

Permit #: #28.0102-01

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

Augustana College
2001 S. Summit Ave
Sioux Falls, South Dakota 57197

2. Actual Source Location if Different from Above

Same As Above

3. Permit Contact

Lonnie Hoefert, Director of Facility Operations
(605) 274-5054

4. Facility Contact

Same As Above

5. Responsible Official

Tom Meyer, Vice President
(605) 274-5330

B. Permit Revisions or Modifications

Not Applicable

C. Type of Operation

Augustana is a four year college.

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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 September 9, 2014, 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	North Boiler – 1972 Kewanee steam boiler, model 7L291-KG02, fired with natural gas and distillate oil	22.1 MMBtus/hr heat input	Not applicable
#2	South Boiler – 1977 Kewanee steam boiler, model 7L291-KG02, fired with natural gas and distillate oil	22.1 MMBtus/hr heat input	Not applicable
#3	Boiler #3 – 1988 Kewanee steam boiler, model M335 KX, fired with natural gas and distillate oil	4.2 MMBtus/hr heat input	Not applicable
#4	Generator #1 – 1991 Caterpillar emergency electrical generator, model 3516, fired with distillate oil	1600 kilowatts heat output	Not applicable
#6	Hurst Boiler - 2006 Hurst low pressure steam boiler, model #0650199, fired by natural gas and fueled with distillate oil.	200 horsepower heat output	Not applicable
#7	Generator #2 - 2006 Caterpillar emergency generator, model #SR4B-GD. This unit is fired with distillate oil.	2,148 kilowatts heat output	Not applicable
#8	Generator #3 – 1988 Caterpillar combustion ignition emergency generator, model #3116. This unit is fired with distillate oil.	113 kilowatts heat output	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 ASRD 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, unless otherwise specified in this permit. 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

Unit	Description	Emission Limit
#1	North Boiler	0.5 pounds per million Btu heat input
#2	South Boiler	0.5 pounds per million Btu heat input
#3	Boiler #3	0.6 pounds per million Btu heat input
#4	Generator #1	0.6 pounds per million Btu heat input
#6	Hurst Boiler	0.6 pounds per million Btu heat input
#8	Generator #3	0.6 pounds per million Btu heat input

5.4 Sulfur dioxide limits

In accordance with ARSD 74:36:06:02(2), 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

Unit	Description	Emission Limit
#1	North Boiler	3.0 pounds per million Btu heat input

#2	South Boiler	3.0 pounds per million Btu heat input
#3	Boiler #3	3.0 pounds per million Btu heat input
#4	Generator #1	3.0 pounds per million Btu heat input
#6	Hurst Boiler	3.0 pounds per million Btu heat input
#8	Generator #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 74:36:07:01, as referenced to 40 CFR § 60.12, 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 74:36:07:01, as referenced to 40 CFR § 60.11(d), the owner or operator shall at all times, 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 74:36:07:01, as referenced to 40 CFR § 60.8(d), the owner or operator shall notify the Secretary at least 30 days prior to the start of a performance test to afford the Secretary the opportunity to have an observer present. If there is a delay in conducting the scheduled performance test, the owner or operator shall notify the Secretary as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Secretary by mutual agreement.

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 #7

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 #7 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

Hydrocarbon	Nitrogen Oxide	Carbon Monoxide	Particulate Matter
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 #7 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 #7 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 #7 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 #7 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 #7 beyond 100 hours per year. Unit #7 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 #7 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 #7 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 #7 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 I-1; and
- STD = Emission limit for each pollutant identified in Table I-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 IIII. 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;
 - 1.912×10^{-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 #7; and
2. Documentation that Unit #7 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 #7 prior to the initial performance test required in permit condition 7.4.

8.0 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 April Soukup, Engineer I at (605) 773-4051.