


Permit #: 28.3309-01
Effective Date: March 5, 2014
Expiration Date: August 23, 2017

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

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



Steven M. Pirner, 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

The Bergquist Company
18930 West 78th Street
Chanhassen, Minnesota 55317

2. Actual Source Location if Different from Above

600 Willow Street
Brandon, South Dakota 57005

3. Permit Contact

David Bance, EHS Engineer
(507) 263-3766

4. Facility Contact

David Bance, EHS Engineer
(507) 263-3766

5. Responsible Official

Neal Matuska, Operations Manager
(507) 263-3766

B. Permit Revisions or Modifications

March 5, 2014 – Administrative Amendment to change the permit and facility contact

C. Type of Operation

The facility manufactures silicone rubber insulation materials.

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1.0 Standard Conditions

1.1 Operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:05:16.01(8), the owner or operator shall operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application received November 8, 2011 and March 3, 2014, unless modified by the conditions of this permit. Except as otherwise provided herein, the control equipment shall be operated at all times in accordance with the manufacturer's specification and in a manner that achieves compliance with the conditions of this permit. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

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

Unit	Description	Maximum Operating Rate	Control Device
#1A	Drum Mixing Station and Coater	4,200 square feet per hour	Thermal oxidizer
	Thermal Oxidizer. The thermal oxidizer is fired on natural gas or propane.	18 million Btus per hour heat input	
Aluminum Heat Treat System			
#1B	Step 2 of heat treat process chamber	500 pounds of alumina per hour	Filter cartridge routed to thermal oxidizer associated with Unit #1A
	Step 3 of heat treat process chamber		Baghouse routed to thermal oxidizer associated with Unit #1A
#1C	Solvent drum	15 pounds of solvent per hour	Thermal oxidizer associated with Unit #1A

1.2 Duty to comply

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

The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

1.3 Property rights or exclusive privileges

In accordance with ARSD 74:36:05:16.01(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

1.4 Penalty for violating a permit condition

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

1.5 Inspection and entry

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

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

1.6 Severability

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

1.7 Permit termination, modification, or revocation

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

1.8 Credible evidence

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

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

2.0 Permit Fees

2.1 Annual air fee required

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

2.2 Annual operational report

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

2.3 Annual air fee

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

3.0 Permit Amendments and Modifications

3.1 Permit flexibility

In accordance with ARSD 74:36:05:30, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in

emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

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

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

3.2 Administrative permit amendment

In accordance with ARSD 74:36:05:33, the Secretary has 60 days from receipt of a written notice to verify the proposed change is an administrative permit amendment. As provided in ARSD 74:36:01:03, the Secretary considers a proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

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

3.3 Minor permit amendment

In accordance with ARSD 74:36:05:38, the Secretary has 90 days from receipt of a written notice or 15 days after the end of EPA's 45-day review period, whichever is later, to take final action on a minor permit amendment. Final action consists of issuing or denying a minor permit amendment or determining the proposed change is a permit modification. As provided in ARSD 74:36:05:35, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

1. Does not violate any applicable requirements;
2. Does not involve significant changes to existing monitoring, reporting, or recordkeeping requirements;

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

3.4 Permit modification

In accordance with ARSD 74:36:05:39, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

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

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

3.5 Permit revision

In accordance with ARSD 74:36:05:40, the Secretary may reopen and revise this permit to meet requirements of SDCL 34A-1 or the federal Clean Air Act. In accordance with ARSD 74:36:05:41, the Secretary shall notify the owner or operator at least 30 days before reopening this permit. The 30-day period may be less in the case of an emergency.

3.6 Testing new fuels or raw materials

In accordance with ARSD 74:36:11:04, an owner or operator may request permission to test a new fuel or raw material to determine if it is compatible with existing equipment before requesting a permit amendment or modification. A complete test proposal shall consist of the following:

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

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

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

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

4.0 Permit Renewal

4.1 Permit effective

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

4.2 Permit renewal

In accordance with ARSD 74:36:05:08, the owner or operator shall submit an application for a permit renewal at least 180 days before the date of permit expiration if the owner or operator wishes to continue to operate an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the timely permit renewal application.

4.3 Permit expiration

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

5.0 Recordkeeping and Reporting

5.1 Recordkeeping and reporting

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

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

5.2 Signatory requirements

In accordance with ARSD 74:36:05:12 and 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 monitoring log shall contain the following information.

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

5.5 Monthly records

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall calculate and record the following amounts each month:

1. The amount of volatile organic compounds, in tons, emitted into the ambient air from the permitted units and fugitive operations during the month. A 12-month rolling total shall be calculated every month using that month's value and the previous 11 months' values. The volatile organic compound emissions from permitted units and fugitive operations shall be calculated using formulas, emission factors, and methods described in the statement of basis and/or application. Once the required performance tests are conducted, the amount of volatile organic compound emissions from the permitted units shall be calculated using the results of the most recent performance test; and
2. The amount of hazardous air pollutant, in tons, emitted into the ambient air from the permitted units and fugitive operations during the month. A 12-month rolling total shall be calculated every month using that month's value and the previous 11 months' values. The amount of hazardous air pollutants emissions from permitted units and fugitive operations shall be calculated using formulas, emission factors, and methods described in the statement of basis and/or application. Once the required performance tests are

conducted, the amount of volatile organic compound emissions from the permitted units shall be calculated using the results of the most recent performance test.

5.6 Quarterly reporting

In accordance with ARSD 74:36:06:16.01(9), the owner or operator shall submit a quarterly report to the Secretary by the end of each calendar quarter. The quarterly report shall contain the following information:

1. Name of facility, permit number, reference to this permit condition, identifying the submittal as a quarterly report, and calendar dates covered in the reporting period; and
2. The quantity of volatile organic compounds and hazardous air pollutants emitted, in tons, in each month and the 12-month rolling total for each month in the reporting period and supporting documentation.

The first quarterly report must be postmarked no later than 30 days after the end of the calendar quarter in which initial startup occurred. The remaining reports must be postmarked no later than 30 days after the end of the reporting period (i.e., April 30th, July 30th, October 30th, and January 30th).

5.7 Annual compliance certification

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

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

5.8 Startup, shutdown and malfunction records.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.7(b), the owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

5.9 Reporting permit violations

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-4068.

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

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

6.0 Control of Regulated Air Pollutants

6.1 Visibility limit

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

6.2 Visibility exceedances

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

6.3 Total suspended particulate matter limits

In accordance with ARSD 74:36:06:02(1) and 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 6-1 for the appropriate permitted unit, operation, and process.

Table 6-1 – Total Suspended Particulate Matter Emission Limit

Unit	Description	Emission Limit
#1A	Coater/thermal oxidizer	0.6 pounds per million Btu heat input
#1B	Heat treat process	1.7 pounds per hour
#1C	Solvent drum/thermal oxidizer	0.6 pounds per million Btu heat input

6.4 Sulfur dioxide limits

In accordance with ARSD 74:36:06:02(2), the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 6-2 for the appropriate permitted unit, operations, and process.

Table 6-2 – Sulfur Dioxide Emission Limit

Unit	Description	Emission Limit
#1A	Coater/thermal oxidizer	3.0 pounds per million Btu heat input
#1C	Solvent drum/thermal oxidizer	3.0 pounds per million Btu heat input

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

6.5 Coating line solvent loading

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not allow the solvent loading to Unit #1A in excess of the emission limits specified in Table 6-3 for the appropriate permitted unit, operation or process.

Table 6-3 – Solvent Loading Limit

Unit	Description	Loading Limit
#1A	Drum mixing station and coater	335 pounds of volatile organic compounds per hour

6.6 Plant wide hazardous air pollutant emission limit

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not emit greater than or equal to 9.5 tons of a single hazardous air pollutant or 23.8 tons of a combination of hazardous air pollutants from permitted units and fugitive sources per 12-month rolling period. The 12-month rolling total shall continue from the previous permit.

6.7 Air emission exceedances – emergency conditions

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

6.8 Circumvention not allowed

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.12, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would

otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

6.9 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 outlining 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 represented in the same terminology as the permit limits;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test necessary for demonstrating compliance with the permit limits, preparation of standards, and calibration procedures;
7. Raw data sheets for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. All data recorded and used to establish parameters for compliance monitoring; and
10. Any other information required by the test method.

7.7 Initial performance test on Unit #1B

In accordance with ARSD 74:36:20:15(10), the owner or operator shall conduct an initial performance test on Unit #1B within 60 days after achieving the maximum production rate at which the alumina heat treat system will be operated, but not later than 180 days after the initial startup date of the alumina heat treat system. The initial performance test shall be conducted to determine the particulate matter emissions prior to and after the thermal oxidizer and to determine the volatile organic compound control efficiency of the thermal oxidizer. The results of the testing will be used to demonstrate compliance with permit conditions 5.8, 6.3 and 9.1.

8.0 Monitoring

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

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

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

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

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

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

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

8.2 Monitoring opacity limits for units operating periodically

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

- Step 1:** For units that operate on a quarterly basis, monitoring shall consist of the following:
- a. Monitoring shall consist of a visible emission reading once per quarter. A visible emission reading shall consist of a visual survey of the unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions; or
 - b. If visible emissions are observed from a unit at any time other than periods of startup, shutdown, or malfunction, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity limit specified in Chapter 6.0. The visible emission test must be conducted within one hour of witnessing a visible emission from the unit. The visible emission test shall be for at least six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions.

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

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

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

8.3 Certified personnel – visible emission tests

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

9.0 40 CFR Subpart VVV - Polymeric Coating of Supporting Substrates

9.1 Volatile organic compound limits

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.742, the owner or operator shall comply with the following volatile organic compound limits on or after the date on which the initial performance test is completed, but no later than 60 days after achieving the maximum production rate at which the affected facility will be operated or 180 days after initial startup, whichever date comes first:

1. For the coating operation, each owner or operator shall install, operate, and maintain a total enclosure around the coating operation and vent the captured volatile organic compound emissions from the total enclosure to a control device that is at least 95 percent efficient.
2. For the onsite coating mix preparation equipment, the owner or operator shall install, operate, and maintain a cover on each piece of affected coating mix preparation equipment and vent volatile organic compounds emissions from the covered mix equipment to a control device. The control device shall be at least 95 percent efficient while preparation of the coating is taking place within the vessel;

9.2 Operations not applicable

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.740(d), the following operations are not subject to the requirements of Chapter 9.0 of this permit:

1. Coating mix preparation equipment used to manufacture coatings at one plant for shipment to another plant for use in an affected facility (coating operation) or for sale to another company for use in an affected facility (coating operation);
2. Coating mix preparation equipment or coating operations during those times they are used to prepare or apply waterborne coatings so long as the volatile organic compound content of the coating does not exceed nine percent by weight of the volatile fraction; and
3. Web coating operations that print an image on the surface of the substrate or any coating applied on the same printing line that applies the image.

9.3 Demonstrating compliance with 95 percent efficiency

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.743(b), the owner or operator shall demonstrate compliance with the 95 percent efficiency in permit condition 9.1 by the following methods:

1. Demonstrate that a total enclosure is installed. The total enclosure shall be approved by the Secretary if it meets the following requirements:
 - a. The only openings in the enclosure are forced makeup air and exhaust ducts and natural draft openings such as those through which raw materials enter and exit the coating operation;
 - b. Total area of all natural draft openings does not exceed 5 percent of the total surface area of the total enclosure's walls, floor, and ceiling;
 - c. All access doors and windows are closed during normal operation of the enclosed coating operation, except for brief, occasional openings to accommodate process equipment adjustments. If such openings are frequent, or if the access door or window remains open for a significant amount of time during the process operation, it must be considered a natural draft opening. Access doors used routinely by workers to enter and exit the enclosed area shall be equipped with automatic closure devices;
 - d. Average inward face velocity (FV) across all natural draft openings is a minimum of 3,600 meters per hour as determined by the following procedures:
 - i. Construct all forced makeup air ducts and all exhaust ducts so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in permit condition 9.6(2) and (3). Volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and
 - ii. Determine FV by Equation 9-1.

Equation 9-1 – Determining Average Inward Face Velocity

$$FV = \frac{\sum_{j=1}^n Q_{out\ j} - \sum_{i=1}^p Q_{in\ i}}{\sum_{k=1}^q A_k}$$

- e. The air passing through all natural draft openings flows into the enclosure continuously. If FV is less than or equal to 9,000 meters per hour, the continuous inward airflow shall be verified by continuous observation using smoke tubes, streamers, tracer gases, or other means approved by the Administrator of EPA over the period that the volumetric flow rate tests required to determine FV are carried out. If FV is greater than 9,000 meters per hour, the direction of airflow through the natural draft openings shall be presumed to be inward at all times without verification; and
 - f. All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening.
2. Determine the control device efficiency using Equation 9-2, and the test methods and procedures specified in permit condition 9.6(2) through (7); and

Equation 9-2 – Determine Control Device Efficiency

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^n Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

3. Compliance is demonstrated if the installation of a total enclosure is demonstrated and the value of E determined from Equation 9-2 is equal to or greater than 0.95.

9.4 Demonstrating compliance for coating mix preparation

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.743(c), the owner or operator shall demonstrate compliance with permit condition 9.1 by the following methods:

1. Covers meeting the following specifications have been installed and are being used properly:
 - a. Cover shall be closed at all times except when adding ingredients, withdrawing samples, transferring the contents, or making visual inspection when such activities cannot be carried out with cover in place. Such activities shall be carried out through ports of the minimum practical size;
 - b. Cover shall extend at least 2 centimeters beyond the outer rim of the opening or shall be attached to the rim;
 - c. Cover shall be of such design and construction that contact is maintained between cover and rim along the entire perimeter;
 - d. Any breach in the cover such as a slit for insertion of a mixer shaft or port for addition of ingredients shall be covered consistent with paragraph (1)(a), (b), and (c) of this permit condition when not actively in use. An opening sufficient to allow safe clearance for a mixer shaft is acceptable during those periods when the shaft is in place; and
 - e. A polyethylene or nonpermanent cover may be used provided it meets the requirements of paragraph (1)(b), (c), and (d) of this permit condition. Such a cover shall not be reused after once being removed;
2. Procedures detailing the proper use of covers, as specified in paragraph (1)(a) of this permit condition, have been posted in all areas where affected coatings mix preparation equipment is used;
3. The coating mix preparation equipment is vented to a control device while preparation of the coating is taking place within the vessel; and
4. The control device efficiency, E or H_{sys} , as applicable, determined using Equation 9-2 and the test methods and procedures specified in permit condition 9.6(2) through (7) is equal to or greater than 0.95.

9.5 Monitoring requirements

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.744, the owner or operator shall install and calibrate the following monitoring devices according to the manufacturer's specifications and prior to the initial performance test in locations such that representative values of the monitored parameters will be obtained. The parameters to be monitored shall be continuously measured and recorded during each performance test.

1. If a thermal incinerator is used as a control and the owner or operator demonstrates compliance by the test methods described in permit condition 9.3 or 9.4 (which include control device efficiency determinations), the owner or operator shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the combustion temperature of the incinerator. The

monitoring device shall have an accuracy within ± 1 percent of the temperature being measured in Celsius degrees;

2. If the owner or operator demonstrates compliance as described in permit condition 9.3, the owner or operator shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the magnetic pressure differential of the total enclosures;
3. The owner or operator shall record time periods of mixing or coating operations when the emission control device is malfunctioning or not in use;
4. The owner or operator shall record time periods of mixing or coating operations when each monitoring device is malfunctioning or not in use; and
5. Records of the measurements and calculations required in permit condition 9.3 through 9.5, inclusive, must be retained for at least two years following the date of the measurements and calculations.

9.6 Testing requirements

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.745, the owner or operator shall use the methods in 40 CFR Part 60, Appendix A to determine compliance as follows:

1. 40 CFR Part 60, Appendix A, Method 24 shall be used to determine the volatile organic compound content in coatings. If it is demonstrated to the satisfaction of the Administrator of EPA that coating formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and the owner's or operator's formulation data, the Method 24 test will govern. For Method 24, the coating sample must be a 1-liter sample collected in a 1-liter container at a point in the process where the sample will be representative of the coating applied to the substrate (i.e., the sample shall include any dilution solvent or other volatile organic compound added during the manufacturing process). The container must be tightly sealed immediately after the sample is collected. Any solvent or other volatile organic compound added after the sample is taken must be measured and accounted for in the calculations that use Method 24 results;
2. 40 CFR Part 60, Appendix A, Method 25 shall be used to determine volatile organic compound concentrations from incinerator gas streams. Alternative Methods (18 or 25A), may be used as explained in the applicability section of Method 25 in cases where use of Method 25 is demonstrated to be technically infeasible. The owner or operator shall submit notice of the intended test method to the Administrator of EPA for approval along with the notification of the performance test required under permit condition 8.4. The test shall consist of three separate runs, each lasting a minimum of 30 minutes:
3. 40 CFR Part 60, Appendix A, Method 1 or 1A is used for sample and velocity traverses;
4. 40 CFR Part 60, Appendix A, Method 2, 2A, 2C, or 2D is used for velocity and volumetric flow rates;
5. 40 CFR Part 60, Appendix A, Method 3 is used for gas analysis;
6. 40 CFR Part 60, Appendix A, Method 4 is used for stack gas moisture; and
7. 40 CFR Part 60, Appendix A, Methods 2, 2A, 2C, or 2D; 3; and 4 shall be performed, as applicable, at least twice during each test run.

9.7 Reporting and record keeping requirements

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.747, the owner or operator shall meet the following reporting and record keeping requirements:

1. If the owner or operator demonstrates compliance by the methods described in permit condition 9.3 or 9.4, the owner or operator shall maintain records and submit quarterly reports to the Secretary documenting the following:
 - a. If the owner or operator monitors thermal incinerator combustion gas temperature, all 3-hour periods (during actual coating operations) during which the average combustion temperature of the device is more than 28 Celsius degrees below the average combustion temperature of the device during the most recent performance test that demonstrated compliance;
 - b. If the owner or operator monitors a total enclosure pursuant to permit condition 9.5(2), all 3-hour periods (during actual coating operations) during which the average total enclosure monitor readings vary by 5 percent or more from the average value measured during the most recent performance test that demonstrated compliance.
 - c. If the owner or operator is not required to submit reports under paragraphs (1)(a) through (b) of this permit condition because no reportable periods have occurred shall submit semiannual statements clarifying this fact.
2. Each owner or operator of a coating operation, either by itself or with associated coating mix preparation equipment, shall submit the following with the reports required under paragraph (1) of this permit condition:
 - a. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and
 - b. All periods during actual mixing or coating operations when the control device was malfunctioning or not operating.
3. The reports required under paragraphs (1) through (2), inclusive, of this permit condition shall be postmarked within 30 days of the end of the reporting period.
4. Records must be retained for at least two years.

9.8 Definitions

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.741(a), the terms in this chapter mean:

1. ***Coating applicator*** means any apparatus used to apply a coating to a continuous substrate;
2. ***Coating mix preparation equipment*** means all mixing vessels in which solvent and other materials are blended to prepare polymeric coatings;
3. ***Coating operation*** means any coating applicator(s), flash off area(s), and drying oven(s) located between a substrate unwind station and a rewind station that coats a continuous web to produce a substrate with a polymeric coating. Should the coating process not employ a rewind station, the end of the coating operation is after the last drying oven in the process;
4. ***Concurrent*** means the period of time in which construction of an emission control device serving the facility is commenced or completed, beginning six months prior to the date that construction of the facility commences and ending two years after the date that construction of the facility is completed;

5. **Control device** means any apparatus that reduces the quantity of a pollutant emitted to the air;
6. **Cover** means, with respect to coating mix preparation equipment, a device that fits over the equipment opening to prevent emissions of volatile organic compounds from escaping;
7. **Drying oven** means a chamber within which heat is used to dry a surface coating; drying may be the only process or one of multiple processes performed in the chamber;
8. **Equivalent diameter** means four times the area of an opening divided by its perimeter;
9. **Natural draft opening** means any opening in a room, building, or total enclosure that remains open during operation of the facility and that is not connected to a duct in which a fan is installed. The rate and direction of the natural draft across such an opening is a consequence of the difference in pressures on either side of the wall or barrier containing the opening;
10. **Nominal 1-month period** means a calendar month or, if established prior to the performance test in a statement submitted with notification of anticipated startup pursuant to 40 CFR 60.7(a)(2), a similar monthly time period (e.g., 30-day month or accounting month);
11. **Onsite coating mix preparation equipment** means those pieces of coating mix preparation equipment located at the same plant as the coating operation they serve;
12. **Polymeric coating of supporting substrates** means a web coating process that applies elastomers, polymers, or prepolymers to a supporting web other than paper, plastic film, metallic foil, or metal coil;
13. **Substrate** means the surface to which a coating is applied
14. **Temporary enclosure** means a total enclosure that is constructed for the sole purpose of measuring fugitive volatile organic compound emissions;
15. **Total enclosure** means a structure that is constructed around a source of emissions and operated so that all volatile organic compound emissions are collected and exhausted through a stack or duct. With a total enclosure, there will be no fugitive emissions, only stack emissions. The drying oven itself may be part of the total enclosure;
16. **Vapor capture system** means any device or combination of devices designed to contain, collect, and route solvent vapors released from the coating mix preparation equipment or coating operation;
17. **Waterborne coating** means a coating which contains more than 5 weight percent water in its volatile fraction; and
18. **Web coating** means the coating of products, such as fabric, paper, plastic film, metallic foil, metal coil, cord, and yarn, that are flexible enough to be unrolled from a large roll; and coated as a continuous substrate by methods including, but not limited to, knife coating, roll coating, dip coating, impregnation, rotogravure, and extrusion.

9.9 Nomenclature

In accordance with ARSD 74:36:05:16.01(8), as referenced to 40 CFR § 60.741(b), the nomenclatures in this chapter mean:

1. A_k = The area of each natural draft opening (k) in a total enclosure, in square meters;
2. C_{aj} = The concentration of volatile organic compounds in each gas stream (j) exiting the emission control device, in parts per million by volume;

3. C_{bi} = The concentration of volatile organic compounds in each gas stream (i) entering the emission control device, in parts per million by volume;
4. Q_{aj} = The volumetric flow rate of each gas stream (j) exiting the emission control device, in dry standard cubic meters per hour when 40 CFR Part 60, Appendix A, Method 18 or 25 is used to measure volatile organic compound concentration or in standard cubic meters per hour (wet basis) when Method 25A is used to measure volatile organic compound concentration;
5. Q_{bi} = The volumetric flow rate of each gas stream (i) entering the emission control device, in dry standard cubic meters per hour when 40 CFR Part 60, Appendix A, Method 18 or 25 is used to measure volatile organic compound concentration or in standard cubic meters per hour (wet basis) when Method 25A is used to measure volatile organic compound concentration;
6. Q_{ini} = The volumetric flow rate of each gas stream (i) entering the total enclosure through a forced makeup air duct, in standard cubic meters per hour (wet basis); and
7. Q_{outj} = The volumetric flow rate of each gas stream (j) exiting the total enclosure through an exhaust duct or hood, in standard cubic meters per hour (wet basis);

10.0 Exemptions

10.1 Prevention of significant deterioration review exemption

The owner or operator is exempt from a prevention of significant deterioration review for volatile organic compounds. The exemption is based on operational and air emission limits in this permit. Any relaxation in the permit conditions that increases applicable emissions equal to or greater than 238 tons per 12-month rolling period may require a full prevention of significant deterioration review as though construction had not commenced on the source.

10.2 Case-by-Case exemption

The owner or operator is exempt from a Case-by-Case determination for hazardous air pollutants. The exemption for hazardous air pollutants is based on the operational and air emission limits in this permit. Any relaxation in the permit conditions that increases the hazardous air pollutant emissions equal to or greater than 9.5 tons per 12-month rolling period for a single hazardous air pollutant or 23.8 tons per 12-month rolling period for any combination of hazardous air pollutants may require a Case-by-Case MACT determination as though construction had not commenced on the source.