


Permit #: 28.0105-01
Effective Date: December 11, 2014
Expiration Date: December 11, 2019

The seal of the State of South Dakota is a circular emblem with a serrated outer edge. It features a central landscape scene with a river, trees, and mountains. The text "STATE OF SOUTH DAKOTA" is arched across the top, and "1889" is at the bottom. A banner across the middle reads "UNDER GOD THE PEOPLE RULE".

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


Steven M. Pirner, P.E., 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 unit(s) at the location designated below and under the listed conditions:

A. Owner

1. Company Name and Address

Sioux Falls Water Reclamation Facility
4500 N Sycamore Avenue
Sioux Falls, SD 57104

2. Actual Source Location and Mailing Address if Different from Above

Same as above

3. Permit Contact

Matthew T. Gedney
(605) 367-8280

4. Facility Contact

Mark Perry, Waste Superintendent
(605) 367-8191

5. Responsible Official

Mark Cotter
(605) 367-8600

B. Permit Revisions or Modifications

Not Applicable

C. Type of Operation

Water reclamation facility used to treat wastewater from the city of Sioux Falls, South Dakota.

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1.0 Standard Conditions

1.1 Operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:05:16.01(8), 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 March 17, 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	Boiler #1301 – 1982 Iron Fireman steam boiler, model AG-9.8, fired with digester gas and natural gas.	9.8 million Btus per hour heat input	Not applicable
#2	Boiler #1302 – 1982 Iron Fireman steam boiler, model AG-9.8, fired with digester gas and natural gas.	9.8 million Btus per hour heat input	Not applicable
#3	Generator #1301 – 1982 Caterpillar engine and generator, model G399, fired with digester gas	5.2 million Btus per hour heat input	Not applicable
#4	Generator #1302 – 1982 Caterpillar engine and generator, model G399, fired with digester gas	5.2 million Btus per hour heat input	Not applicable
#6	2008 Caterpillar emergency generator fired with distillate oil.	20.234 million Btus per hour heat input; 2,250 kW heat output	Not applicable
#7	Generator #1303 – 2010 GE Jenbacher, spark ignition generator, model # JMS 316 GS-B/N.L, fired with digester gas and natural gas.	7.558 million Btus per hour heat input	Not applicable

1.2 Duty to comply

In accordance with ARSD 74:36:05:16.01(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.

1.3 Property rights or exclusive privileges

In accordance with ARSD 74:36:05:16.01(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 74:36:05:16.01(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 74:36:05:46, the Secretary may recommend 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 fee or enforcement penalty.

1.8 Credible evidence

In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is in violation of this permit. Credible evidence may consist of the following:

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred:
 - a. A monitoring method approved pursuant to 40 CFR § 70.6(a)(3) and incorporated in this permit; or
 - b. Compliance methods specified in an applicable plan;
2. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information-gathering methods:
 - a. Any monitoring or testing methods approved in this permit, including those in 40 CFR Parts 51, 60, 61, and 75; or
 - b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in paragraph (1) or (2)(a).

2.0 Permit Fees

2.1 Annual air fee required

In accordance with ARSD 74:36:05:06.01, the owner or operator shall submit an annual administrative fee and an annual fee. The fee is based on actual emissions in accordance with ARSD 74:37.

2.2 Annual operational report

In accordance with ARSD 74:37:01:06, the Secretary will supply the owner or operator with an annual operational report in January of each year. The owner or operator shall complete and submit the operational report to the Secretary by March 1 of each year. The responsible official shall sign the operational report in the presence of a notary public.

2.3 Annual air fee

In accordance with ARSD 74:37:01:08, the Secretary will notify the owner or operator of the required annual air emission fee and administrative fee by June 1 of each year. The fees shall accrue on July 1 and are payable to the Department of Revenue by July 31 of each year.

3.0 Permit Amendments and Modifications

3.1 Permit flexibility

In accordance with ARSD 74:36:05:30, 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.

3.2 Administrative permit amendment

In accordance with ARSD 74:36:05:33, the Secretary has 60 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.

3.3 Minor permit amendment

In accordance with ARSD 74:36:05:38, the Secretary has 90 days from receipt of a written notice or 15 days after the end of EPA's 45-day review period, whichever is later, 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 74:36:05:35, 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.

3.4 Permit modification

In accordance with ARSD 74:36:05:39, 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.

3.5 Permit revision

In accordance with ARSD 74:36:05:40, 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 74:36:05:41, 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.

3.6 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.

4.0 Permit Renewal

4.1 Permit effective

In accordance with ARSD 74:36:05:07, this permit shall expire five years from date of issuance unless reopened or terminated for cause.

4.2 Permit renewal

In accordance with ARSD 74:36:05:08, the owner or operator shall submit an application for a permit renewal at least 180 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.

4.3 Permit expiration

In accordance with ARSD 74:36:05:28, permit expiration terminates the owner's or operator's right to operate any unit covered by this permit.

5.0 Recordkeeping and Reporting

5.1 Recordkeeping and reporting

In accordance with ARSD 74:36:05:16.01(9), 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

5.2 Signatory requirements

In accordance with ARSD 74:36:05:12 and 74:36:05:16.01, 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.

5.3 Certification statement

In accordance with ARSD 74:36:05:16.01(14)(a), 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.”

5.4 Monitoring log

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain a monitoring log. The monitoring log shall contain the following information.

1. Maintenance schedule for each piece of control equipment listed in Table 1-1. At a minimum, the maintenance schedule shall meet the manufacturer’s recommended schedule for maintenance. The following information shall be recorded for maintenance:
 - a. Identify the unit;
 - b. The date and time maintenance was performed;
 - c. Description of the type of maintenance;
 - d. Reason for performing maintenance; and
 - e. Signature of person performing maintenance;
2. The following information shall be recorded for each visible emission reading required in permit condition 8.1 and 8.2:
 - a. Identify the unit and if it operates on a monthly, quarterly, semiannual, or annual basis;
 - b. The date and time the visible emission reading was performed;
 - c. If visible emissions were observed;
 - d. Description of maintenance performed to eliminate visible emissions;
 - e. Visible emission evaluation if visible emissions are not eliminated; and
 - f. Signature of person performing visible emission reading and/or visible emission evaluation; and
3. The following information shall be recorded within two days of each emergency exceedance:
 - a. The date of the emergency exceedance and the date the emergency exceedance was reported to the Secretary;
 - b. The cause(s) of the emergency;
 - c. The reasonable steps taken to minimize the emissions during the emergency; and
 - d. A statement the permitted equipment was at the time being properly operated.

5.5 Annual records

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall calculate and record the following amounts from January 1 to December 31 of each year:

1. List all the information necessary for calculating emissions.
2. Types and amounts of fuel burned in each of the permitted units.
3. Actual operating time for each of the permitted units.

The amount of natural gas, digester gas, and distillate oil consumed and throughput shall be based on production records, consumption records, purchase records, etc. The records will be used in junction with the operational report required in permit condition 2.2.

5.6 Monitoring sulfur content of digester gas.

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall monitor the sulfur content of the digester gas being fired in the permitted units. The sulfur content of the digester gas shall be analyzed annually and the analysis shall be submitted with the annual compliance certification report required in permit condition 5.7. In addition, if the sulfur content results in an exceedance of the sulfur dioxide limit in permit condition 6.4 the owner or operator must notify the Secretary in accordance with permit condition 5.8.

5.7 Annual compliance certification

In accordance with ARSD 74:36:05:16.01(14), the owner or operator shall submit an annual compliance certification letter to the Secretary by March 1 of each year this permit is in effect (NOTE: The Secretary will forward a copy of the certification letter to EPA). The certification shall contain the following information:

1. Methods used to determine compliance, including: monitoring, recordkeeping, performance testing and reporting requirements;
2. The source is in compliance and will continue to demonstrate compliance with all applicable requirements;
3. In the event the source is in noncompliance, a compliance plan that indicates how the source has or will be brought into compliance; and
4. Certification statement required in permit condition 5.3.

5.8 Reporting permit violations

In accordance with ARSD 74:36:05:16.01(9), 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.

6.0 Control of Regulated Air Pollutants

6.1 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.

6.2 Visibility exceedances

In accordance with ARSD 74:36:12:02, an exceedance of the opacity limit in permit condition 6.1 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.

6.3 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 6-1 for the appropriate permitted unit, operation, and process.

Table 6-1 – Total Suspended Particulate Matter Emission Limit

Unit	Description	Emission Limit
#1	Boiler #1301	0.6 pounds per million Btu heat input
#2	Boiler #1302	0.6 pounds per million Btu heat input
#3	Generator #1301	0.6 pounds per million Btu heat input
#4	Generator #1302	0.6 pounds per million Btu heat input
#7	Generator #1303	0.6 pounds per million Btu heat input

6.4 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 6-2 for the appropriate permitted unit, operations, and process.

Table 6-2 – Sulfur Dioxide Emission Limit

Unit	Description	Emission Limit
#1	Boiler #1301	3.0 pounds per million Btu heat input
#2	Boiler #1302	3.0 pounds per million Btu heat input
#3	Generator #1301	3.0 pounds per million Btu heat input
#4	Generator #1302	3.0 pounds per million Btu heat input
#7	Generator #1303	3.0 pounds per million Btus 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.

6.5 Air emission exceedances – emergency conditions

In accordance with ARSD 74:36:05:16.01(18), the Secretary will allow for an unavoidable emission exceedance of a technology-based emission limit if the exceedance is caused by an emergency condition and immediate action is taken by the owner or operator to restore the operations back to normal. An emergency condition is a situation arising from a sudden and reasonably unforeseeable event beyond the control of the owner or operator, including acts of God. An emergency shall not include an emission exceedance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. The owner or operator shall notify the Secretary within two working days of the incident and take all steps possible to eliminate the excess emissions. The notification must provide a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. If the notification is submitted orally, a written report summarizing the information required by the notification shall be submitted and postmarked within 30 days of the oral notification

6.6 Circumvention not allowed

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.4(b), no owner or operator shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to the use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere.

6.7 Minimizing emissions

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(1)(i), the owner or operator shall at all times, including periods of startup, shutdown, and malfunction, operate and maintain any permitted unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires the owner or operator to reduce emissions from the permitted unit to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Secretary which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including a startup, shutdown, and malfunction plan, if required), review of operation and maintenance records, and inspection of the operation.

7.0 Performance Tests

7.1 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.

7.2 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.

7.3 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.

7.4 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.

7.5 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.

7.6 Performance test report

In accordance with ARSD 74:36:05:16.01(9), 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.

8.0 Monitoring

8.1 Periodic opacity monitoring for units operating on a monthly or more frequent basis

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall demonstrate compliance with the opacity limits in Chapter 6.0 on a periodic basis for the units identified in the monthly log required in permit condition 5.4 that operate on a monthly or more frequent basis. Periodic monitoring for units that operate on a monthly or more frequent basis shall be based on the following steps:

Step 1: Periodic monitoring shall consist of a visible emission reading. A visible emission reading shall consist of a visual survey of each unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission readings shall be based on the following frequency:

- a. The owner or operator shall conduct a visible emission reading once per calendar month;
- b. If no visible emissions are observed from a unit in six consecutive monthly visible emission readings, the owner or operator may decrease the frequency of readings from monthly to semiannually for that unit; or
- c. If no visible emissions are observed from a unit in two consecutive semiannual visible emission readings, the owner or operator may decrease the frequency of testing of readings from semiannually to annually for that unit.

Step 2: If visible emissions are observed from a unit at any time other than periods of startup, shutdown, or malfunction, periodic monitoring shall consist of a visible emission test to determine if the unit is in compliance with the opacity limit specified in Chapter 6.0. The visible emission test shall be for at least six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission tests shall be based on the following frequency:

- a. The visible emission test must be conducted within one hour of witnessing a visible emission from a unit;
- b. If the visible emission test required in Step 2(a) results in an opacity value less than or equal to 50 percent of the opacity limit for the unit, the owner or operator shall perform a visible emission test once per month;
- c. If the opacity value of a visible emission test in Step 2(b) is less than five percent for three straight monthly tests, the owner or operator may revert back to monthly visible emission readings as required in Step 1;
- d. If the visible emission test required in Step 2(a) results in an opacity value greater than 50 percent of the opacity limit but less than the opacity limit, the owner or operator shall perform a visible emission test once per week; or
- e. If the visible emission test in Step 2(d) results in an opacity value less than or equal to 50 percent of the opacity limit for four straight weekly readings, the owner or operator may revert back to a monthly visible emission test as required in Step 2(b).

The person conducting the visible emission reading does not have to be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. The person conducting the visible emission test must be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. If a visible emission test is required before a person is certified in accordance with permit condition 8.3, the owner or operator shall notify the Secretary within 24 hours of observing the visible emissions to schedule a visible emission test performed by a state inspector.

8.2 Monitoring opacity limits for units operating periodically

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall demonstrate compliance with the opacity limits in Chapter 6.0 for the units identified in the monthly log required in permit condition 5.4 that operate on a quarterly, semiannual, or annual basis.

Periodic monitoring shall be based on the following steps:

- Step 1:** For units that operate on a quarterly basis, monitoring shall consist of the following:
- a. Monitoring shall consist of a visible emission reading once per quarter. A visible emission reading shall consist of a visual survey of the unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions; or
 - b. If visible emissions are observed from a unit at any time other than periods of startup, shutdown, or malfunction, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity

limit specified in Chapter 6.0. The visible emission test must be conducted within one hour of witnessing a visible emission from the unit. The visible emission test shall be for at least six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions.

Step 2: For units that operate on a semiannual or annual basis, monitoring shall consist of the following:

- a. Monitoring shall consist of a visible emission reading once per year. A visible emission reading shall consist of a visual survey of the unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions;
- b. If visible emissions are observed from a unit at any time other than periods of startup, shutdown, or malfunction, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity limit specified in Chapter 6.0. The visible emission test must be conducted within one hour of witnessing a visible emission from the unit. The visible emission test shall be for at least six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions.

The person conducting the visible emission reading does not have to be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. The person conducting the visible emission test must be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. If a visible emission test is required before a person is certified in accordance with permit condition 8.3, the owner or operator shall notify the Secretary within 24 hours of observing the visible emissions to schedule a visible emission test performed by a state inspector.

8.3 Certified personnel – visible emission tests

In accordance with ARSD 74:36:13:07, within 180 days after permit issuance the owner or operator shall retain a person that is certified to perform a visible emission test in accordance with 40 CFR Part 60, Appendix A, Method 9. The owner or operator shall retain a certified person throughout the remaining term of this permit.

9.0 NSPS Requirements, Subpart IIII – Emergency Engine

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 Unit #6.

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

Unit	Nonmethane Hydrocarbon + Nitrogen Oxide	Carbon Monoxide	Particulate Matter
#6	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.

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 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.

9.10 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 9.5 or that operates for the purposes specified in paragraph (3) of permit condition 9.5, 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 9.5, 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 9.5, if applicable; and
7. Hours spent for operation for the purposes specified in paragraph (3) of permit condition 9.5, 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). 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.

10.0 NSPS Requirements - SUBPART JJJJ

10.1 Emission limits

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR §§ 60.4233(e) and 60.4234, the owner or operator shall not allow emissions from Unit #7 to exceed the emission limits in Table 10-1 for the appropriate fuel. The owner or operator of Unit #7 shall achieve the emission limits in Table 10-1 over the entire life of the engine.

Table 10-1 – Emission limits for Unit #7 ¹

Fuel Type	Grams per Horsepower-Hour			Parts per Million by Volume at 15% Oxygen		
	NOx ²	CO ²	VOC ^{2,3}	NOx ²	CO ²	VOC ^{2,3}
Natural Gas	1.0	2.0	0.7	82	270	60
Digester Gas	2.0	5.0	1.0	150	610	80

¹ – The owner or operator may choose to comply with the emission standards in units of grams per horsepower-hour or parts per million by volume at 15 percent oxygen;

² – “NOx” means nitrogen oxide, “CO” means carbon monoxide; and “VOC” means volatile organic compounds; and

³ – When calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

10.2 Demonstrating compliance for non-certified engines

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR § 60.4243(b)(2), the owner or operator that purchases a non-certified engine shall demonstrate compliance with the emission limits in Table 10-1 by the following methods:

1. Demonstrate compliance with the emission standards in Table 10-1 according to the testing procedures in permit condition 10.3;
2. Maintain a maintenance plan and records of conducted maintenance;
3. To the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; and
4. Conduct an initial performance test within 60 days of the initial startup of Unit #7 and subsequent performance tests every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

10.3 Performance test procedures for nonemergency engines

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR §60.4244 the owner or operator shall conduct each performance test according to the following:

1. If the owner or operator limits the nitrogen oxide concentration, the owner or operator shall:
 - a. Select the sampling port location and the number of traverse points using 40 CFR Part 60, Appendix A, Method 1 or 1A or ASTM Method D6522-00(2005); and ¹
 - b. Determine the oxygen concentration at the sampling port location using 40 CFR Part 60, Appendix A, Method 3, 3A, or 3B ² or ASTM Method D6522-00(2005) ¹. Oxygen measurements shall be made at the same time as the measurements for nitrogen oxide concentrations; and
 - c. If necessary, determine the exhaust flow rate using 40 CFR Part 60, Appendix A, Method 2 or 19; and
 - d. If necessary, measure the moisture content using 40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320 or ASTM D 6348-03. Moisture content measurements shall be made at the same time as measurements for nitrogen oxide concentration; and

- e. Measure nitrogen oxide using 40 CFR Part 60, Appendix A, Method 7E or 40 CFR Part 63, Appendix A, Method 320 or ASTM Method D6522-00(2005) ¹ or ASTM D 6348-03.
2. If the owner or operator limits the carbon monoxide concentration, the owner or operator shall:
 - a. Select the sampling port location and the number of traverse points using 40 CFR Part 60, Appendix A, Method 1 or 1A or ASTM Method D6522-00(2005); and ¹
 - b. Determine the oxygen concentration at the sampling port location using 40 CFR Part 60, Appendix A, Method 3, 3A, or 3B ² or ASTM Method D6522-00(2005) ¹. Oxygen measurements shall be made at the same time as the measurements for carbon monoxide concentrations; and
 - c. If necessary, determine the exhaust flow rate using 40 CFR Part 60, Appendix A, Method 2 or 19; and
 - d. If necessary, measure the moisture content using 40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320 or ASTM D 6348-03. Moisture content measurements shall be made at the same time as measurements for carbon monoxide concentration; and
 - e. Measure carbon monoxide using 40 CFR Part 60, Appendix A, Method 7E or 40 CFR Part 63, Appendix A, Method 320 or ASTM Method D6522-00(2005) ¹ or ASTM D 6348-03.
3. If the owner or operator limits the volatile organic compound concentration, the owner or operator shall:
 - a. Select the sampling port location and the number of traverse points using 40 CFR Part 60, Appendix A, Method 1 or 1A or ASTM Method D6522-00(2005); and ¹
 - b. Determine the oxygen concentration at the sampling port location using 40 CFR Part 60, Appendix A, Method 3, 3A, or 3B ² or ASTM Method D6522-00(2005) ¹. Oxygen measurements shall be made at the same time as the measurements for volatile organic compound concentrations; and
 - c. If necessary, determine the exhaust flow rate using 40 CFR Part 60, Appendix A, Method 2 or 19; and
 - d. If necessary, measure the moisture content using 40 CFR Part 60, Appendix A, Method 4 or 40 CFR Part 63, Appendix A, Method 320 or ASTM D 6348-03. Moisture content measurements shall be made at the same time as measurements for volatile organic compound concentration; and
 - e. Measure carbon monoxide using 40 CFR Part 60, Appendix A, Method 7E or 40 CFR Part 63, Appendix A, Method 320 or ASTM Method D6522-00(2005) ¹ or ASTM D 6348-03.

10.4 Testing procedures

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR § 60.4244, the owner or operator shall conduct a performance test according to the following procedures:

1. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and under the specific conditions specified in Table 10-2;

2. The owner or operator may not conduct performance tests during periods of startup, shutdown, or malfunction. If Unit #7 is non-operational, the owner or operator does not need to start up the engine solely to conduct a performance test; however, the owner or operator must conduct the performance test immediately upon startup of Unit #7;
3. The owner or operator must conduct three separate test runs for each performance test. Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour;
4. To determine compliance with the nitrogen oxide mass per unit output emission limit, convert the concentrations of nitrogen oxide in the exhaust using Equation 10-1;

Equation 10-1 – Nitrogen oxide emissions

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

Where:

- ER = Emission rate of nitrogen oxide, in grams per horsepower-hour;
- C_d = Measured nitrogen oxide concentration, in parts per million by volume;
- 1.912×10^{-3} = Conversion constant for parts per million nitrogen oxide to grams per standard cubic meter at 20 degrees Celsius;
- Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis;
- T = Time of test run, in hours; and
- HP-hr = Brake work of the engine, in horsepower-hour

5. To determine compliance with the carbon monoxide mass per unit output emission limit, convert the concentrations of carbon monoxide in the exhaust using Equation 10-2;

Equation 10-2 – Carbon monoxide emissions

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr}$$

Where:

- ER = Emission rate of carbon monoxide, in grams per horsepower-hour;
- C_d = Measured carbon monoxide concentration, in parts per million by volume;
- 1.164×10^{-3} = Conversion constant for parts per million carbon monoxide to grams per standard cubic meter at 20 degrees Celsius;
- Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis;
- T = Time of test run, in hours; and
- HP-hr = Brake work of the engine, in horsepower-hour

6. To determine compliance with the volatile organic compound mass per unit output emission limit, convert the concentrations of volatile organic compound in the exhaust using Equation 10-3. When calculating emissions of volatile organic compounds, emission of formaldehyde should not be included; and

Equation 10-3 – Volatile organic compound emissions

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr}$$

Where:

- ER = Emission rate of volatile organic compounds, in grams per horsepower-hour;
- C_d = Measured volatile organic compound concentration, in parts per million by volume;
- 1.833×10^{-3} = Conversion constant for parts per million volatile organic compounds to grams per standard cubic meter at 20 degrees Celsius;
- Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis;
- T = Time of test run, in hours; and
- HP-hr = Brake work of the engine, in horsepower-hour.

7. If the owner or operator chooses to measure volatile organic compound emissions using either 40 CFR part 60, Appendix A, Method 18 or 40 CFR part 63, Appendix A, Method 320, then the owner or operator has the option of correcting the measured volatile organic compound emissions to account for the potential differences in measured values between these methods and 40 CFR part 60, Appendix A, Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 10-4 and 10-5. The corrected volatile organic compound concentration can then be placed on a propane basis using Equation 10-6.

Equation 10-4 – Response factor

$$RF_i = \frac{C_{Mi}}{C_{Ai}}$$

Where:

- RF_i = Response factor of compound “i” when measured with Method 25A;
- C_{Mi} = Measured concentration of compound “i”, in parts per million by volume as carbon; and
- C_{Ai} = True concentration of compound “i”, in parts per million by volume as carbon.

Equation 10-5 – Corrected concentration

$$C_{icorr} = RF_i \times C_{meas}$$

Where:

- C_{icorr} = Concentration of “i” corrected to the value that would have been measured by Method 25A, in parts per million by volume as carbon; and
- C_{meas} = Concentration of compound “i” measured by Method 320, in parts per million by volume as carbon.

Equation 10-6 – Concentration as propane equivalent

$$CP_{eq} = 0.6098 \times C_{icorr}$$

Where:

- CP_{eq} = Concentration of compound “i” in milligrams of propane equivalent per dry standard cubic meter.

10.5 Recordkeeping requirements

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR § 60.4245(a), the owner or operator shall maintain the following records:

1. All notifications submitted to comply with this chapter and all documentation supporting any notification;
2. Maintenance conducted on Unit #7; and
3. The owner operator shall maintain documentation that Unit #7 is meeting the emission standards in Table 10-1.

10.6 Reporting requirements

In accordance with ARSD 74:36:07:90, as referenced to 40 CFR § 60.4245(d), the owner or operator shall submit a copy of each performance test within 60 days after the test has been completed.

10.7 Installation of a non re-settable clock on Unit #7

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall install a non re-settable clock on Unit #7 and continuously record the hours of operation.

11.0 MACT Requirements for Non-emergency Spark Ignition Engines

11.1 Date to comply with non-emergency engine requirements

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6595(a)(1), the owner or operator of Unit #3 and Unit #4 shall comply with the applicable requirements specified in this chapter on and after October 19, 2013.

11.2 Maintenance requirements for non-emergency engine

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6603(a), the owner or operator shall:

1. Change oil and oil filter every 1,440 hours of operation or annually, whichever comes first;
2. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
3. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

Sources have the option to utilize an oil analysis program as described in permit condition 11.7 in order to extend the specified oil change requirement of this subpart.

11.3 Minimizing emissions from non-emergency engine

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6605, the owner or operator shall be in compliance with the requirements in this chapter at all times. The owner or

operator shall at all times operate and maintain the emergency engine, including associated monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if the requirements in this chapter have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on available information which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the non-emergency engine.

11.4 Operate non-emergency engine according to manufacturer's instructions

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6625(e) and 63.6640(a), the owner or operator shall operate and maintain the non-emergency engine according to the manufacturer's emission-related written instructions or develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the non-emergency engine in a manner consistent with good air pollution control practice for minimizing emissions.

11.5 Minimizing startup time

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6625(h), the owner or operator shall minimize the non-emergency engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

11.6 Alternative maintenance schedule

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6625(j), the owner or operator may utilize an oil analysis program in order to extend the specified oil change requirement in permit condition 11.2. The oil analysis must be performed at the same frequency specified for changing the oil in permit condition 11.2. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows:

1. Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide per gram from Total Acid Number of the oil when new;
2. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or
3. Percent water content (by volume) is greater than 0.5.

If all of these condemning limits are not exceeded, the owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the owner or operator shall change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine.

11.7 Recordkeeping for non-emergency engine

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6655 and 63.6660, the owner or operator shall maintain records of all required maintenance performed on the engine;

All records shall be maintained in a form suitable and readily available for expeditious review for 5 years following the date of each occurrence, measurement, maintenance, report or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site.

11.8 Circumvention not allowed

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.4(b), no owner or operator shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to the use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere.