

Permit #: 28.0502-44

Effective Date: December 17, 2008

Expiration Date: December 17, 2013

The seal of the State of South Dakota is a circular emblem with a serrated outer edge. It features a central landscape scene with a river, trees, and a mountain range. The text "STATE OF SOUTH DAKOTA" is written in an arc across the top, and "GREAT SEAL" is written in an arc across the bottom. The year "1889" is prominently displayed at the bottom center. A banner across the middle of the seal reads "UNDER GOD THE PEOPLE RULE".

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

A handwritten signature in black ink, appearing to read "S. M. Pirner", is written over a thin vertical red line.

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

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

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

A. Owner

1. Company Name and Mailing Address

Siouxland Energy & Livestock Cooperative Transload Facility  
3890 Garfield Avenue  
Sioux Center, Iowa 51250

2. Actual Source Location if Different from Above

29453 Hudson Avenue  
Hudson, SD 57034  
SW ¼ of Section 24, T96N, R48W

3. Permit Contact

Doug Opheim – Environmental, Health and Safety Manager  
(712) 722-4904 ext. 117

4. Facility Contact

Doug Opheim – Environmental, Health and Safety Manager  
(712) 722-4904 ext. 117

5. Responsible Official

Bernie Punt – General Manager  
(712) 722-4904

B. Permit Revisions or Modifications

Not applicable.

C. Type of Operation

Ethanol transfer facility capable of loading up to 95 million gallons of denatured ethanol per year to railcars for long haul delivery.

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## 1.0 STANDARD CONDITIONS

**1.1 Construction and operation of source.** In accordance with Administrative Rules of South Dakota (ARSD) 74:36:05:16.01(8), the owner or operator shall operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application submitted and dated June 16, 2008, and July 24, 2008, 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*

<b>Unit</b>	<b>Description</b>	<b>Maximum Operating Rate</b>	<b>Control Device</b>
<b>#1</b>	Two railcar loading racks	2,400 gallons per minute	Flare
	Flare fired with natural gas and the off gases from the load out process		
<b>#2</b>	Tank #1 – An aboveground storage tank with a fixed roof. The tank will store denatured ethanol.	500,000 gallons	Not applicable
<b>#3</b>	Tank #2 – An aboveground storage tank with a fixed roof. The tank will store denatured ethanol.	500,000 gallons	Not applicable

**1.2 Duty to comply.** In accordance with ARSD 74:36:05:16.01(12), the owner or operator shall comply with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of a permit renewal application. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

**1.3 Property rights or exclusive privileges.** In accordance with ARSD 74:36:05:16.01(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant 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.

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

**1.5 Inspection and entry.** In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary 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 regulated under this permit; and/or
4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

**1.6 Severability.** In accordance with ARSD 74:36:05:16.01(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

**1.7 Permit termination, modification, or revocation.** In accordance with ARSD 74:36:05:46, the Secretary may recommend that the Board of Minerals and Environment terminate, modify, or revoke this permit for violations of SDCL 34A-1 or the federal Clean Air Act or for nonpayment of any outstanding fee or enforcement penalty.

**1.8 Credible evidence.** In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is 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, and 75; 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).

## **2.0 PERMIT FEES**

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

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

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

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

**3.1 Permit flexibility.** In accordance with ARSD 74:36:05:30, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

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

A proposed change that is considered a modification 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, the Secretary has 60 days from receipt of a written notice to verify that the proposed change is an administrative permit amendment. As provided in ASRD 74:36:01:03, the Secretary considers a

proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

1. Corrects typographical errors;
2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change at the source;
3. Requires more frequent monitoring or reporting by the source;
4. The ownership or operational control of a source change and the Secretary determines that no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
5. Any other changes 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 ASRD 74:36:04:20:02, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

1. Does not violate any applicable requirements;
2. Does not involve significant changes to existing monitoring, reporting, or 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, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

1. An increase in the amount of an air pollutant emitted by the source or results in the emission of an air pollutant not previously emitted;
2. A significant change to existing monitoring, reporting, or 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.

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.

**3.5 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.

**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, this permit shall expire five years from date of issuance unless reopened or terminated for cause.

4.2 **Permit renewal.** In accordance with ARSD 74:36:05:08, the owner or operator shall submit an application for a permit renewal at least 180 days before the date of permit expiration if the owner or operator wishes to continue 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 RECORD KEEPING REQUIREMENTS

5.1 **Record keeping and reporting.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application unless otherwise specified in this permit. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

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

5.2 **Signatory Requirements.** In accordance with ARSD 74:36:05:12 and ARSD 74:36:05:16.01, 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.

**5.3 Certification statement.** In accordance with ARSD 74:36:05:16.01(14)(a), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

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

**5.4 Monitoring log.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain a monitoring log. The following information shall be recorded in the monitoring log within two days of each emergency exceedance:

1. The date of the emergency exceedance and the date the emergency exceedance was reported to the Secretary;
2. The cause(s) of the emergency;
3. The reasonable steps taken to minimize the emissions during the emergency; and
4. A statement that the permitted equipment was at the time being properly operated.

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

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

**5.6 Reporting permit violations.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-5286.

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

1. Description of the permit violation and its cause(s);
2. Duration of the permit violation, including exact dates and times; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

## **6.0 CONTROL OF REGULATED AIR POLLUTANTS**

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

**6.2 Visibility exceedances.** In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 6.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

**6.3 Installation of flare on railcar loadout.** In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall install a flare on Unit #1 to control volatile organic compound emissions. The flare shall meet the specification and operational requirements specified in Chapter 9.0 of this permit.

**6.4 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

**6.5 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.

**6.6 Minimizing emissions.** In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(d), the owner or operator shall at all times, when practicable, maintain and operate all permitted units in a manner that minimizes air pollution emissions.

## **7.0 PERFORMANCE TESTS**

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

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

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

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

**7.5 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.

**7.6 Performance test report.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

1. A brief description of the process and the air pollution control system being tested;
2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results;
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.

## **8.0 TANK REQUIREMENTS**

**8.1 Tank standards for volatile organic compounds.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.112b(a), the owner or operator shall install and maintain a fixed roof with an internal floating type cover on Unit #2 and #3 that meets the requirements in permit condition 8.4.

**8.2 Visual inspections prior to filling tanks.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.113b(a)(1), the owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal prior to filling Unit #2 and #3 with volatile organic liquid. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

**8.3 Record of storage vessel capacity.** In accordance with ARSD 74:36:07:14, as referenced to 40 CFR §60.116b(a) and (b), the owner or operator shall maintain records of the dimension and an analysis showing the capacity of Unit #2 and #3. These records must be maintained for the life of the tank.

**8.4 Internal floating roof specifications.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.112b(a)(1), the following operating and maintenance requirements for a fixed roof with an internal floating type cover must be adhered to at all times by the owner or operator:

1. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside the storage vessel;
2. The internal floating roof shall be floating on the liquid surface at all times except during initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying and refilling when the cover is resting on the leg supports shall be continuous and accomplished as rapidly as possible;
3. The internal floating roof shall be equipped with a double-seal system. A double-seal system is two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor mounted, but must be continuous.
4. Each opening in a non-contact internal floating roof except for automatic bleeder vents and the rim space vents is to provide a projection below the liquid surface;
5. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when in use;
6. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg supports. Rim vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting;
7. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening;
8. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover; and
9. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

**8.5 Periodic visual inspections of tanks.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.113b(a)(2), (3) and (4), the owner or operator shall visually inspect Unit #2 and #3 on a periodic basis as specified below:

1. If the storage vessel is equipped with a liquid mounted primary seal, mechanical shoe primary seal, or double seal system, visually inspect the internal floating roof and the primary seal or secondary seal at least once every 12 months after the initial fill. The visual inspection may be conducted through manholes and roof hatches on the fixed roof. A failure occurs if the internal roof is not resting on the surface of the volatile organic liquid inside the storage vessel, there is liquid accumulated on the roof, the seal is detached, or there are holes or tears in the seal fabric. The owner or operator shall either repair the internal floating roof and/or the primary seal or secondary seal or empty or remove the storage vessel from service within 45 days of discovering a failure. The owner or operator may request a 30-day extension if the tank cannot be repaired or emptied within 45 days of discovering a failure. The written

request for the 30-day extension shall be included with the report required in permit condition 22.8. The Secretary will grant a 30-day extension if the extension request documents that alternate storage capacity is unavailable and specifies a schedule of actions the owner or operator will take that will assure that the equipment will be repaired or the vessel will be emptied as soon as possible; and

2. The owner or operator shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals each time the storage vessel is emptied and degassed. If a double seal system is installed, this type of visual inspection shall occur at intervals no greater than five years. A visual inspection of other seal systems shall occur at intervals no greater than 10 years. The owner or operator shall repair internal floating roof defects, holes, tears, or other openings in the primary or secondary seal or the seal fabric, gaskets that no longer close off the liquid surfaces from the atmosphere, or slotted membrane with more than 10 percent open area before refilling the storage vessel with volatile organic liquids.

**8.6 Record of products stored in tanks.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.116b(a), (c) and (e), the owner or operator shall maintain a record of the volatile organic liquid stored in Unit #2 and #3, the period of storage, and the maximum true vapor pressure of the liquid during the respective storage period. The owner or operator may determine the maximum true vapor pressure using the available data on the Reid vapor pressure, the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product and nomographs contained in API bulletin 2517. These records must be maintained for at least two years.

**8.7 Tank inspection records.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.115(a)(2), the owner or operator shall maintain a record of each inspection performed as required by permit condition 8.4 and 8.5. The records shall identify the tank on which the inspection was performed and shall contain the date the tank was inspected, and the observed condition of the seals, internal floating roof, and fittings. These records must be maintained for at least two years.

**8.8 Tank defect report.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.115b(a)(3) and (4), if any of the defects described in permit condition 8.4 and 8.5 are detected during a visual inspection, a report shall be submitted to the Secretary within 30-days of the inspection. Each report shall identify the storage vessel, the nature of the defects, the date the storage vessel was repaired, and a list of the repairs made. A copy of this report must be maintained for at least two years.

**8.9 Notification of visual tank inspections.** In accordance with ARSD 74:36:07:14, as reference to 40 CFR §60.113b(a)(5), the owner or operator must notify the Secretary 30 days prior to conducting a visual inspection of Unit #2 and #3 as required in permit condition 8.4 and 8.5. If the visual inspection was not planned and the owner or operator could not have known about the inspection 30 days in advance, the owner or operator shall notify the Secretary at least seven days prior to conducting the inspection. This notification shall be made by telephone

immediately followed by written documentation demonstrating why the inspection was unplanned.

**8.10 Storage tank alarm.** In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall install an alarm system on Unit #2 and #3 that warns the owner or operator when the liquid surface drops below the height of the support legs.

## **9.0 FLARE OPERATIONAL REQUIREMENTS**

**9.1 Flare operational limits.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §§60.18(c) and 60.18(e), the owner or operator shall conduct the following for the flare in conjunction with Unit #1 as follows:

1. Operate with no visible emissions except for periods not to exceed 5 minutes during any two consecutive hours as determine by permit condition 9.2;
2. Operate with a flame present at all times when the air emissions may be vented to the flare as determined by permit condition 9.3;
3. For a non-assisted flare, operate with a diameter of 3 inches or greater, have a hydrogen content of 8.0 percent or greater and are designed with an exit velocity less than 37.2 meters per second and less than the velocity of permitted maximum velocity. The permitted maximum velocity is determined by permit condition 9.7. The actual exit velocity is determined by permit condition 9.5;
4. For a non-assisted flare, operate only with the net heating value of the gas being combusted being 200 Btu/scf or greater. The net heat value shall be determined by permit condition 9.4;
5. For a steam-assisted or air-assisted flare, operate only with the net heating value of the gas being combusted being 300 Btu/scf or greater. The net heating value shall be determined by permit condition 9.4;
6. For a non-assisted or steam-assisted flare, operate with an exit velocity of 18.3 meters per second or greater as determined by permit condition 9.5 with the following two exceptions:
  - a. The exit velocity is greater than 18.3 meters per second but less than 122 meters per second and the gas being burned is greater than 1000 Btu/scf.
  - b. The exit velocity is less than the maximum permitted velocity as determined by permit condition 9.8 and less than 122 meters per second.
7. For an air-assisted flare, operate with an exit velocity as determined by permit condition 9.5 less than the maximum permitted velocity as determined by permit condition 9.6.

**9.2 Monitoring visible emissions.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(f)(1), the owner or operator shall monitor the visible emissions in accordance with 40 CFR Appendix A Method 22.

**9.3 Monitoring for a flame.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(f)(2), the owner or operator shall monitor the presence of a pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.

**9.4 Monitoring net heating value.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(f)(3), the owner or operator shall monitor the net heating value of the gas being combusted by using the following equation:

$$Ht = K \sum_{i=1}^n CiHi$$

Where: Ht = net heating value of the sample in mega joules per standard cubic meters;  
Ci = concentration of sample component I in parts per million on a wet basis;  
Hi = Net heat of combustion of sample component I in kilocalories per gram mole at 25 degrees Celsius and 760 millimeters of mercury; and  
K = a constant of 0.000000174 gram mole-mega joules per part per million – standard cubic meters – kilocalorie.

**9.5 Monitoring actual exit velocity.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(f)(4), the owner or operator shall monitor the actual exit velocity by dividing the volumetric flow rate as determined by 40 CFR Appendix A Methods 2, 2A, 2C or 2D by the cross sectional area of the flare tip.

**9.6 Monitoring maximum permit velocity for air-assisted flares.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(f)(6), the owner or operator shall monitor the maximum the following equation:

$$V \text{ max} = 8.706 + (0.7084)(Ht)$$

Where: Vmax = maximum permit velocity; and  
Ht = the net heating value as determined by permit condition 9.4.

**9.7 Monitoring maximum permit velocity for non-assisted flares.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(c)(3)(i)(A), the owner or operator shall monitor the maximum the following equation:

$$V \text{ max} = (X - K1)(K2)$$

Where: Vmax = maximum permit velocity;  
X = the volume percent of hydrogen on a wet basis as calculated by ASTM method D1946-77;  
K1 = constant of 6.0 volume percent hydrogen; and  
K2 = constant of 3.9 meters per second per volume percent hydrogen.

**9.8 Monitoring maximum permit velocity for steam-assisted flares.** In accordance with ARSD 74:36:07:01, as reference to 40 CFR §60.18(c)(3)(i)(A), the owner or operator shall monitor the maximum the following equation:

$$\text{Log}_{10}(V \text{ max}) = (Ht + _ 28.8)/(31.7)$$

Where:  $V_{\text{max}}$  = maximum permit velocity; and

$Ht$  = the net heating value as determined by permit condition 9.4.