4206, the owner or operator shall operate and maintain the emergency engine that achieves the emission limits in Table 8-1 over the entire life of the emergency engine.

**Table 8-1 – Emission Limits for Emergency Engines (grams per kilowatt-hour)**

Unit	Nonmethane Hydrocarbon + Nitrogen Oxide	Carbon Monoxide	Particulate Matter
#8	4.7	5.0	0.40
#7	6.4	3.5	0.20

In addition, the exhaust gases from the emergency engine, except single-cylinder engines and constant-speed engines, shall not exceed the following opacity levels:

- 1. 20 percent during the acceleration mode;
- 2. 15 percent during the lugging mode; and
- 3. 50 percent during the peaks in either the acceleration or lugging modes.

**8.2 Fuel requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4207(b), the owner or operator shall only combust diesel fuel in the emergency engine that meets the following per gallon standards:

- 1. Maximum sulfur content of 15 parts per million; and
- 2. Minimum cetane index of 40; or
- 3. Maximum aromatic content of 35 volume percent.

The owner or operator may use any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, until depleted.

### **8.3 Operating requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(a), the owner or operator shall comply with the following, except as specified in permit condition 8.6:

1. Operate and maintain the engine according to the manufacturer's emission-related written instructions;
2. Change only those emission-related settings permitted by the manufacturer; and
3. Meet the applicable requirements in 40 CFR Part 89, 94, and/or 1068.

### **8.4 Compliance with emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(c), the owner or operator shall demonstrate compliance with the emission limits in permit condition 8.1 by purchasing an engine certified to meet the emission limits in permit condition 8.1 and install and configure the engine according to the manufacturer's emission-related specifications, except as permitted in permit condition 8.6.

### **8.5 Annual operation of emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(f), the owner or operator shall operate the emergency engine as follows:

1. There is no time limit on the use of emergency engine in emergency situations;
2. The owner or operator may operate the emergency engine for any combination of the following purposes for a maximum of 100 hours per calendar year:
  - a. Emergency engines may be operated for maintenance checks and readiness testing, provided the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating federal, state, or local standards require maintenance and testing of the emergency engine beyond 100 hours per calendar year;
  - b. Emergency engines may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3; and
  - c. Emergency engines may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency;
3. Emergency engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year provided in paragraph (2) of this permit condition. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the

owner or operator to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except if all of the following are met:

- a. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
- b. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region;
- c. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines;
- d. The power is provided only to the owner or operator itself or to support the local transmission and distribution system; and
- e. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the owner or operator.

#### **8.6 Alternative requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(g), if the owner or operator does not install, configure, operate, and maintain the emergency engine according to the manufacturer's emission-related written instructions or changes the emission-related settings in a way that is not permitted by the manufacturer, the owner or operator shall demonstrate compliance as follows:

1. Maintain a maintenance plan and records of conducted maintenance;
2. To the extent practicable, maintain and operate the generator in a manner consistent with good air pollution control practice for minimizing emissions;
3. Conduct an initial performance test to demonstrate compliance with the emission limits in Table 8-1 within 1 year of initial startup or within 1 year of such action; and
4. If the emergency engine is greater than 500 horsepower, the owner or operator shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable limits in Table 8-1.

#### **8.7 Performance test requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4212(a) and (c), if the owner or operator conducts a performance test to demonstrate compliance with Table 8-1, the following procedures shall be followed:

1. The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F for emergency engines with a displacement of less than 10 liters per cylinder and according to 40 CFR Part 1042, Subpart F, for emergency engines with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder; and

2. Exhaust emissions from the emergency engine shall not exceed the “NTE” numerical requirements, rounded to the same number of decimal places as the applicable emission limit in Table 8-1 and determined by Equation 8-1.

***Equation 8-1 – NTE formula***

$$NTE = 1.25 \times STD$$

Where:

- NTE = Numerical requirement for each pollutant identified in Table 8-1; and
- STD = Emission limit for each pollutant identified in Table 8-1

**8.8 Non-resettable hour meter**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4209(a) and ARSD 74:36:05:16.01(9), the owner or operator shall install, maintain, and operate a non-resettable hour meter on the emergency engine prior to initial startup.

**8.9 Recordkeeping for 2011 or later emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4214(b), the owner or operator shall maintain records for 2011 or later emergency engines. The owner or operator shall record the date, start time, and end time of operation using the non-resettable hour meter and the reason the engine was in operation during that time.

**8.10 Annual reporting for emergency engines greater than 100 horsepower**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4214(d), if the owner or operator operates an emergency engine with a maximum engine power of more than 100 horsepower that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in subparagraph (2)(b) and (c) in permit condition 8.5 or that operates for the purposes specified in paragraph (3) of permit condition 8.5, the owner or operator shall submit an annual report. The annual report shall contain the following:

1. Company name and address where the engine is located;
2. Date of the report and beginning and ending dates of the reporting period;
3. Engine site rating and model year;
4. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place;
5. Hours operated for the purposes specified in subparagraph (2)(b) and (c) in permit condition 8.5, including the date, start time, and end time;
6. Number of hours the engine is contractually obligated to be available for the purposes specified in subparagraph (2)(b) and (c) in permit condition 8.5, if applicable; and
7. Hours spent for operation for the purposes specified in paragraph (3) of permit condition 8.5, including the date, start time, and end time. The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted

electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time the report is due, the written report must be submitted to the Secretary.

## **9.0 Emergency Generator NSPS Requirements for Units #9 and #10**

### **9.1 Emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4205(b) and 60.4206, the owner or operator shall operate and maintain the emergency engine that achieves the emission limits in Table 9-1 over the entire life of the emergency engine.

**Table 9-1 – Emission Limits for Emergency Engines (grams per kilowatt-hour)**

<b>Unit</b>	<b>Nonmethane Hydrocarbon + Nitrogen Oxide</b>	<b>Carbon Monoxide</b>	<b>Particulate Matter</b>
#9	4.0	5.0	0.30
#10	4.0	5.0	0.30

### **9.2 Fuel requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4207(b), the owner or operator shall only combust diesel fuel in the emergency engine that meets the following per gallon standards:

1. Maximum sulfur content of 15 parts per million; and
2. Minimum cetane index of 40; or
3. Maximum aromatic content of 35 volume percent.

The owner or operator may use any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, until depleted.

### **9.3 Operating requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(a), the owner or operator shall comply with the following, except as specified in permit condition 9.6:

1. Operate and maintain the engine according to the manufacturer's emission-related written instructions;
2. Change only those emission-related settings permitted by the manufacturer; and
3. Meet the applicable requirements in 40 CFR Part 89, 94, and/or 1068.

### **9.4 Compliance with emergency engine emission limits**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(c), the owner or operator shall demonstrate compliance with the emission limits in permit condition 9.1 by purchasing an engine certified to meet the emission limits in permit condition 9.1 and install and configure the engine according to the manufacturer's emission-related specifications, except as permitted in permit condition 9.6.

## **9.5 Annual operation of emergency engine**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(f), the owner or operator shall operate the emergency engine as follows:

1. There is no time limit on the use of emergency engine in emergency situations;
2. The owner or operator may operate the emergency engine for any combination of the following purposes for a maximum of 100 hours per calendar year:
  - a. Emergency engines may be operated for maintenance checks and readiness testing, provided the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating federal, state, or local standards require maintenance and testing of the emergency engine beyond 100 hours per calendar year;
  - b. Emergency engines may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3; and
  - c. Emergency engines may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency;
3. Emergency engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year provided in paragraph (2) of this permit condition. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the owner or operator to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except if all of the following are met:
  - a. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
  - b. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region;
  - c. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines;
  - d. The power is provided only to the owner or operator itself or to support the local transmission and distribution system; and
  - e. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the owner or operator.

## **9.6 Alternative requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(g), if the owner or operator does not install, configure, operate, and maintain the emergency engine according to the manufacturer's emission-related written instructions or changes the emission-related settings in a way that is not permitted by the manufacturer, the owner or operator shall demonstrate compliance as follows:

1. Maintain a maintenance plan and records of conducted maintenance;
2. To the extent practicable, maintain and operate the generator in a manner consistent with good air pollution control practice for minimizing emissions;
3. Conduct an initial performance test to demonstrate compliance with the emission limits in Table 9-1 within 1 year of initial startup or within 1 year of such action; and
4. If the emergency engine is greater than 500 horsepower, the owner or operator shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable limits in Table 9-1.

## **9.7 Performance test requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4212(a) and (c), if the owner or operator conducts a performance test to demonstrate compliance with Table 9-1, the following procedures shall be followed:

1. The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F for emergency engines with a displacement of less than 10 liters per cylinder and according to 40 CFR Part 1042, Subpart F, for emergency engines with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder; and
2. Exhaust emissions from the emergency engine shall not exceed the "NTE" numerical requirements, rounded to the same number of decimal places as the applicable emission limit in Table 9-1 and determined by Equation 9-1.

### ***Equation 9-1 – NTE formula***

$$NTE = 1.25 \times STD$$

Where:

- NTE = Numerical requirement for each pollutant identified in Table 9-1; and
- STD = Emission limit for each pollutant identified in Table 9-1

## **9.8 Non-resettable hour meter**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4209(a) and ARSD 74:36:05:16.01(9), the owner or operator shall install, maintain, and operate a non-resettable hour meter on the emergency engine prior to initial startup.

### **9.9 Recordkeeping requirements for emergency engines**

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4214(b), the owner or operator shall maintain the records for 2011 or later emergency engines using the non-resettable hour meter:

1. Operation of the engine during an emergency; and
2. Operation of the engine during a non-emergency.

## **10.0 MACT SUBPART JJJJJ FOR BOILERS – Units #1, #2, and #3**

### **10.1 Work practice standards**

In accordance with 40 CFR § 63.11201(b) and (d), the owner or operator shall conduct a tune-up as specified in permit condition 10.4 on Units #1, #2, and #3 every 5 years. This work practice standards applies at all times.

### **10.2 Initial work practice standard compliance deadline**

In accordance with 40 CFR §§ 63.11196(a) and 63.11210(c), the owner or operator shall demonstrate initial compliance with permit condition 10.1 no later than March 21, 2012.

### **10.3 Notice of compliance status for initial tune-up**

In accordance with 40 CFR §§ 63.11214(b) and 63.11225(a)(4)(i), the owner or operator shall submit a Notification of Compliance Status to the Secretary within 120 days after the initial tune-up deadline in permit condition 10.2. The Notification of Compliance Status for the initial tune-up shall contain the following:

1. A statement the owner or operator complied with this condition by conducting the initial tune-up; and
2. A statement the initial tune-up was conducted in accordance with permit condition 10.4;

The Notice of Compliance Status shall be signed by the responsible official.

### **10.4 Boiler tune-up procedures**

In accordance with 40 CFR § 63.11223(a) and (e), the owner or operator shall conduct a tune-up on Units #1, #2, and #3 every 5 years. The 5-year tune-up shall be conducted within 61 months from the date the previously conducted tune-up was completed and shall meet the following requirements:

1. As applicable, inspect the burner and clean or replace any components of the burner as necessary. The owner or operator may delay the burner inspection until the next scheduled shutdown, however, the burner must be inspected at least once every 36 months;
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;
4. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available;
5. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made);
6. Maintain onsite and submit, if requested by the Secretary, a report containing the following information:
  - a. The concentrations of carbon monoxide in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler;
  - b. A description of any corrective actions taken as a part of the tune-up of the boiler; and
  - c. The type and amount of fuel used over the 12 months prior to the five year tune-up of the boiler; and
7. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

#### **10.5 Compliance certification report**

In accordance with 40 CFR § 63.11225(b), the owner or operator shall prepare a compliance certification report every 5 years by March 1 of the reporting year. The report shall contain the following information:

1. Facility name and address;
2. Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of Chapter 10.0; and
3. The date of the five year tune-up for each boiler subject to this chapter.

#### **10.6 Boiler recordkeeping requirements**

In accordance with 40 CFR § 63.11225(c), the owner or operator shall maintain the following records for each boiler applicable to Chapter 10.0:

1. A copy of each notification of compliance status report;
2. A copy of each compliance certification report; and
3. Records identifying each boiler applicable to Chapter 10.0, the date of each tune-up, and the manufacturer's specifications to which the boiler was tuned.

#### **10.7 Changing boiler fuel**

In accordance with 40 CFR § 63.11225(g), if the owner or operator switched fuels or made a physical change to each boiler, additional standards and requirements in 40 CFR Part 63 Subpart JJJJJ may apply. The owner or operator must provide notice of the date upon which fuel was switched, physical change occurred or took a permit limit within 30 days of the change. The notification must identify the following:

1. The name of the owner or operator of the affected source, the location of the source, the boiler(s) that switched fuel, were physically changed, or took a permit limit, and the date of the notice.
2. The date upon which the fuel switch, physical change, or permit limit occurred.

## **11.0 Recommendation**

A review of this facility indicates it can operate in compliance with South Dakota's Air Pollution Control rules and the federal Clean Air Act. The Secretary, therefore, recommends that the Board of Minerals and Environment issue this minor air quality operating permit with conditions to ensure compliance with SDCL 34A-1 and the federal Clean Air Act. Any questions pertaining to the Secretary's recommendation should be directed to Samantha Olmstead, Engineer I, at (605) 77-3151.