

**TITLE V AIR QUALITY OPERATING PERMIT  
and  
ACID RAIN PERMIT  
and  
SURFACE WATER DISCHARGE PERMIT**

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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 in accordance with the record keeping requirements, monitoring requirements, air emissions limits, and other conditions set forth herein.

Pursuant to Chapter 34A-2-36 of the South Dakota Codified Laws and the South Dakota Water Pollution Control Act, a surface water discharge permit is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes the owner to discharge wastewater and storm water to the Big Sioux River in accordance with discharge points, effluent limits, monitoring requirements, and other conditions set forth herein. Authorization to discharge is limited to those outfalls specifically listed in the permit.



Steven M Pirner  
Secretary  
Department of Environment and Natural Resources



Steven M Pirner  
Secretary  
Department of Environment and Natural Resources

## GENERAL INFORMATION

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**APPLICANT:** Northern States Power, a Minnesota Company  
Angus Anson Generating Plant  
414 Nicollet Mall MP MP7  
Minneapolis, Minnesota 55401-1927

**SITE LOCATION:** Angus Anson Generating Site  
7100 East Rice Street  
Sioux Falls, South Dakota 57103

**LEGAL DESCRIPTION:** SW 1/4, Section 30, Township 102 North, Range 48 West

**PERMIT CONTACTS:** John Buresh, Senior Environmental Analyst  
(612) 330-7630  
Air Quality

Brent Kuhl  
(651) 388-1121 ext. 4419  
Surface Water Discharge and Storm Water Discharge

**FACILITY CONTACT:** Timothy Brown, Plant Manager  
(605) 331-1230

**RESPONSIBLE OFFICIAL:** James Kuhn, Director of Peaking  
(715) 737-1136

**PERMIT NUMBER:** SD0000264

**EFFECTIVE DATE:** December 1, 2010

**PERMIT REVISED:**

1. January 26, 2011 – Administrative amendment to change permit contacts; and
2. August 9, 2011 – Administrative amendment to change responsible official.

**EXPIRATION DATE:** December 1, 2015

**GENERAL FACILITY DESCRIPTION:** Electric peaking plant.

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## 1.0 STANDARD CONDITIONS

**1.1 Operation of air quality sources.** 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 submitted and dated January 12, 2009, unless modified by the conditions of this permit. Except as otherwise provided herein, the control equipment shall be operated in a manner that achieves compliance with the conditions of this permit at all times. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware that 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*

Identification	Description	Maximum Operating Rate	Control Device
Unit #4	1993 Westinghouse gas turbine, Model #W50105, fired with natural gas and distillate oil. A fogging device is installed to increase the megawatt output up to the maximum operating rate during warm weather months.	1,370 million Btus per hour heat input.	Water injection system to control nitrogen oxide emissions.
Unit #5	1993 Westinghouse gas turbine, Model #W50105, fired with natural gas and distillate oil. A fogging device is installed to increase the megawatt output up to the maximum operating rate during warm weather months.	1,370 million Btus per hour heat input.	Water injection system to control nitrogen oxide emissions.
Unit #7	1993 Sivalls, Inc. natural gas fired heater.	5.5 million Btus per hour heat input.	Not applicable.
Unit #8	A 2004 General Electric simple cycle combustion turbine, Model 7FA, fired with natural gas and equipped with dry low NOx combustion technology. An evaporative cooler is installed to increase the megawatt output up to the maximum operating rate during hot weather months.	1615 million Btus per hour heat input at 45° Fahrenheit; 160 megawatts, nominal	Not applicable.

**1.2 Description of surface water discharge points.** An authorized release is a discharge from a permitted outfall that meets all permit conditions and effluent limits. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with

the conditions of this permit. Proper operation and maintenance also includes adequate laboratory control and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

The authorization to discharge provided under this permit is limited to those outfalls specifically designated in Table 1-2 as discharge locations. Discharges at any location not authorized under this permit is a violation of the South Dakota Water Pollution Control Act and could subject the person(s) responsible for such discharge to penalties under Section 34A-2-75 of the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from the owner or operator first learning of an unauthorized discharge could subject the owner or operator to penalties as provided under the South Dakota Water Pollution Control Act.

**Table 1-2 – Description of Surface Water Discharge Points**

Outfall Serial Number	Description of Surface Water Discharge Point
<b>Outfall 001</b>	Any surface water discharge from the settling basin system to the Big Sioux River (Latitude 43.605278°, Longitude 96.632500°)
<b>Outfall 002</b>	Any discharge of intake screen wash water to the Big Sioux River (Latitude 43.60667°, Longitude 96.636667°).

**1.3 Duty to comply.** In accordance with ARSD 74:36:05:16.01(12) and 74:52:03:02, 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, within a reasonable time, any information requested by the Secretary to determine compliance or whether cause exists for reopening, revoking and reissuing, or terminating this permit.

**1.4 Property rights or exclusive privileges.** In accordance with ARSD 74:36:05:16.01(12) and 74:52:03:02, 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 that 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.

**1.5 Penalty for violating a permit condition.** In accordance with South Dakota Codified Laws (SDCL) 34A-1 and 34A-2, 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. Except as provided in permit conditions in Section 15.3 **Bypass** and Section 15.4 **Upset**, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
2. Any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit is in violation of the provisions of SDCL 34A-2-77, and is subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 34-A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, such violators are subject to a civil penalty not to exceed ten thousand dollars per day of violation, or for damages to the environment of this state.
3. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a Class 1 misdemeanor. In addition to a jail sentence authorized by SDCL 22-6-2, a Class 1 misdemeanor imposed by SDCL, Chapter 34A-2, is subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, for damages to the environment of this state, or both.
4. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Federal Clean Water Act.

**1.6 Minimizing pollutant emissions and discharges.** In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(d), and ARSD 74:52:03:02, the owner or operator shall at all times, when practicable, maintain and operate the facility in a manner that minimizes air pollution emissions and pollutant discharges. The owner or operator shall also take all reasonable steps to minimize or prevent any surface water or storm water discharge which has a reasonable likelihood of adversely affecting human health or the environment.

**1.7 Inspection and entry.** In accordance with SDCL 34A-1-41 and ARSD 74:52:03:03, the owner or operator shall allow the Secretary or EPA 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 that are required under this permit;
3. Inspect operations or equipment regulated or required under this permit; and/or

4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

**1.8 Severability.** In accordance with ARSD 74:36:05:16.01(11) and SDCL 34A-2-95, any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

**1.9 Permit termination, modification, or revocation.** In accordance with ARSD 74:36:05:46 and SDCL 34A-2-31, the Secretary may take action to terminate, modify, or revoke this permit for violations of SDCL 34A-1, SDCL 34A-2, the federal Clean Air Act and Clean Water Act, or for nonpayment of any outstanding fee or enforcement penalty.

**1.10 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 violation of this permit. Credible evidence is as follows:

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at the source:
  - a. A monitoring method approved for the source 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, 75, and 136; or
  - b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in section (1) or (2)(a).

**1.11 Removed substances.** Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in a manner to prevent any pollutant from entering any waters of the state or creating a health hazard. This provision does not apply to river material removed from the screens at the intake.

**1.12 Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

## **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.

**2.4 Annual surface water discharge fee.** In accordance with SDCL 34A-2-119, the owner or operator shall submit an annual surface water discharge fee. The fee shall accrue on July 1 and is payable to the Department of Revenue by July 31 of each year.

## **3.0 PERMIT AMENDMENT AND MODIFICATION CONDITIONS**

**3.1 Permit flexibility.** In accordance with ARSD 74:36:05:30 and 74:52:03:05, 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 nature or quantity of pollutants emitted or discharged, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility meets the definition of a new source in ARSD, 74:52:01:01(30).

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 can not be constructed until the Secretary takes final action on the proposed change. 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 and 74:52:04, the Secretary has 60 days from receipt of a written notice to verify that the proposed change is an administrative permit amendment. In the surface water discharge program, this is considered a minor modification. 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 at the source;
3. Requires more frequent monitoring or reporting by the permittee;
4. The ownership or operational control of a source change and the Secretary determines that no other change in this permit is necessary. In accordance with ARSD Chapter 74:52:04, the current permittee shall notify the Secretary at least 30 days in advance of a change in ownership or operational control of a source. 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 that 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 that 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 record keeping 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 and 74:52:04, an owner or operator may apply for a permit modification. A permit modification is any proposed change that

is not an administrative amendment or a minor permit amendment. 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.

An air quality 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 record keeping 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.

**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 74:52:04, the permit may be reopened and modified to include appropriate effluent limits or other requirements if one or more of the following occurs:

1. The water quality standards of the receiving water applicable to this permit are modified in such a manner as to require different effluent limits than contained in this permit;
2. A revision to the current water quality management plan is approved and adopted which calls for different effluent limits than contained in this permit;
3. Effluent limit guidelines are promulgated or revised for point sources covered by this permit;
4. Additional controls in the permit are necessary to implement a total maximum daily load approved by the Secretary and/or EPA;
5. The discharger is a significant contributor of pollution to waters of the state, presents a health hazard, or is in noncompliance with the conditions of this permit;
6. Toxicity is detected late in the life of the permit;
7. The toxicity reduction evaluation results indicate the toxicant(s) represent pollutant(s) that may be most appropriately controlled with specific numerical limits;
8. Following the implementation of numerical controls on toxicants, a modified whole effluent protocol is necessary to compensate for those toxicants that are controlled numerically;
9. The toxicity reduction evaluation reveals other unique conditions or characteristics which justify the incorporation of unanticipated special conditions in the permit; or

10. Other conditions or standards change so that the discharge no longer qualifies for this permit, such as the owner or operator being designated as a major discharger, changes in necessary influent or effluent pollutant monitoring, additional state or federal requirements become applicable to the owner or operator, or other items.

**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 that describes 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 that will result 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 that 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 REQUIREMENTS**

**4.1 Permit effective.** In accordance with ARSD 74:36:05:07 and 74:52:03:21, 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, and 74:52:02:05, 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 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 GENERAL REPORTING AND RECORDKEEPING REQUIREMENTS**

**5.1 Record keeping and reporting.** In accordance with ARSD 74:36:05:16.01(9) and 74:52:03:04, 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, Division of Environmental Services  
523 E. Capitol, Joe Foss Building  
Pierre, SD 57501-3182

**5.2 Availability of reports.** Except for data determined to be confidential under SDCL 34A-1-14 and ARSD 74:52:02:17, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the South Dakota Department of Environment and Natural Resources and the EPA. Permit applications, permits and effluent data shall not be considered confidential.

**5.3 Signatory requirements.** In accordance with ARSD 74:36:05:12, 74:36:05:16.01, 74:52:02:18 and 74:52:02:19, all applications submitted to the Secretary shall be signed and certified by a responsible official. 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. All reports or other information submitted to the Secretary shall be signed and certified by a responsible official or a duly authorized representative. 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 responsible official shall notify the Secretary if an authorization is no longer accurate. The new duly authorized representative must be designated prior to or together with any reports or information to be signed by a duly authorized representative.

**5.4 Certification statement.** In accordance with ARSD 74:36:05:16.01(14)(a) and ARSD 74:52:02:21, 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 under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**5.5 Reporting permit violations.** In accordance with ARSD 74:36:05:16.01(9) and 74:52:03:07, the owner or operator shall report all permit violations.

1. The owner or operator shall report any noncompliance that may endanger human health or the environment as soon as possible, but no later than twenty-four (24) hours from the time the violation was first discovered. The report shall be made to the state of South Dakota at (605) 773-3231 and the EPA, Region VIII, Emergency Response Branch at (303) 293-1788.
2. All other permit violations shall 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) 773-5286.
3. A written report shall be submitted within five days of discovering the permit violation to the address in Section 5.1. 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:
  - a. Description of the permit violation and its cause(s);
  - b. Duration of the permit violation, including exact dates and times;
  - c. The estimated time noncompliance is expected to continue if it has not been corrected; and
  - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

## **6.0 AIR QUALITY MONITORING AND REPORTING**

**6.1 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;
  - e. Signature of person performing maintenance;
2. The following information shall be recorded for each visible emission reading required in permit condition 13.6:
  - a. Identify the unit;
  - 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;
  - f. Documentation on any emergency condition that a visible emission evaluation could not be performed within the one hour of observing a visible emission; and
  - g. Signature of person performing visible emission reading and/or visible emission evaluation;
3. The owner or operator shall maintain relevant records of the occurrence and duration of each startup, shutdown, or malfunction of process equipment and/or air pollution control equipment; and
4. 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 that the permitted equipment was at the time being properly operated.

**6.2 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. The amount of natural gas and distillate oil burned in each unit listed in Table 1-1;

2. The number of hours each unit listed in Table 1-1 operated; and
3. The number of hours and the amount of natural gas and distillate oil burned in Units #4 and #5 while the water injection system was not in operation.

The amount of natural gas and distillate oil consumed 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.

**6.3 Annual report – air quality compliance certification.** In accordance with ARSD 74:36:05:16.01(14), the owner or operator shall submit an annual air quality 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. Name of the facility, permit number, reference to this condition, and identify the submittal as an annual air quality compliance certification report;
2. Methods used to determine compliance with air quality requirements, including: monitoring, record keeping, performance testing, and reporting requirements;
3. The source is in compliance and will continue to demonstrate compliance with all applicable air quality requirements;
4. In the event the source is in noncompliance with any air quality requirement, a compliance plan that indicates how the source has or will be brought into compliance; and
5. In accordance with ARSD 74:36:16:01(9) and 40 CFR § 72.9(c)(1), the owner or operator shall include a statement that the sulfur dioxide allowances were or were not held in the account for each applicable unit that equaled or exceeded the actual sulfur dioxide emissions for the previous calendar year.

## **7.0 CONTROL OF REGULATED AIR POLLUTANTS**

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

**7.2 Air emission exceedances -- normal operation.** In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 7.1 is not considered a violation during soot blowing, startup, shutdown, or malfunctions. In the instances when Units #4 and #5 are unable to startup or shutdown on natural gas, the units shall move through these periods as quickly and safely as possible. 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 of the source is not a malfunction and is considered a violation.

**7.3 Total suspended particulate matter limits.** In accordance with ARSD 74:36:06:02(1) and/or ARSD 74:36:06:03(1), the owner or operator shall not allow the emission of total suspended particulate matter in excess of the emission limit specified in Table 7-1 for the appropriate permitted unit, operation, and process.

**Table 7-1 – Total Suspended Particulate Matter Emission Limit**

Identification	Description	Emission Limit
Unit #4	Combustion Turbine 2	0.3 pounds per million Btus heat input
Unit #5	Combustion Turbine 3	0.3 pounds per million Btus heat input
Unit #7	Heater	0.6 pounds per million Btus heat input
Unit #8	Combustion Turbine 4	0.3 pounds per million Btus heat input

**7.4 Sulfur dioxide limits.** In accordance with ARSD 74:36:06:02(2) and/or ARSD 74:36:06:03(2), the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 7-2 for the appropriate permitted unit, operations, and process.

**Table 7-2 – Sulfur Dioxide Emission Limit**

Identification	Description	Emission Limit
Unit #4	Combustion Turbine 2	3.0 pounds per million Btus heat input
Unit #5	Combustion Turbine 3	3.0 pounds per million Btus heat input
Unit #7	Heater	3.0 pounds per million Btus heat input
Unit #8	Combustion Turbine 4	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.

**7.5 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 source, 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.

**7.6 Circumvention not allowed.** In accordance with ARSD 74:36:05:47.01, 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.

**7.7 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.

## 8.0 AIR QUALITY – PSD REQUIREMENTS

**8.1 Air emission limits for Units #4 and #5.** In accordance with ARSD 74:36:09, as referenced to 40 CFR §§ 52.21 and 60.332 (a)(1) and (b), the owner or operator shall not allow the air emissions in excess of the emission limit specified in Tables 8-1 and 8-2 for Units #4 and #5.

*Table 8-1 – Air Emission Limits During Base Operations  
(Greater than or equal to 90 percent of design output)*

Air Pollutant	Natural Gas <sup>1</sup>		Distillate Oil <sup>1</sup>	
	Pounds/hour	tons/year	pounds/hour	tons/year
PM <sub>10</sub>	18	52.6	112	394.2
Sulfur Dioxide	87	311	554	1,839.6
Nitrogen Oxide	128	521.2	232	862.9
Volatile Organic Compounds	11	38.1	65	227.8
Carbon Monoxide	158	556.3	160	569.4

<sup>1</sup> - Compliance with the PM10, volatile organic compound, and carbon monoxide limits will be based on stack performance tests.

*Table 8-2 – Air Emission Limits during All Operations  
(Except during startup, shutdown, and malfunctions)*

Air Pollutant	Natural Gas <sup>1</sup>	Distillate Oil <sup>1</sup>
	ppmvd <sup>3</sup>	ppmvd <sup>3</sup>
Sulfur Dioxide	14	82
Nitrogen Oxide <sup>2, 4</sup>	24	41
Volatile Organic Compounds	150	100
Carbon Monoxide	400	220

- <sup>1</sup> - Compliance with the volatile organic compound, and carbon monoxide limits will be based on stack performance tests.
- <sup>2</sup> - The nitrogen oxide limit shall be corrected and based on 15 percent oxygen.
- <sup>3</sup> - Parts per million by volume on a dry basis.
- <sup>4</sup> - The nitrogen oxide limit is based on a 24-hour rolling average during normal operating conditions. A 24-hour rolling average is calculated for each normal operating hour by averaging nitrogen oxide data from the past 24 –operating hours. Startups, shutdowns, malfunctions, and periods in which the turbine is not operating shall be excluded from determining the 24-hour rolling average.

The owner or operator shall operate Units #4 and #5 with the water injection system engaged at all times except during startup, shutdown and malfunctions. Startup shall be defined as the time period for safe power ascent beginning when the unit starts producing electricity and ends when the unit reaches 30 megawatts when fueling with natural gas and 12 megawatts when fueling with distillate oil. Shutdown shall be defined as the time period for safe power descent beginning when the unit reaches 30 megawatts when fueling with natural gas and 12 megawatts when fueling with distillate oil and ends when the unit is not producing electricity. The owner or operator shall not idle Units #4 and #5 at electric production rates where the water injection system can not be engaged. Malfunctions that occur on a regular basis or could have been avoided by preventive maintenance or could have been mitigated by a timely response by the owner or operator are considered violations.

**8.2 Fuel sulfur content limit.** In accordance with ARSD 74:36:09, as referenced to 40 CFR § 52.21, no owner or operator shall burn any fuel in Units #4 or #5, which contains sulfur in excess of 0.37 percent by weight.

**8.3 Quarterly report.** In accordance with ARSD 74:36:09, as referenced to 40 CFR § 52.21, the owner or operator shall submit a quarterly report related to the operations of Units #4 and #5. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a quarterly report;
2. Any daily period during which the sulfur content of the fuel being fired in Units #4 and #5 exceeds 0.37 percent by weight;
3. Each period during which an exemption for Units #4 and #5 is in effect because of ice fog or mandatory water restriction. For each period, the ambient conditions existing during the period, the date and time the water injection system was deactivated, and the date and time the water injection system was reactivated shall be reported;
4. The time period and date that distillate oil was used to fuel Units #4 and #5 instead of natural gas and the reason for not using natural gas;
5. Any period in which the nitrogen oxide concentration (parts per million) or air emission limit (pounds per hour) in permit condition 8.1 for Units #4 and #5 is exceeded based on the compliance period. If an exceedance occurs, the report shall identify the following:

- a. The date, time, and time period of each exceedance;
- b. Magnitude of the exceedance;
- c. Cause of the exceedance; and
- d. Measures taken to bring the operations back into compliance.

In the case where no exceedance has occurred, the quarterly report shall state that no exceedance has occurred.

6. Any period in which the continuous emission monitoring system for Unit #4 and #5 was inoperable and did not collect a valid one-hour average while the unit was operational. The following information shall be submitted:
  - a. The date, time and time period of each period during which the continuous monitoring system was inoperative and did not collect a valid one-hour period;
  - b. The reason the continuous emission monitoring system is down; and
  - c. The measures taken to bring the continuous emission monitoring system on line again and measures taken to prevent the reason the system went down from occurring again.

In the case when there was no time in which the continuous monitoring system was inoperable and did not collect a valid one-hour period while the unit was operational, the quarterly report shall state that the continuous monitoring system was operational at all times.

7. For any period in which a temporary monitor for Unit #4 and #5 is used. The following information shall be submitted:
  - a. The date and time the temporary monitor was used; and
  - b. The number of days the temporary monitor was used during each month of the quarter.

If a temporary monitor was not used, the quarterly report shall state that no temporary monitor was used during the reporting period.

The quarterly report shall be postmarked no later than the 30<sup>th</sup> day following the end of each calendar quarter. The quarterly report requirements shall be combined with the quarterly report requirements in permit conditions 9.3 and 10.3.

## **9.0 AIR QUALITY – PSD EXEMPTION**

**9.1 Monthly records.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall calculate and record the amount of nitrogen oxide and carbon monoxide emissions, in tons, emitted into the ambient air from Unit #8 and record the number of hours Unit #8 operated during the month and during the 12-month rolling period for that month.

**9.2 Prevention of significant deterioration exemption for Unit #8.** The owner or operator is exempt from a prevention of significant deterioration review for particulate matter 10 microns in diameter or less (PM10), nitrogen oxide, and carbon monoxide for Unit #8. The exemption is based

on the air emission limits noted in Table 9-1. Any relaxation in those limits may require a full prevention of significant deterioration review.

**Table 9-1 – Air Emission Limits for Unit #8**

<b>Air Pollutant</b>	<b>Limit per 12-month rolling period <sup>1</sup></b>
Particulate Matter <sup>2</sup>	3,160 hours
Nitrogen Oxide <sup>3</sup>	38 tons
Carbon Monoxide <sup>3</sup>	95 tons

<sup>1</sup> - Compliance with the long term limit shall be based on a 12 month rolling period. Each monthly emission rate shall be added to the 11 previous monthly emission rates. The result shall be compared to the long term emission limit.

<sup>2</sup> - The 12-month rolling period shall be based on the number of hours operated.

<sup>3</sup> - The 12-month rolling period shall be based on the continuous emission monitoring data.

**9.3 Quarterly report.** In accordance with ARSD 74:36:06:16.01(9), the owner or operator shall submit a quarterly report related to the operations of Unit #8. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a quarterly report;
2. Any period in which the nitrogen oxide or carbon monoxide (tons per year) limit in permit condition 9.2 is exceeded based on the 12-month rolling total for Unit #8. If an exceedance occurs, the report shall identify the following:
  - a. The date, time, and time period of each exceedance;
  - b. Magnitude of the exceedance;
  - c. Cause of the exceedance; and
  - d. Measures taken to bring the operations back into compliance.

In the case where no exceedance has occurred, the quarterly report shall state that no exceedance has occurred.

3. Any period in which the continuous emission monitoring system for Unit #8 was inoperable and did not collect a valid one-hour average while the unit was operational. The following information shall be submitted:
  - a. The date, time and time period of each period during which the continuous monitoring system was inoperative and did not collect a valid one-hour period;
  - b. The reason the continuous emission monitoring system is down; and
  - c. The measures taken to bring the continuous emission monitoring system on line again and measures taken to prevent the reason the system went down from occurring again.

In the case when there was no time in which the continuous monitoring system was inoperable and did not collect a valid one-hour period while the unit was operational, the quarterly report shall state that the continuous monitoring system was operational at all times.

4. For any period in which a temporary monitor for Unit #8 is used. The following information shall be submitted:
  - a. The date and time the temporary monitor was used; and
  - b. The number of days the temporary monitor was used during each month of the quarter.

If a temporary monitor was not used, the quarterly report shall state that no temporary monitor was used during the reporting period.

The quarterly report shall be postmarked no later than the 30<sup>th</sup> day following the end of each calendar quarter. The quarterly report requirements shall be combined with the quarterly report requirements in permit conditions 8.3 and 10.3.

## **10.0 AIR QUALITY - NSPS SUBPART GG**

**10.1 Operational records – combustion turbines.** In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.7(b), the owner or operator shall maintain the following records related to the operation of Units #4, #5, and #8:

1. Occurrence and duration of any startup, shutdown, or malfunction related to Units #4, #5, and #8;
2. Any malfunction of the water injection system for Units #4 and #5; and
3. Any periods during which the continuous emission monitoring system is inoperable for Units #4, #5, and #8.

**10.2 Monitoring sulfur and nitrogen content of fuels – combustion turbines.** In accordance with ARSD 74:36:07:18, as referenced to 40 CFR §§ 60.331(u), 60.334(h)(2), (h)(3), and (i)(1), the owner or operator shall monitor the sulfur content and nitrogen content of the fuel being fired in Units #4, #5, and #8. The frequency and determination of these values shall be as follows:

1. The nitrogen content is not required to be determined for either natural gas or distillate oil because the owner or operator does not claim an allowance for fuel-bond nitrogen in determining the nitrogen oxide emission limit in permit condition 10.5;
2. The owner or operator shall monitor the sulfur content of the natural gas annually to demonstrate it meets the criteria of pipeline natural gas; and
3. A fuel sample shall be obtained from the distillate oil delivery line every day when Unit #4 or #5 is fired on distillate oil and follow the applicable requirements in 40 CFR Part 75

Appendix D for sampling, testing, documentation, and reporting. In addition, the owner or operator shall retain shipping papers from the distillate oil supplier.

**10.3 Quarterly report.** In accordance with 74:36:07:18, as referenced to 40 CFR §§ 60.7(c) and 60.334(j), the owner or operator shall submit a quarterly report related to the operations of Units #4, #5, and #8. The report shall contain the following information:

1. Name of the facility, permit number, reference to this permit condition, and identify the submittal as a quarterly report;
2. Any daily period during which the sulfur content of the fuel being fired in Units #4 and #5 exceeds 0.8 percent by weight;
3. Each period during which an exemption for Units #4 and #5 is in effect because of ice fog or mandatory water restriction. For each period, the ambient conditions existing during the period, the date and time the water injection system was deactivated, and the date and time the water injection system was reactivated shall be reported;
4. Any period in which the nitrogen oxide concentration (parts per million) in permit condition 10.5 for Units #4, #5, and #8 is exceeded based on a four hour rolling average. If an exceedance occurs, the report shall identify the following:
  - a. The date, time, and time period of each exceedance;
  - b. Magnitude of the exceedance;
  - c. Cause of the exceedance; and
  - d. Measures taken to bring the operations back into compliance.

In the case where no exceedance has occurred, the quarterly report shall state that no exceedance has occurred.

5. Any period in which the continuous emission monitoring system for Units #4, #5 and #8 was inoperable and did not collect a valid one-hour average while the unit was operational. The following information shall be submitted:
  - a. The date, time and time period of each period during which the continuous monitoring system was inoperative and did not collect a valid one-hour period;
  - b. The reason the continuous emission monitoring system is down; and
  - c. The measures taken to bring the continuous emission monitoring system on line again and measures taken to prevent the reason the system went down from occurring again.

In the case when there was no time in which the continuous monitoring system was inoperable and did not collect a valid one-hour period while the unit was operational, the quarterly report shall state that the continuous monitoring system was operational at all times.

6. For any period in which a temporary monitor for Units #4, #5 and #8 is used. The following information shall be submitted:
  - a. The date and time the temporary monitor was used; and

- b. The number of days the temporary monitor was used during each month of the quarter.
- If a temporary monitor was not used, the quarterly report shall state that no temporary monitor was used during the reporting period.

The quarterly report shall be postmarked no later than the 30<sup>th</sup> day following the end of each calendar quarter. The quarterly report requirements shall be combined with the quarterly report requirements in permit conditions 8.3 and 9.3.

**10.4 Fuel sulfur content limit.** In accordance with ARSD 74:36:07:18, as referenced to 40 CFR § 60.333(b), no owner or operator shall burn any fuel in Units #4, #5, and #8, which contains sulfur in excess of 0.8 percent by weight;

**Note:** Units #4 and #5 are required by a PSD requirement to meet a sulfur content limit of 0.37 percent sulfur. Compliance with the PSD sulfur content limit is compliance with the New Source Performance Standards sulfur content limit.

Unit #8 is required by New Source Performance Standards to burn fuel with a sulfur content less than or equal to 0.8 percent by weight. Unit #8 is required by permit condition 1.1 to burn only natural gas. The sulfur content of natural gas is in compliance with the New Source Performance Standards sulfur limit. In addition, potential sulfur dioxide emissions from Unit #8 while burning natural gas are below the Prevention of Significant Deterioration threshold of 40 tons per year.

**10.5 Nitrogen oxide emission limit -- combustion turbines.** In accordance with ARSD 74:36:07:18, as referenced to 40 CFR § 60.332 (a)(1) and (b), no owner or operator shall emit nitrogen oxide from Units #4 and #5 in excess of 96 parts per million at 15 percent oxygen on a dry basis and from Unit #8 in excess of 109 parts per million at 15 percent oxygen on a dry basis. In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8, air emissions in excess of the levels specified in this permit conditions during periods of startup, shutdown, and malfunction shall not be considered a violation. Startup, shutdown, and malfunction are defined in permit condition 8.1.

**Note:** Units #4 and #5 are required by a PSD requirement to meet a nitrogen oxide limit of 24 parts per million by volume and 41 parts per million by volume while burning natural gas and distillate oil, respectively. Compliance with the PSD nitrogen oxide is compliance with the New Source Performance Standards nitrogen oxide limit.

**10.6 Ice fog exemption.** In accordance with ARSD 74:36:07:18, as referenced to 40 CFR § 60.332(f), Units #4 and #5 are exempt from the nitrogen oxide emission limits when ice fog is deemed a traffic hazard by the owner or operator. "Ice fog" means an atmospheric suspension of highly reflective ice crystals.

**10.7 Water restriction exemption.** In accordance with ARSD 74:36:07:18, as referenced to 40 CFR § 60.332(i), Units #4 and #5 are exempt from the nitrogen oxide emission limits if the

Secretary determines that mandatory water restrictions are required by other governmental agencies because of drought conditions. This exemption will be allowed only while the mandatory water restrictions are in effect.

## **11.0 PERFORMANCE TESTS**

**11.1 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.

**11.2 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.

**11.3 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.

**11.4 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 that outlines what needs to be completed for approval.

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

**11.6 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;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test, 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.

## **12.0 ACID RAIN PROGRAM**

**12.1 Operating in accordance with acid rain permit application.** The owner or operator shall operate each applicable unit in accordance with the standard requirements set forth in the phase II acid rain permit application submitted January 14, 2009 (see Attachment A).

## **13.0 AIR MONITORING**

**13.1 Continuous emission monitoring system.** In accordance with ARSD 74:36:13:01 and ARSD 74:36:07:18, as referenced to 40 CFR §§ 60.334(c) and 60.334(e), the owner or operator shall install, certify, operate, and maintain a nitrogen oxide continuous emission monitoring system on Units #4, #5, and #8, and a carbon monoxide continuous emission monitoring system on Unit #8. The continuous emission monitoring systems shall measure and record the emissions at all times, including periods of startup, shutdown, and malfunctions. Monitor downtime is allowed for system breakdowns, repairs, calibration checks, quality assurance audits and span adjustments, and at other time periods at the discretion of the Secretary.

**13.2 Performance specifications and quality assurance.** In accordance with ARSD 74:36:13:02, as referenced to 40 CFR § 60.13(a), the nitrogen oxide continuous emission monitoring systems on Units #4 and #5 and the carbon monoxide continuous emission

monitoring system on Unit #8 shall meet the performance specifications in 40 CFR Part 60, Appendix B (Performance Specifications 2 and 3 for nitrogen oxide and Performance Specifications 4 or 4A for carbon monoxide). In addition, the continuous emission monitoring systems shall meet the quality assurance requirements in 40 CFR Part 60 Appendix F.

In accordance with ARSD 74:36:16:04, as referenced to 40 CFR § 75.1 the nitrogen oxide continuous emission monitoring system on Unit #8 shall meet the performance specifications in 40 CFR Part 75, Appendix A. In addition, the nitrogen oxide continuous emission monitoring system shall meet the quality assurance requirements in 40 CFR Part 75 Appendix B.

**13.3 Re-certification of the continuous emission monitoring system.** In accordance with ARSD 74:36:13:01 and 74:36:16:04, the owner or operator shall notify the Secretary in writing prior to making any planned changes to the continuous emission monitoring systems that invalidates its certification. If the change was unforeseen, the owner or operator shall notify the Secretary in writing within five working days after making the change.

Changes that invalidate the certification status are the replacement of an analyzer, change in location or orientation of the sampling probe or site, modification to the flue gas handling system which changes its flow characteristics, or a change that in the Secretary's judgment significantly affects the ability of the system to measure or record the pollutant concentration and volumetric gas flow.

The following changes to a continuous emission monitoring system do not invalidate the certification:

Routine or normal corrective maintenance;

1. Replacement of parts on the manufacturer's recommended spare parts list;
2. Software modifications in the automated data acquisition and handling system, where the modification is only for the purpose of generating additional or modified reports; or
3. Temporary replacement of an analyzer with a similar analyzer.
  - a. A calibration gas audit on the nitrogen oxide continuous emission monitoring systems on Units #4 and #5 and the carbon monoxide continuous emission monitoring system on Unit #8 shall be conducted in accordance with 40 CFR, Part 60, Appendix F § 5.1.2 within 24 hours of installing a temporary replacement analyzer. A two point calibration check shall be performed daily, thereafter, until the temporary replacement analyzer has been replaced with the original analyzer or the temporary replacement analyzer has been certified. A temporary replacement analyzer that is used on a unit for more than 30 operating days in a calendar year shall be certified. If the temporary analyzer is used for one hour or more during the day, that constitutes one operating day. The certification test shall be performed within 60 days of exceeding the 30 operating day limit. The results of the certification test shall be submitted to the Secretary within 60 days after completing the test.

- b. A temporary “like kind” replacement analyzer, meeting 40 CFR Part 75 Appendix B criteria, shall be used if the nitrogen oxide continuous emission monitoring system on Unit #8 needs service. If the temporary replacement analyzer is to be certified, the results of the RATA shall be submitted to the Secretary within 60 days after completing the test.

In accordance with ARSD 74:36:13:02, as referenced to 40 CFR § 60.13(c), the owner or operator of the nitrogen oxide continuous emission monitoring systems on Units #4 and #5 and the carbon monoxide continuous monitoring system on Unit #8 shall re-certify the continuous emission monitoring system within 90 days of completing any change which invalidates the monitor's certification status. A calibration gas audit shall be conducted in accordance with 40 CFR, Part 60, Appendix F § 5.1.2 within 24 hours of making a change that invalidates the monitor's certification status. A two point calibration check shall be performed daily, thereafter, until the re-certification test is completed. The results of the re-certification test shall be submitted to the Secretary within 60 days after completing the test.

In accordance with ARSD 74:36:16:04, as referenced to 40 CFR § 75.20, the owner or operator shall re-certify the nitrogen oxide continuous emission monitoring system on Unit #8 in accordance with 40 CFR, Part 75, Appendix A. The results of the re-certification test shall be submitted to the Secretary within 60 days after completing the test.

**13.4 Monitoring data.** In accordance with ARSD 74:36:13:02, the continuous emission monitoring systems for Units #4 and #5 shall monitor the nitrogen oxide concentration in parts per million by volume corrected to 15 % oxygen on a dry basis and the emission rate in pounds per hour. The carbon monoxide continuous monitoring system for Unit #8 shall monitor carbon monoxide concentration in parts per million by volume on a dry basis and the emission rate in pounds per hour. The nitrogen oxide and carbon monoxide concentrations and emission rates shall be based on one-hour averages computed from four or more data points equally spaced over each one-hour period. A one-hour period starts at the beginning of the hour and ends at the beginning of the following hour. Data recorded during monitor downtime or when Units #4, #5, and #8 are not operating shall be considered invalid data points and not included in the data averages. For one-hour periods during monitor calibrations, quality control audits or other required maintenance, a minimum of two data points at least 15 minutes apart must be collected to consider the one-hour average valid. For one hour periods in which Units #4, #5, and #8 operated for 15 consecutive minutes or less, a minimum of one data point must be collected to consider the one-hour average valid. A data acquisition and handling system shall perform all necessary calculations.

In accordance with ARSD 74:36:16:04, as referenced to 40 CFR § 75.10(a)(2), the nitrogen oxide continuous emission monitoring system on Unit #8 shall measure and record nitrogen oxide emissions in parts per million and pounds per million BTU. The data acquisition and handling system shall perform all necessary calculations to report nitrogen oxide emission rates.

**13.5 Determining compliance with continuous emission monitoring data.** In accordance with ARSD 74:36:13:05, the Secretary may take enforcement action based on the information obtained from the nitrogen oxide and carbon monoxide continuous emission monitoring systems.

Compliance with the nitrogen oxide concentration and hourly emission rate in Tables 8-1 and 8-2 shall be based on a 24-hour rolling average. Compliance with the nitrogen oxide and carbon monoxide limits in Table 9-1 shall be based on a 12-month rolling sum.

**13.6 Periodic monitoring for opacity limits.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall demonstrate compliance with the opacity limits in permit condition 7.1 on a periodic basis when a unit is fired with distillate oil. Periodic monitoring shall be based on the amount of visible emissions from each unit and evaluated according to the following steps:

**Step 1:** If there are no visible emissions from a unit subject to an opacity limit, 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 on each unit subject to an opacity limit in Chapter 8.0 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, 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 8.0. The emission test shall be for 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, except during an emergency condition, of witnessing a visible emission from a unit during a visible emission reading. Under an emergency condition, the visible emission test must be conducted as soon as reasonably possible as but no later than 24 hours after observing visible emissions. An emergency condition for this permit condition is starting a unit on distillate oil when natural gas is curtailed and a person certified in accordance with 40 CFR Part 60, Appendix A, Method 9 is not available;
- 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 is less than five percent for six 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 Steps 2(a) or 2(b) 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 six 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 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 13.7, 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.

**13.7 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 two persons that are 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.

**13.8 Monitoring sulfur content of distillate oil.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall obtain a fuel supplier certification for each load of distillate oil purchased or received. The fuel supplier certification shall include the following information:

1. The name of the oil supplier;
2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil. Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2. Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6. Specifications for fuel oils are defined in the American Society for Testing and Materials in ASTM D396-78, "Standards Specifications for Fuel Oils"; and
3. A statement that the sulfur content of the oil does not exceed 0.5 weight percent sulfur.

In the case where a fuel supplier certification is not obtained, the owner or operator shall collect a grab sample from the distillate oil storage tank within 30 days of receiving the shipment of distillate oil but before another load of distillate oil is transferred into the storage tank. The grab sample shall be analyzed to determine the sulfur content of the distillate oil in the storage tank. A copy of the results of the distillate oil analysis shall be submitted with the quarterly report required in permit conditions 8.3, 9.3 and 10.3.

## 14.0 WATER QUALITY MONITORING, RECORDKEEPING, INSPECTION, TESTING AND REPORTING

**14.1 Monitoring procedures.** Monitoring procedures for surface water discharge or storm water discharge shall be conducted according to test procedures in ARSD 74:52:03:06, as referenced to 40 CFR Part 136, unless other test procedures have been specified in this permit or prior approval is obtained from the Secretary.

**14.2 Reporting of monitoring results.** Effluent monitoring results obtained during the previous three months shall be summarized for each month, reported on separate Discharge Monitoring Report Forms (EPA No. 3320-1), and submitted to SDDENR on a **quarterly** basis. These must be postmarked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with Sections 5.3 and 5.4 and submitted to the Secretary at the address listed in Section 5.1.

**14.3 Monitoring requirements – Outfall 001.** At a minimum, the effluent characteristics in Table 14-1 shall be monitored at the frequency and with the type of measurement indicated. Samples shall be collected from the effluent stream prior to discharge into the receiving waters and shall be representative of the volume and nature of the surface water discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report from that no discharge overflow occurred.

*Table 14-1 – Outfall 001 Effluent Characteristics*

Effluent Characteristic	Frequency	Reporting Values <sup>1</sup>	Sample Type <sup>2</sup>
Duration of Discharge, days	Monthly	Monthly Total <sup>3</sup>	Calculate
Total Flow, million gallons	Monthly	Monthly Total	Calculate

<sup>1</sup> The “daily maximum” reporting value is the maximum value allowable in any single sample or instantaneous measurement. The “30-day average” reporting value means the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

<sup>2</sup> The “grab” sample type, for monitoring requirements, is a single "dip and take" sample collected at a representative point in the discharge stream. The “instantaneous” sample type, for monitoring requirements, is a single reading, observation, or measurement.

<sup>3</sup> The date and time of the start and termination of each discharge shall also be reported in the comment section of the Discharge Monitoring Report.

<b>Effluent Characteristic</b>	<b>Frequency</b>	<b>Reporting Values<sup>1</sup></b>	<b>Sample Type<sup>2</sup></b>
Flow Rate, million gallons per day	At least three per discharge <sup>4</sup>	Daily Maximum; 30-Day Average	Instantaneous
pH, standard units	At least three per discharge <sup>4</sup>	Daily Minimum; Daily Maximum	Instantaneous <sup>5</sup>
Water Temperature, °F	At least three per discharge <sup>4</sup>	Daily Maximum; 30-Day Average	Instantaneous <sup>6</sup>
Total Dissolved Solids, milligrams per liter	At least three per discharge <sup>4</sup>	Daily Maximum; 30-Day Average	Grab
Nitrates as N, milligrams per liter	At least three per discharge <sup>4</sup>	Daily Maximum; 30-Day Average	Grab
Total Suspended Solids, milligrams per liter	At least three per discharge <sup>4</sup>	Daily Maximum; 30-Day Average	Grab
Total Residual Chlorine, milligrams per liter	At least three per discharge <sup>4</sup>	Daily Maximum <sup>7</sup>	Grab
Five-Day Biochemical Oxygen Demand, milligrams per liter	Quarterly	Daily Maximum; 30-Day Average	Grab
Conductivity, microhms per centimeter	Quarterly	Daily Maximum	Grab
Alkalinity, milligrams per liter as calcium carbonate (CaCO <sub>3</sub> )	Quarterly	Daily Maximum	Grab

<sup>4</sup> A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle, and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

<sup>5</sup> pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units.

<sup>6</sup> The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Fahrenheit.

<sup>7</sup> EPA considers the analytical detection limit for total residual chlorine to be 0.05 mg/L. If the effluent value is less than the analytical detection limit, "<0.05" shall be used for reporting purposes.

<b>Effluent Characteristic</b>	<b>Frequency</b>	<b>Reporting Values<sup>1</sup></b>	<b>Sample Type<sup>2</sup></b>
Chronic Whole Effluent Toxicity	Quarterly <sup>8</sup>	Percent <sup>9</sup>	Grab
Oil and Grease, visual	Daily during a discharge	Presence or Absence of sheen	Visual
Oil and Grease (hexane ext), milligrams per liter <sup>10</sup>	Contingent	Daily Maximum	Grab
Floating solids or foam	Daily during a discharge	Daily Maximum	Visual

<sup>8</sup> The permittee shall obtain and analyze a valid whole effluent toxicity sample at least once during each calendar quarter.

<sup>9</sup> Refer to Section 14.10 of the permit for additional whole effluent toxicity requirements.

<sup>10</sup> Oil and grease shall be visually monitored during discharge. In the event that a sheen of petroleum derivation is observed in the discharge, a grab sample shall be immediately taken and analyzed for total petroleum hydrocarbons.

If only one sample is collected during the reporting period, it shall be considered as the average for that period.

**14.4 Monitoring requirements – Outfall 002.** At a minimum, the effluent characteristics in Table 14-2 shall be monitored at the frequency and with the type of measurement indicated. Samples shall be collected from the effluent stream prior to discharge into the receiving waters and shall be representative of the volume and nature of the surface water discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report from that no discharge overflow occurred.

**Table 14-2 – Outfall 002 Effluent Characteristics**

<b>Effluent Characteristic</b>	<b>Frequency</b>	<b>Reporting Values<sup>1</sup></b>	<b>Sample Type<sup>2</sup></b>
Duration of Discharge, days	Monthly	Monthly Total <sup>3</sup>	Calculate

<sup>1</sup> The “daily maximum” reporting value is the maximum value allowable in any single sample or instantaneous measurement. The “30-day average” reporting value means the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

<sup>2</sup> The “grab” sample type, for monitoring requirements, is a single "dip and take" sample collected at a representative point in the discharge stream. The “instantaneous” sample type, for monitoring requirements, is a single reading, observation, or measurement.

<sup>3</sup> The date and time of the start and termination of each discharge shall also be reported in the comment section of the Discharge Monitoring Report.

<b>Effluent Characteristic</b>	<b>Frequency</b>	<b>Reporting Values<sup>1</sup></b>	<b>Sample Type<sup>2</sup></b>
Total Flow, million gallons	Monthly	Monthly Total	Calculate
Flow Rate, million gallons per day	At least three per discharge <sup>4</sup>	Daily maximum; 30-day average	Instantaneous

<sup>4</sup> A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle, and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

**14.5 Additional monitoring by the permittee.** If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under ARSD 74:52:03:06, a.b.r. 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

**14.6 Surface water discharge records.** The owner or operator shall record the following information during a surface water discharge from either outfall:

1. Date and time of the start and termination of each surface water discharge;
2. Date, exact place, and time of sampling or measurements;
3. Initials or names of each individual who performs the sampling or measurements;
4. Date each analysis was performed;
5. Time each analysis was initiated;
6. Initials or names of each individual who performs the analyses;
7. Description of the analytical techniques and methods used during the analyses; and
8. Results of monitoring and all supporting documentation, including:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The time analyses were initiated;
  - e. The initials or name(s) of individual(s) who performed the analyses;
  - f. References and written procedures, when available, for the analytical techniques or methods used; and,

- g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

**14.7 Surface water discharge inspections.** The owner or operator shall inspect its wastewater treatment facility on at least a monthly basis. During any surface water discharge, the inspection frequency shall increase to daily. The inspections shall verify that proper operation and maintenance procedures are being practiced and whether or not a discharge is occurring or likely to occur before the next inspection.

The owner or operator shall maintain records of the surface water discharge inspections. Each inspection report shall contain the following information:

1. Date and time of the inspection;
2. Name of the inspector(s);
3. The discharge status;
4. The measured amount of pond freeboard at the outlet works;
5. Identification of operational problems and/or maintenance problems;
6. Recommendations, as appropriate, to remedy identified problem;
7. Brief description of any actions taken to remedy the identified problems; and
8. Other information, as appropriate.

**14.8 Notice of bypass or upset.** The owner or operator shall notify the Secretary at least 60 days in advance of an anticipated bypass and within 24-hours of an unanticipated bypass that causes an exceedance of the effluent limits. The owner or operator shall notify the Secretary within 24-hours of discovering an upset that causes an exceedance of a technology-based effluent limit.

**14.9 Toxic substance discharge notice.** The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the federal Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. A toxic pollutant is any pollutant listed as toxic under §307(a)(1) of the federal Clean Water Act.

In accordance with ARSD 74:52:03:11, the Secretary shall be notified as soon as the owner or operator discovers or has reason to believe a toxic pollutant discharge has occurred or will occur that is not limited in the permit and exceeds the highest of the following notification levels:

1. Two hundred micrograms per liter for acrolein and acrylonitrile
2. Five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol;
3. One milligram per liter for antimony;

4. Five times the maximum concentration value reported for that pollutant in the permit application; or
5. One hundred micrograms per liter for all other parameters.

Toxic pollutants are defined in ARSD 74:52:01:01(52) and can be found in Appendix B of this permit.

**14.10 Chronic whole effluent toxicity testing.** The permittee shall be required to conduct whole effluent toxicity testing on a representative sample of the discharge. Chronic toxicity occurs when the survival, growth, or reproduction, as applicable for either test species at the effluent dilution(s) designated below, is significantly less (at 95 percent confidence level) than that observed for the control specimens. Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. Mortality in the control must be simultaneously 10 percent or less for the effluent results to be considered valid.

1. Chronic whole effluent toxicity samples shall be collected on a two-day progression, if possible. For example, if the first quarterly sample is on a Monday, the next quarterly sampling shall be on a Wednesday, etc. If chronic toxicity is detected, an additional test shall be conducted within two weeks of the date of when the permittee learned of the test failure. The need for any additional samples shall be determined by the Secretary.
2. The chronic toxicity tests shall be conducted in accordance with the procedures set out in the latest revision of "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," Fourth Edition, October 2002, EPA-821-R-02-013. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnows). A multi-dilution test consisting of five concentrations and a control is required. The Secretary or If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid.
3. Chronic Toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to a 10 percent (10%) concentration of the final effluent.
4. Test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the calendar period during which the whole effluent test was run (e.g., results for the calendar quarter ending March 31<sup>st</sup> shall be reported with the DMR due April 28<sup>th</sup>, with the remaining reports submitted with DMRs due each July 28<sup>th</sup>, October 28<sup>th</sup>, and January 28<sup>th</sup>). The permittee shall submit the reference toxicant test data for each species to demonstrate that laboratory variability and organism response were evaluated.
5. If acute and/or chronic toxicity occurs, an additional test shall be conducted within two weeks of the date of when the permittee learned of the test. If only one species fails, retesting may be limited to this species. Should acute toxicity and/or chronic toxicity occur in the

second test, a toxicity identification evaluation (TIE) – toxicity reduction evaluation (TRE) shall be undertaken by the permittee to establish the cause of the toxicity, locate the source(s) of the toxicity, and develop control of, or treatment for the toxicity. Failure to initiate, or conduct an adequate TIE-TRE, or delays in the conduct of such tests, shall not be considered a justification for noncompliance with the whole effluent toxicity limits. A TRE plan needs to be submitted to the permitting authority within 45 days after confirmation of continuing effluent toxicity.

**14.11 Quarterly report – effluent monitoring.** The owner or operator shall summarize the effluent monitoring results for each month. On a calendar quarter basis, the summary for each month in the reporting period shall be reported on a Discharge Monitoring Report Form (EPA #3320-1) or a similar form approved by the Secretary.

1. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under ARSD 74:52:03:06, or as specified in this permit, the results of this monitoring shall be included in the calculations and reporting of the data submitted on the Discharge Monitoring Report. Such increased frequency shall also be indicated.
2. All of the samples collected during the monitoring period are to be used in determining the averages, including samples taken more frequently than required by this permit. If no discharge occurs during the reporting period, “no discharge” shall be reported. The quarterly report shall be submitted to the Secretary to the address stated in permit condition 5.1 and postmarked no later than the 28<sup>th</sup> day following the end of each calendar quarter. The whole effluent toxicity test results shall be reported in accordance with Section 14.9.

## 15.0 SURFACE WATER DISCHARGE LIMITS

**15.1 Effluent limits – Outfall 001.** The owner or operator shall not exceed the effluent discharge limits in Table 15-1 from Outfall 001.

*Table 15-1 – Outfall 001 Effluent Discharge Limits*

Effluent Characteristic	Effluent Limit	
	30-Day Average <sup>1</sup>	Daily Maximum <sup>2</sup>
Total residual chlorine, mg/L	Not applicable	0.019
Total suspended solids, mg/L	Not applicable	45
Total dissolved solids, mg/L	4,000	4,000
Nitrates, mg/L as nitrogen	50	88
Water Temperature, °F	Not applicable	90
Oil and Grease, mg/L	Not applicable	10
The pH of the surface water discharge shall not be less than 6.5 nor greater than 9.0 units in any single analysis or measurement.		
No products of petroleum derivation may be discharged that will impart a visible film or sheen to the surface of the water or to the adjoining shorelines.		
There shall be no sanitary wastes introduced into the surface water discharge.		
There shall be no discharge of floating solids or foam in other than trace amounts.		
No chemicals such as corrosion inhibitors, biocides, etc., shall be added to the permittee's discharge without prior written permission from the Secretary. Chemicals already identified in the permit application are considered permissible for purposes of this limit. <b>Additional additives must be submitted in advance for approval and may be approved by the Secretary without additional public notice</b>		
There shall be no surface water discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid.		
There shall be no chronic whole effluent toxicity detected in the discharge. <sup>3</sup>		

<sup>1</sup> “30-day average” means the arithmetic average of all samples collected during a calendar month. The calendar month shall be used for purposes of reporting self-monitoring data on Discharge Monitoring Report forms.

<sup>2</sup> “Daily Maximum” means the maximum value allowable in any single sample or instantaneous measurement.

<sup>3</sup> Refer to Section 14.10 of the permit for additional whole effluent toxicity requirements.

**15.2 Effluent limits – Outfall 002.** The owner or operator shall comply with the following effluent discharge limits from Outfall 002:

1. The discharge shall consist solely of Big Sioux River water to which no chemicals or process waters are added.
2. The permittee shall use best management practices in the operation of its cooling water intake structure to reduce the harmful effects of impingement or entrainment of aquatic life.

A best management practices plan shall be developed as follows:

- a. Upon issuance of the permit, the permittee shall begin reviewing its current practices for operating its intake structure.
- b. By **September 1, 2011**, the permittee shall submit a best management practices plan, detailing its current practices for minimizing adverse environmental impacts from its intake structure. In addition, the plan shall detail any additional changes needed to ensure the permittee is employing the best technology available to minimize adverse environmental impacts from its intake structure.
- c. By **January 1, 2013**, the permittee shall implement any identified operational or maintenance changes with its intake structure. If construction is necessary to implement the best management practices identified, the permittee shall submit a schedule for these activities.

**15.3 Bypass.** The owner or operator may allow a bypass to occur that does not cause an exceedance of the effluent limits and is essential for maintenance to ensure efficient operation. A "bypass" means the intentional diversion of waste streams from any portion of a treatment facility. A bypass that causes an exceedance of the effluent limits shall be prohibited unless:

1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes it to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production;
2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
3. The owner or operator properly notifies the Secretary in accordance with Section 14.7.

The Secretary may approve an anticipated bypass, after considering its adverse effects, if the Secretary determines that it will meet the three conditions listed above.

**15.4 Upset.** In accordance with ARSD 74:52:01:03, an exceedance of a technology-based effluent limit due to an upset is considered an affirmative defense to an enforcement action. An "upset" means an exceptional incident in which there is unintentional and temporary noncompliance with the effluent limits because of factors beyond the reasonable control of the owner or operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. The Secretary will consider the following when determining whether or not an upset occurred:

1. The owner or operator can identify the causes of the upset;
2. The owner or operator can document through operating logs or other relevant evidence that the facility was being operated properly at the time of the upset;
3. The owner or operator notified the department properly as required under Section 14.7; and
4. The owner or operator minimized the affects of the upset and resolved the upset expeditiously as required under Section 1.12.

The owner or operator is responsible for demonstrating the occurrence of an upset. Permittees will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with technology-based effluent limits

## **APPENDIX A**

### **PHASE II ACID RAIN PERMIT APPLICATIONS**

**APPENDIX B**  
**TOXIC POLLUTANT LIST**

## Toxic Pollutant List - Section 307(a)(1) of the Federal Clean Water Act

Acenaphthene	Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis(dischloroisopropyl) ether, Bis-(chloroethoxy) methane and polychlorinated dyphenyl ethers)
Acrolein	
Acrylonitrile	
Aldrin/Dieldrin	
Antimony and compounds*	
Arsenic and compounds	
Asbestos	Halomethanes (other than those listed elsewhere; includes methylene, chlorid methylchloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
Benzene	
Benzidine	
Beryllium and compounds	
Cadmium and compounds	
Carbon tetrachloride	
Chlordane (technical mixture and metabolites)	Heptachlor and metabolites
Chlorinated benzenes (other than dichlorobenzenes)	Hexachlorobutadiene
Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane and hexachloroethane)	Hexachlorocyclohexane (all isomers)
Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)	Hexachlorocyclopentadiene
Chlorinated naphthalene	Isophorone
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)	Lead and compounds
Chloroform	Mercury and compounds
2-chlorophenol	Naphthalene
Chromium and compounds	Nickel and compounds
Copper and compounds	Nitrobenzene
Cyanides	Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
DDT and metabolites	Nitrosamines
Dichlorobenzenes (1,2-, 1,3-, and 1,4-dichlorobenzenes)	Pentachlorophenol
Dichlorobenzidine	Phenol
Dichloroethylenes (1,1- and 1,2-dichloroethylene) 2,4-dichlorophenol	Phthalate esters
Dichloropropane and dichloropropene 2,4-dimethylphenol	Polychlorinated byphenyls (PCBs)
Dinitrotoluene	Polynuclear aromatic hydrocarbons (including benzantracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenzanthracenes, and indenopyrenes)
Diphenylhydrazine	Selenium and compounds
Endosulfan and metabolites	Silver and compounds
Endrin and metabolites	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
Ethylbenzene	Tetrachloroethylene
Fluoranthene	Thallium and compounds
	Toluene
	Toxaphene
	Trichloroethylene
	Vinyl chloride
	Zinc and compounds

\* - The term "compounds" shall include organic and inorganic compounds.