



MAJOR SOURCE OPERATING PERMIT

PERMITEE: **KNAUF INSULATION, INC.**
FACILITY NAME: **KNAUF INSULATION, INC.**
FACILITY/PERMIT NO.: 302-0011
LOCATION: LANETT, ALABAMA

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code 1975, §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code 1975, §§22-22A-1 to 22-22A-15, (2006 Rplc. Vol. and 2007 Cum. Supp.) and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

*Pursuant to the **Clean Air Act of 1990**, all conditions of this permit are federally enforceable by EPA, the Alabama Department of Environmental Management, and citizens in general. Those provisions which are not required under the **Clean Air Act of 1990** are considered to be state permit provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate sections of this permit.*

Issuance Date: *DRAFT*

Expiration Date: *DRAFT*

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<p>1. <u>Transfer</u></p> <p>This permit is not transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another, except as provided in Rule 335-3-16-.13(1)(a)5.</p>	<p>Rule 335-3-16-.02(6)</p>
<p>2. <u>Renewals</u></p> <p>An application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of this permit.</p> <p>The source for which this permit is issued shall lose its right to operate upon the expiration of this permit unless a timely and complete renewal application has been submitted within the time constraints listed in the previous paragraph.</p>	<p>Rule 335-3-16-.12(2)</p>
<p>3. <u>Severability Clause</u></p> <p>The provisions of this permit are declared to be severable and if any section, paragraph, subparagraph, subdivision, clause, or phrase of this permit shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, impair, or invalidate the remainder of this permit, but shall be confined in its operation to the section, paragraph, subparagraph, subdivisions, clause, or phrase of this permit that shall be directly involved in the controversy in which such judgment shall have been rendered.</p>	<p>Rule 335-3-16-.05(e)</p>
<p>4. <u>Compliance</u></p> <p>(a) The permittee shall comply with all conditions of ADEM Admin. Code 335-3. Noncompliance with this permit will constitute a violation of the Clean Air Act of 1990 and ADEM Admin. Code 335-3 and may result in an enforcement action; including but not limited to, permit termination, revocation and reissuance, or modification; or denial of a permit renewal application by the permittee.</p>	<p>Rule 335-3-16-.05(f)</p>

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<p>(b) The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.</p>	Rule 335-3-16-.05(g)
<p>5. <u>Termination for Cause</u></p> <p>This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance will not stay any permit condition.</p>	Rule 335-3-16-.05(h)
<p>6. <u>Property Rights</u></p> <p>The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.</p>	Rule 335-3-16-.05(i)
<p>7. <u>Submission of Information</u></p> <p>The permittee must submit to the Department, within 30 days or for such other reasonable time as the Department may set, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon receiving a specific request, the permittee shall also furnish to the Department copies of records required to be kept by this permit.</p>	Rule 335-3-16-.05(j)
<p>8. <u>Economic Incentives, Marketable Permits, and Emissions Trading</u></p> <p>No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.</p>	Rule 335-3-16-.05(k)
<p>9. <u>Certification of Truth, Accuracy, and Completeness:</u></p> <p>Any application form, report, test data, monitoring data, or compliance certification submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state</p>	Rule 335-3-16-.07(a)

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<p>that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.</p>	
<p>10. <u>Inspection and Entry</u></p> <p>Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of the Alabama Department of Environmental Management and EPA to conduct the following:</p> <ul style="list-style-type: none"> (a) Enter upon the permittee’s premises where a source is located or emissions-related activity is conducted, or where records must be kept pursuant to the conditions of this permit; (b) Review and/or copy, at reasonable times, any records that must be kept pursuant to the conditions of this permit; (c) Inspect, at reasonable times, this facility’s equipment (including monitoring equipment and air pollution control equipment), practices, or operations regulated or required pursuant to this permit; (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or other applicable requirements. 	<p>Rule 335-3-16-.07(b)</p>
<p>11. <u>Compliance Provisions</u></p> <ul style="list-style-type: none"> (a) The permittee shall continue to comply with the applicable requirements with which the company has certified that it is already in compliance. (b) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit. 	<p>Rule 335-3-16-.07(c)</p>
<p>12. <u>Compliance Certification</u></p> <p>A compliance certification shall be submitted annually within 60 days of the anniversary date of issuance of this permit.</p>	<p>Rule 335-3-16-.07(e)</p>

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<p>(a) The compliance certification shall include the following:</p> <ol style="list-style-type: none"> (1) The identification of each term or condition of this permit that is the basis of the certification; (2) The compliance status; (3) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with Rule 335-3-16-.05(c) (Monitoring and Recording Keeping Requirements); (4) Whether the method(s) or other means used to assure compliance provided continuous or intermittent data; (5) Such other facts as the Department may require to determine the compliance status of the source; <p>(b) The compliance certification shall be submitted to :</p> <p style="text-align: center;">Alabama Department of Environmental Management Air Division P.O. Box 301463 Montgomery, AL 36130-1463</p> <p style="text-align: center;">and to:</p> <p style="text-align: center;">Air Enforcement and Toxics Branch EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303</p>	<p></p>
<p>13. <u>Reopening for Cause</u></p> <p>Under any of the following circumstances, this permit will be reopened prior to the expiration of the permit:</p> <p>(a) Additional applicable requirements under the Clean Air Act of 1990 become applicable to the permittee with a remaining permit term of three (3) or more</p>	<p>Rule 335-3-16-.13(5)</p>

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<p>years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire.</p> <p>(b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.</p> <p>(c) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.</p> <p>(d) The Administrator or the Department determines that this permit must be revised or revoked to assure compliance with the applicable requirements.</p>	
<p>14. <u>Additional Rules and Regulations</u></p> <p>This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.</p>	<p>§22-28-16(d), <u>Code of Alabama 1975</u>, as amended</p>
<p>15. <u>Equipment Maintenance or Breakdown</u></p> <p>(a) In case of shutdown of air pollution control equipment for scheduled maintenance, the intent to shut down shall be reported to the Department at least 24 hours prior to the planned shutdown, unless such shutdown is accompanied by the shutdown of the source which such equipment is intended to control. The Department shall be notified when maintenance on the air pollution control equipment is complete and the equipment is operating.</p> <p>(1) Identification of the specific facility to be taken out of service as well as its location and permit number;</p>	<p>Rule 335-3-1-.07(1),(2)</p>

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<p>(2) The expected length of time that the air pollution control equipment will be out of service;</p> <p>(3) The nature and quantity of emissions of air contaminants likely to occur during the shutdown period;</p> <p>(4) Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period;</p> <p>(5) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.</p> <p>(b) In the event that there is a breakdown of equipment or upset of process in such a manner as to cause, or is expected to cause, increased emissions of air contaminants which are above an applicable standard, the person responsible for such equipment shall notify the Director within 24 hours or the next working day and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Director will be notified when the breakdown has been corrected.</p>	
<p>16. <u>Operation of Capture and Control Devices</u></p> <p>All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.</p>	<p>§22-28-16(d), <u>Code of Alabama 1975</u>, as amended</p>
<p>17. <u>Obnoxious Odors</u></p> <p>This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the</p>	<p>Rule 335-3-1-.08</p>

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<p>Alabama Department of Environmental Management that these measures are technically and economically feasible.</p> <p>18. <u>Fugitive Dust</u></p> <p>(a) Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.</p> <p>(b) Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne:</p> <p>(1) By the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;</p> <p>(2) By reducing the speed of vehicular traffic to a point below that at which dust emissions are created;</p> <p>(3) By paving;</p> <p>(4) By the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions; or</p> <p>(5) By any combination of the above methods which results in the prevention of dust becoming airborne from the road surface.</p> <p>19. <u>Additions and Revisions</u></p> <p>Any modifications to this source shall comply with the modification procedures in Rules 335-3-16-.13 or 335-3-16-.14.</p> <p>20. <u>Recordkeeping Requirements</u></p> <p>(a) Records of required monitoring information of the source shall include the following:</p>	<p>Rule 335-3-4-.02</p> <p>Rule 335-3-16-.13 and .14</p> <p>Rule 335-3-16-.05(c)(2)</p>

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<ul style="list-style-type: none"> (1) The date, place, and time of all sampling or measurements; (2) The date analyses were performed; (3) The company or entity that performed the analyses; (4) The analytical techniques or methods used; (5) The results of all analyses; and (6) The operating conditions that existed at the time of sampling or measurement. <p>(b) Retention of records of all required monitoring data and support information of the source for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by the permit.</p>	
<p>21. <u>Reporting Requirements</u></p> <ul style="list-style-type: none"> (a) Reports to the Department of any required monitoring shall be submitted at least every 6 months. All instances of deviations from permit requirements must be clearly identified in said reports. All required reports must be certified by a responsible official consistent with Rule 335-3-16-.04(9). (b) Deviations from permit requirements shall be reported within 48 hours or 2 working days of such deviations, including those attributable to upset conditions as defined in the permit. The report will include the probable cause of said deviations, and any corrective actions or preventive measures that were taken. 	<p>Rule 335-3-16-.05(c)(3)</p>

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<p>All test reports must be submitted to the Air Division within 30 days of the actual completion of the test unless an extension of time is specifically approved by the Air Division.</p>	
<p>23. <u>Payment of Emission Fees</u></p> <p>Annual emission fees shall be remitted each year according to the fee schedule in ADEM Admin. Code R. 335-1-7-.04.</p>	<p>Rule 335-1-7-.04</p>
<p>24. <u>Other Reporting and Testing Requirements</u></p> <p>Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require emission testing at any time.</p>	<p>Rule 335-3-1-.04(1)</p>
<p>25. <u>Title VI Requirements (Refrigerants)</u></p> <p>Any facility having appliances or refrigeration equipment, including air conditioning equipment, which use Class I or Class II ozone-depleting substances as listed in 40 CFR Part 82, Subpart A, Appendices A and B, shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.</p> <p>No person shall knowingly vent or otherwise release any Class I or Class II substance into the environment during the repair, servicing, maintenance, or disposal of any device except as provided in 40 CFR Part 82, Subpart F.</p> <p>The responsible official shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the US EPA and the Department as required.</p>	<p>40 CRR Part 82</p>
<p>26. <u>Chemical Accidental Prevention Provisions</u></p> <p>If a chemical listed in Table 1 of 40 CFR Part 68.130 is present in a process in quantities greater than the threshold quantity listed in Table 1, then:</p>	<p>40 CFR Part 68</p>

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<p>(a) The owner or operator shall comply with the provisions in 40 CFR Part 68.</p> <p>(b) The owner or operator shall submit one of the following:</p> <p>(1) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR Part 68 § 68.10(a) or,</p> <p>(2) A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan.</p>	
<p>27. <u>Display of Permit</u></p> <p>This permit shall be kept under file or on display at all times at the site where the facility for which the permit is issued is located and will make the permit readily available for inspection by any or all persons who may request to see it.</p>	Rule 335-3-14-.01(1)(d)
<p>28. <u>Circumvention</u></p> <p>No person shall cause or permit the installation or use of any device or any means which, without resulting in the reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminant which would otherwise violate the Division 3 rules and regulations.</p>	Rule 335-3-1-.10
<p>29. <u>Visible Emissions</u></p> <p>Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.</p>	Rule 335-3-4-.01(1)
<p>30. <u>Fuel-Burning Equipment</u></p> <p>(a) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge</p>	Rule 335-3-4-.03

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<p>particulate emissions in excess of the emissions specified in Part 335-3-4-.03.</p> <p>(b) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge sulfur dioxide emissions in excess of the emissions specified in Part 335-3-5-.01.</p>	<p>Rule 335-3-5-.01</p>
<p>31. <u>Process Industries – General</u></p> <p>Unless otherwise specified in the Unit Specific provisos of this permit, no process may discharge particulate emissions in excess of the emissions specified in Part 335-3-4-.04.</p>	<p>Rule 335-3-4-.04</p>
<p>32. <u>Averaging Time for Emission Limits</u></p> <p>Unless otherwise specified in the permit, the averaging time for the emission limits listed in this permit shall be the nominal time required by the specific test method</p>	<p>Rule 335-3-1-.05</p>
<p>33. <u>Compliance Assurance Monitoring (CAM)</u></p> <p>Conditions (a) through (d) that follow are general conditions applicable to emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the unit specific provisos and the attached CAM appendices.</p> <p>(a) Operation of Approved Monitoring</p> <p>(1) <i>Commencement of operation.</i> The owner or operator shall conduct the monitoring required under this section and detailed in the unit specific provisos and CAM appendix of this permit (if required) upon issuance of the permit, or by such later date specified in the permit pursuant to §64.6(d).</p> <p>(2) <i>Proper maintenance.</i> At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.</p>	<p>40 CFR 64.7</p>

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<p>(3) <i>Continued operation.</i> Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.</p> <p>(4) <i>Response to excursions or exceedances.</i></p> <p style="padding-left: 2em;">(a) Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range,</p>	

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<p>designated condition, or below the applicable emission limitation or standard, as applicable.</p> <p>(b) Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.</p> <p>(5) <i>Documentation of need for improved monitoring.</i> After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Department and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.</p> <p>(b) Quality Improvement Plan (QIP) Requirements</p> <p>(1) Based on the results of a determination made under Section 33(a)(4)(b) above, the Administrator or the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with 40 CFR §64.6(c)(3), the permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a</p>	<p>40 CFR 64.8</p>

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<p>manner consistent with good air pollution control practices.</p> <p>(2) Elements of a QIP:</p> <ol style="list-style-type: none"> 1. The owner or operator shall maintain a written QIP, if required, and have it available for inspection. 2. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate: <ol style="list-style-type: none"> (i) Improved preventive maintenance practices. (ii) Process operation changes. (iii) Appropriate improvements to control methods. (iv) Other steps appropriate to correct control performance. (v) More frequent or improved monitoring (only in conjunction with one or more steps under paragraphs (2)(b)(i) through (iv) above). <p>(3) If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Department if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.</p> <p>(4) Following implementation of a QIP, upon any subsequent determination pursuant to Section 33(a)(4)(b) above, the Department may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:</p> <ol style="list-style-type: none"> (a) Failed to address the cause of the control device performance problems; or (b) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with 	

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<p style="text-align: center;">good air pollution control practices for minimizing emissions.</p> <p>(5) Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.</p> <p>(c) Reporting and Recordkeeping Requirements</p> <p>(1) <i>General reporting requirements</i></p> <p>(a) On and after the date specified in Section 33(a)(1) above by which the owner or operator must use monitoring that meets the requirements of this part, the owner or operator shall submit monitoring reports to the permitting authority in accordance with ADEM Admin. Code R. 335-3-16-.05(c)3.</p> <p>(b) A report for monitoring under this part shall include, at a minimum, the information required under ADEM Admin. Code R. 335-3-16-.05(c)3. and the following information, as applicable:</p> <p>(i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;</p> <p>(ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and</p> <p>(iii) A description of the actions taken to implement a QIP during the reporting period as specified in Section 33(b) above. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed</p>	<p style="text-align: center;">40 CFR 64.9</p>

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<p style="text-align: center;">and reduced the likelihood of similar levels of excursions or exceedances occurring.</p> <p>(2) <i>General recordkeeping requirements.</i></p> <p>(a) The owner or operator shall comply with the recordkeeping requirements specified in ADEM Admin. Code R. 335-3-16-.05(c)2.. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Section 33(b) above and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).</p> <p>(b) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p> <p>(d) Savings Provisions</p> <p>(1) Nothing in this part shall:</p> <p>(a) Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of</p>	<p style="text-align: center;">40 CFR 64.10</p>

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<p>the Act. The purpose of this part is to require, as part of the issuance of a permit under title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.</p> <p>(b) Restrict or abrogate the authority of the Department to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.</p> <p>(c) Restrict or abrogate the authority of the Department to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.</p>	

Summary Page for Batch House Raw Material Handling

Permitted

Operating Schedule: 24 Hrs/day x 7 Days/week x 52 Weeks/yr = 8760 Hrs/yr

Emission limitations:

Emission Point #	Description	Pollutant	Emission limit	Regulation
0-1	Raw Material Unload with Dust Collector	PM	0.04gr/dscf	335-3-14-.04(9) BACT
0-2 to 0-6	#1 Batch Distributor with Dust Collectors	PM	0.04gr/dscf	335-3-14-.04(9) BACT
0-7 to 0-9	#2 Batch Distributor with Dust Collectors	PM	0.04gr/dscf	335-3-14-.04(9) BACT
0-10 to 0-18	Conveying and Mixing with Dust Collectors	PM	0.04gr/dscf	335-3-14-.04(9) BACT

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Provisos for Batch House Raw Material Handling

Federally Enforceable Provisos	Regulations
<u>Applicability</u>	
1. This process is subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, <i>“Major Source Operating Permits”</i> .	ADEM Admin. Code R. 335-3-16-.03
2. This process is subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01(1), <i>“Visible Emissions”</i> .	ADEM Admin. Code R. 335-3-4-.01(1)
3. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-14-.04, <i>“Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]”</i> .	ADEM Admin. Code R. 335-3-14-.04 BACT
4. The raw material unloading is subject to the applicable requirements of 40 CFR 64, <i>“Compliance Assurance Monitoring”</i> .	40 CFR 64
<u>Emission Standards</u>	
1. All silos that store raw material shall be equipped with a baghouse.	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
2. All railcar unloading of raw materials shall be done within an area enclosed by a top cover and two sides.	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
3. The exit concentration of particulate matter emissions of each baghouse shall not exceed 0.04 grains per dry standard cubic foot.	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
<u>Compliance and Performance Test Methods and Procedures</u>	
1. If testing is required, particulate emissions (PM) from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 5.	ADEM Admin. Code R. 335-3-1-.05
2. Visible emissions observations (VEO) shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A.	ADEM Admin. Code R. 335-3-1-.05
<u>Emission Monitoring</u>	
1. The Raw Material Unloading (EP:0-1) emission monitoring requirements under 40 CFR Part 64, <i>“Compliance Assurance Monitoring”</i> can be found in Appendix A.	40 CFR Part 64

Federally Enforceable Provisos

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Recordkeeping and Reporting Requirements

1. Daily observation of each batch house opening shall be recorded and kept on file for at least 5 years. If the observation indicates emissions greater than normal, the following shall be recorded:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

(a) The time and date the batch house openings were inspected

(b) The action(s) taken (if any) to repair the silo dust collector(s)

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Summary Page for Glass Melting Furnace – Line 621

Permitted

Operating Schedule: 24 Hrs/day x 7 Days/week x 52 Weeks/yr = 8760 Hrs/yr

Emission limitations:

Emission Point #	Description	Pollutant	Emission limit	Regulation
1-1	Glass Melting Furnace – Line 621 with Dry ESP	PM	Lesser of: 0.19 lbs/ton of glass or 1.5 lbs/hr	335-3-14-.04(9) BACT
1-1	Glass Melting Furnace – Line 621 with Dry ESP	PM	0.25 g/kg (0.5 lb/ton) of glass	§60.292(a)(1)
1-1	Glass Melting Furnace – Line 621 with Dry ESP	Opacity	20% (6-minute average)	335-3-4-.01(1)(a)&(b)
1-1	Glass Melting Furnace – Line 621 with Dry ESP	NOx	12.0 lbs/hr	335-3-14-.04(9) BACT
1-1	Glass Melting Furnace – Line 621 with Dry ESP	CO	3.0 lb/hr	335-3-14-.04 Anti-PSD
1-1	Glass Melting Furnace – Line 621 with Dry ESP	CrC	0.00025 lb/ton glass pulled	§63.882(a)

Provisos for Glass Melting Furnace – Line 621

Federally Enforceable Provisos	Regulations
<u>Applicability</u>	
1. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, <i>“Major Source Operating Permits”</i> .	ADEM Admin. Code R. 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01(1), <i>“Visible Emissions”</i> .	ADEM Admin. Code R. 335-3-4-.01(1)
3. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-14-.04, <i>“Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]”</i> .	ADEM Admin. Code R. 335-3-14-.04
4. This source has enforceable limits in place in order to prevent it from being subject to the provisions of ADEM Admin. Code R. 335-3-14-.04 <i>“Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]”</i> .	ADEM Admin. Code R. 335-3-14-.04
5. This source is subject to the applicable requirements of 40 CFR 60 Subpart CC, <i>“Standards of Performance for Glass Manufacturing Plants”</i> .	40 CFR 60 Subpart CC
6. This source is subject to the applicable requirements of 40 CFR 60 Subpart A, <i>“General Provisions”</i> .	40 CFR 60 Subpart A
7. This source is subject to the applicable requirements of 40 CFR 63 Subpart NN, <i>“National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources”</i> .	40 CFR 62 Subpart NN
8. This source is subject to the applicable requirements of 40 CFR 64, <i>“Compliance Assurance Monitoring”</i> .	40 CFR 64
<u>Emission Standards</u>	
1. Visible emissions from this source shall not exceed the opacity limitations as specified in General Proviso No. 29.	ADEM Admin. Code R. 335-3-4-.01(1)
2. Particulate matter emissions from this source shall not exceed the lesser of 0.19 lbs per ton of glass produced or 1.5 lbs per hour.	ADEM Admin. Code R. 335-3-14-.04 (9) (BACT)
3. The Permittee shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 grams of particulate matter per kilogram of glass (0.5 lb/ton) pulled from the glass-melting furnace.	ADEM Admin. Code R. 335-3-10-.02 (29) [§60.292]

Federally Enforceable Provisos**Regulations**

- | Federally Enforceable Provisos | Regulations |
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| 4. During routine maintenance of the electrostatic precipitator (ESP), this glass melting furnace is exempt from the particulate matter limits specified in 40 CFR §60.292(e) if:

(a) Routine maintenance in each calendar year does not exceed 6 days;

(b) Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and

(c) A report is submitted to the Administrator 10 days before the start of the routine maintenance (if 10 days cannot be provided, the report must be submitted as soon as practicable) and the report contains an explanation of the schedule of the maintenance. | ADEM Admin. Code R. 335-3-10-.02 (29) [§60.292] |
| 5. Nitrogen oxide (NO _x) emissions from this source shall not exceed 12.0 lbs per hour. | ADEM Admin. Code R. 335-3-14-.04 (9) (BACT) |
| 6. Carbon monoxide (CO) emissions from this source shall not exceed 3.0 lbs per hour. | ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD) |
| 7. The Permittee shall not discharge or cause to be discharged into the atmosphere emissions in excess of 0.00025 lb of chromium compounds per ton of glass pulled (0.25 lb per thousand tons glass pulled). | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.882(a)] |
| 8. The Permittee must initiate corrective action within one hour when any 3-hour block average of the monitored ESP parameters are outside the limits established during performance testing and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.882(b)(2)(i)] |
| 9. The Permittee must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions when any monitored ESP parameter is outside the limit established during performance testing for more than 5 percent of the total operating time in a 6-month block reporting period. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.882(b)(2)(ii)] |
| 10. The Permittee must operate the ESP such that the monitored ESP parameters are not outside the limit established during performance testing for more than 10 percent of the total operating time in a 6-month block reporting period. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.882(b)(2)(iii)] |

Federally Enforceable Provisos**Regulations****Compliance and Performance Test Methods and Procedures**

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| 1. If testing is required, particulate emissions (PM) from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 5. | ADEM Admin. Code R. 335-3-1-.05 |
| 2. If testing is required, visible emissions from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 9. | ADEM Admin. Code R. 335-3-1-.05 |
| 3. Nitrogen oxide (NO _x) emissions shall be determined by Method 7 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-1-.05 |
| 4. Carbon monoxide (CO) emissions shall be determined by Method 10 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-1-.05 |
| 5. Chromium compound emissions shall be determined by Method 29 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.885] |
| 6. The Permittee shall conduct a performance test to demonstrate compliance with the chromium compound limit. The Permittee shall conduct the performance test according to the procedures in Subpart A of 40 CFR Part 63. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.884(a)] |
| 7. Direct measurement of material balance using good engineering practice shall be used to determine the amount of glass pulled during the performance test. The rate of glass produced is defined as the weight of glass pulled from the affected facility during the performance test divided by the number of hours taken to perform the performance test. | 40 CFR §60.296(d)(3) |
| 8. The Permittee must meet all applicable performance test requirements contained in 40 CFR Part 63 Subpart NNN. | ADEM Admin. Code R. 335-3-11-.06 (39) [§63.884(b)] |

Emission Monitoring

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| 1. The unit's emission monitoring requirements under 40 CFR Part 64, " <i>Compliance Assurance Monitoring</i> ", can be found in Appendix A. | 40 CFR Part 64 |
| 2. A monitor shall be maintained at a location on the electrostatic precipitator exhaust stack which shall continuously record the opacity in the exhaust stack. | ADEM Admin. Code R. 335-3-16-.05(c)(1) |
| 3. Emissions tests for particulate matter are to be conducted at intervals not to exceed one year following the date of initial compliance testing. Each performance test shall consist of 3 runs. The Permittee shall use the average of the three runs in the | ADEM Admin. Code R. 335-3-16-.05(c)(1) |

Federally Enforceable Provisos

Regulations

applicable equation for determining compliance. All test reports must be submitted to the Department within 30 days of completion of testing.

- 4. The Permittee shall monitor the ESP according to the procedures in the operations, maintenance, and monitoring plan, which shall contain the following:
 - i. The ESP operating parameters to be monitored and the minimum and/or maximum values that will be used to identify any operational problems;
 - ii. A schedule for monitoring the ESP operating parameters;
 - iii. Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the ESP operating parameters are within the limits established during the performance test; and
 - iv. Procedures for the proper operation and maintenance of the ESP.

ADEM Admin. Code R.
335-3-11-.06 (39)
[§63.883]
[§63.1383(c)]

Recordkeeping and Reporting Requirements

- 1. Records shall be kept of ESP parameter values used to monitor ESP performance, including any period when the values deviated from the established limits, the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected.
- 2. During periods of startups and shutdowns, records shall be kept of the type of fuel used to heat the furnace during startup/shutdown to demonstrate only natural gas or other clean fuels were used; and records shall be kept showing the furnace emissions were controlled using the ESP operated at the parameters established during performance testing.
- 3. A written report of the excess opacity emissions, as defined below, will be submitted to the Department for each calendar quarter within 30 days following the end of the quarter. The reports will include the following information.
 - (a) The magnitude of excess emissions over 20% computed from six-minute averages (data recorded during periods of opacity monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages).
 - (b) The date and time of commencement and completion of each time period of excess emissions.
 - (c) The nature and cause of the excess emissions (if known) and the corrective action taken or preventative measures adopted.

ADEM Admin. Code R.
335-3-11-.06 (39)
[§63.886]
[§63.1386(d)(2)(ii)]

ADEM Admin. Code R.
335-3-11-.06 (39)
[§63.888]
[§63.1389(f)]

ADEM Admin. Code R.
335-3-16-.05(c)(3)

Federally Enforceable Provisos**Regulations**

(d) The date and time identifying each period during which the opacity monitoring system was inoperative (except for zero and span checks) and the nature of the system repairs or adjustments.

(e) When no excess emissions have occurred and the opacity monitoring system was not inoperative or did not require repairs or adjustments, such information will be stated in the report.

4. A semi-annual monitoring report shall be submitted to the Department according to the following schedule:

ADEM Admin. Code R.
335-3-16-.05(c)(3)

Reporting Period	Due Date
January 1 st through June 30 th	August 29 th
July 1 st through December 31 st	March 1 st

5. The semi-annual report shall contain the following:

ADEM Admin. Code R.
335-3-16-.05(c)(3)

(a) A detailed description of every instance in which visible emissions greater than twenty (20%) percent opacity were observed, to include the date, time, cause of the visible emissions, and the corrective action taken.

ADEM Admin. Code R.
335-3-11-.06 (39)
[§63.886]
[§63.1386(e)]

(b) The periods when the secondary voltage of the ESP was outside the operating parameters established during performance testing. If no deviations occurred, the report should say that no deviations occurred.

(c) A statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required.

Summary Page for Wool Fiberglass Process – Line 621

Permitted

Operating Schedule: 24 Hrs/day x 7 Days/week x 52 Weeks/yr = 8760 Hrs/yr

Emission limitations:

Emission Point #	Description	Pollutant	Emission limit	Regulation
1-2, 1-3	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	PM*	Lesser of: 4.87 lbs/ton of glass or 38.55 lbs/hr	335-3-14-.04(9) BACT
1-2, 1-3	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	PM	5.5 kg/Mg (11.0 lb/ton) of glass	40 CFR §60.682
1-2	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	NOx	N/A	N/A
1-2	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	CO	17.0 lbs/hr	335-3-14-.04(9) BACT
1-2	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	SOx	N/A	N/A
1-2	Wool Fiberglass Process with Wet Scrubbers and Forming controlled by a Wet ESP	Methanol	N/A	N/A
1-3	Curing Oven and Cooling	NOx	12.0 lbs/hr	335-3-14-.04(9) BACT
1-3	Curing Oven and Cooling	CO	20.4 lbs/hr	335-3-14-.04 Anti-PSD

*Combined particulate matter emissions from the forming section, curing oven, and the cooling section

Provisos for Wool Fiberglass Process – Line 621

Federally Enforceable Provisos	Regulations
<u>Applicability</u>	
1. The manufacturing line is subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, “ <i>Major Source Operating Permits</i> ”.	ADEM Admin. Code R. 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-14-.04, “ <i>Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]</i> ”.	ADEM Admin. Code R. 335-3-14-.04
3. This source has enforceable limits in place in order to prevent it from being subject to the provisions of ADEM Admin. Code R. 335-3-14-.04 “ <i>Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]</i> ”.	ADEM Admin. Code R. 335-3-14-.04
4. The manufacturing line is subject to the applicable requirements of 40 CFR 60 Subpart PPP “ <i>Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants</i> ”.	40 CFR 60 Subpart PPP
5. This source is subject to the applicable requirements of 40 CFR 60 Subpart A, “ <i>General Provisions</i> ”.	40 CFR 60 Subpart A
6. The manufacturing line is subject to the applicable requirements of 40 CFR 64, “ <i>Compliance Assurance Monitoring</i> ”.	40 CFR 64
<u>Emission Standards</u>	
1. The combined particulate matter emissions from the forming section, curing oven, and the cooling section shall not exceed the lesser of 4.87 pounds per ton (lb/ton) of glass produced or 38.55 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04(9) BACT
2. The Permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.	ADEM Admin. Code R. 335-3-10-.02(68) [§60.682]
3. Nitrogen oxide (NO _x) emissions from the 621 Curing Oven shall not exceed 12.0 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
4. Carbon monoxide (CO) emissions from the 621 Curing Oven shall not exceed 20.4 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD)

Federally Enforceable Provisos**Regulations**

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| 5. Carbon monoxide (CO) emissions from the 621 Forming Section shall not exceed 17.0 pounds per hour (lb/hr). | ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD) |
| 6. The scrubbers shall not operate with a pressure drop across the venturi of less than 3 inches of water column. | ADEM Admin. Code R. 335-3-16-.05 |
| 7. No phenol formaldehyde binders shall be used in this process. | ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD) |

Compliance and Performance Test Methods and Procedures

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| 1. If testing is required, particulate emissions (PM) from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 5. | ADEM Admin. Code R. 335-3-1-.05 |
| 2. Visible emissions observations (VEO) shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. | ADEM Admin. Code R. 335-3-1-.05 |
| 3. The NO _x emissions shall be determined by 40 CFR Part 60, Appendix A, Method 7. | ADEM Admin. Code R. 335-3-1-.05 |
| 4. The CO emissions shall be determined by 40 CFR Part 60, Appendix A, Method 10. | ADEM Admin. Code R. 335-3-1-.05 |
| 5. The Permittee shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured. | ADEM Admin. Code R. 335-3-10-.02(68) [§60.685(b)] |
| 6. The Permittee shall determine compliance with the particulate matter standard of 4.87 pounds per ton as follows: | ADEM Admin. Code R. 335-3-10-.02(68) [§60.685(c)] |

- (a) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd}) / (P_{avg} K)$$

Where:

- E = emission rate of particulate matter, (lb/ton)
- C_t = concentration of particulate matter, (gr/dscf)
- Q_{sd} = volumetric flow rate of effluent gas, (dscf/hr)
- P_{avg} = average glass pull rate, (ton/hr)
- K = conversion factor, (7,000 gr/lb)

- (b) Method 5E shall be used to determine the particulate matter concentration (C_t) and the volumetric flow rate (Q_{sd})

Federally Enforceable Provisos

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of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 90.1 dscf.

- (c) Pursuant to the May 15, 2006, alternative method approval letter (*Abstract for [0600088]-Appendix B*) from the EPA Office of Air Quality and Standards and the subsequent Federal Register notice dated July 26, 2007, the Permittee shall use continuous glass pull rate monitoring (Subpart NNN 63.1384(a)(3)) through the use of continuous glass flow cameras in lieu of the monitoring requirements specified in 40 CFR 60.685(c)(3).
- (d) To comply with §60.684(d), the owner or operator shall record measurements as required in §60.684(a) and (b) using the monitoring devices in §60.683(a) and (b) during the particulate matter runs. [54 FR 6680, Feb. 14, 1989]

Emission Monitoring

1. This source’s emission monitoring requirements under 40 CFR Part 64, “*Compliance Assurance Monitoring*”, can be found in Appendix A.
2. Particulate matter emissions tests are to be conducted at intervals not to exceed one year following the date of initial compliance testing. Each performance test shall consist of 3 runs. The Permittee shall use the average of the three runs in the applicable equation for determining compliance. All test reports must be submitted to the Department within 30 days of completion of testing.
3. The Permittee who uses a wet electrostatic precipitator control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the primary and secondary current (amperes) and voltage in each electrical field and the inlet water flow rate to the wet electrostatic precipitator. In addition, the owner or operator shall determine the total residue (total solids) content of the water entering the control device once per day using Method 209A, “Total Residue Dried at 103–105 °C,” in *Standard Methods for the Examination of Water and Wastewater*, 15th Edition, 1980 (incorporated by reference—see §60.17). Total residue shall be reported as percent by weight. All monitoring devices required under this paragraph are to be certified by their manufacturers to be accurate within ±5 percent over their operating range.

40 CFR Part 64

ADEM Admin. Code R. 335-3-16-.05

ADEM Admin. Code R. 335-3-10-.02(68) [§60.683(b)]

Federally Enforceable Provisos**Regulations**

4. All monitoring devices required under this section are to be recalibrated quarterly in accordance with procedures under §60.13(b) of 40 CFR Part 60.

ADEM Admin. Code R. 335-3-10-.02(68) [§60.683(c)]

Recordkeeping and Reporting Requirements

1. A semi-annual monitoring report shall be submitted to the Department according to the following schedule:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

Reporting Period	Due Date
January 1 st through June 30 th	August 29 th
July 1 st through December 31 st	March 1 st

ADEM Admin. Code R. 335-3-16-.05(c)(3)

2. The semi-annual report shall contain the following:

- (a) The periods when the pressure drop across a venturi scrubber was less than 3 inches of water column and the corrective action taken.
- (b) The periods when a venturi scrubber's water flow rate was outside the operating parameters established during compliance testing.
- (c) The periods when the current, voltage, and water flow rate of the wet electrostatic precipitator were outside the operating parameters established during compliance testing.
- (d) The quarterly calibrations of the required monitors.

Summary Page for Glass Melting Furnace – Line 622

Permitted

Operating Schedule: 24 Hrs/day x 7 Days/week x 52 Weeks/yr = 8760 Hrs/yr

Emission limitations:

Emission Point #	Description	Pollutant	Emission limit	Regulation
2-1	Glass Melting Furnace – Line 622 with Dry ESP	PM	2.44 lbs/hr	335-3-14-.04(9) BACT
2-1	Glass Melting Furnace – Line 622 with Dry ESP	PM	0.25 g/kg (0.5 lb/ton) of glass	§60.292(a)(1)
2-1	Glass Melting Furnace – Line 622 with Dry ESP	Opacity	20% (6-minute average)	ADEM Admin Code R. 335-3-4- .01(1)(a)&(b)
2-1	Glass Melting Furnace – Line 622 with Dry ESP	NOx	12.0 lbs/hr	335-3-14-.04(9) BACT
2-1	Glass Melting Furnace – Line 622 with Dry ESP	CO	3.0 lb/hr	335-3-14-.04 Anti-PSD
2-1	Glass Melting Furnace – Line 622 with Dry ESP	CrC	0.00025 lb/ton glass pulled	§63.882(a)

Provisos for Glass Melting Furnace – Line 622

Federally Enforceable Provisos	Regulations
<u>Applicability</u>	
1. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, “ <i>Major Source Operating Permits</i> ”.	ADEM Admin. Code R. 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01(1), “ <i>Visible Emissions</i> ”.	ADEM Admin. Code R. 335-3-4-.01(1)
3. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-14-.04, “ <i>Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]</i> ”.	ADEM Admin. Code R. 335-3-14-.04
4. This source has enforceable limits in place in order to prevent it from being subject to the provisions of ADEM Admin. Code R. 335-3-14-.04, “ <i>Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]</i> ”.	ADEM Admin. Code R. 335-3-14-.04
5. This source is subject to the applicable requirements of 40 CFR 60 Subpart CC, “ <i>Standards of Performance for Glass Manufacturing Plants</i> ”.	40 CFR 60 Subpart CC
6. This source is subject to the applicable requirements of 40 CFR 60 Subpart A, “ <i>General Provisions</i> ”.	40 CFR 60 Subpart A
7. This source is subject to the applicable requirements of 40 CFR 63 Subpart NN, “ <i>National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources</i> ”.	40 CFR 63 Subpart NN
8. This source is subject to the applicable requirements of 40 CFR 64, “ <i>Compliance Assurance Monitoring</i> ”.	40 CFR 64
<u>Emission Standards</u>	
1. Visible emissions from these units shall not exceed the opacity limitations as specified in General Proviso No. 29.	ADEM Admin. Code R. 335-3-4-.01(1)
2. Particulate matter emissions from this source shall not exceed 2.44 lbs per hour.	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
3. The Permittee shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 grams of particulate matter per kilogram of glass (0.5 lb/ton) pulled from the glass-melting furnace.	ADEM Admin. Code R. 335-3-10-.02(29) [§60.292]

Federally Enforceable Provisos**Regulations**

- | Federally Enforceable Provisos | Regulations |
|--|---|
| 4. Nitrogen oxide (NO _x) emissions from this source shall not exceed 12.0 lbs per hour. | ADEM Admin. Code R. 335-3-14-.04(9) (BACT) |
| 5. Carbon monoxide (CO) emissions from this source shall not exceed 3.0 lbs per hour. | ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD) |
| 6. During routine maintenance of the electrostatic precipitator, this glass melting furnace is exempt from the particulate matter limits specified in 40 CFR §60.292(a) if: | ADEM Admin. Code R. 335-3-10-.02(29) [§60.292(e)] |
| (a) Routine maintenance in each calendar year does not exceed 6 days; | |
| (b) Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and | |
| (c) A report is submitted to the Administrator 10 days before the start of the routine maintenance (if 10 days cannot be provided, the report must be submitted as soon as practicable) and the report contain an explanation of the schedule of the maintenance. | |
| 7. The Permittee shall not discharge or cause to be discharged into the atmosphere emissions in excess of 0.00025 lb of chromium compounds per ton of glass pulled (0.25 lb per thousand tons glass pulled). | ADEM Admin. Code R. 335-3-11-.06(39) [§63.882(a)] |
| 8. The Permittee must initiate corrective action within one hour when any 3-hour block average of the monitored ESP parameters are outside the limits established during performance testing and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.882(b)(2)(i)] |
| 9. The Permittee must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions when any monitored ESP parameter is outside the limit established during performance testing for more than 5 percent of the total operating time in a 6-month block reporting period. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.882(b)(2)(ii)] |
| 10. The Permittee must operate the ESP such that the monitored ESP parameters are not outside the limit established during performance testing for more than 10 percent of the total operating time in a 6-month block reporting period. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.882(b)(2)(iii)] |

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Compliance and Performance Test Methods and Procedures

- | | |
|---|---|
| 1. If testing is required, particulate emissions (PM) from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 5. | ADEM Admin. Code R. 335-3-1-.05 |
| 2. If testing is required, visible emissions from this process shall be measured in accordance with 40 CFR 60, Appendix A, Method 9. | ADEM Admin. Code R. 335-3-1-.05 |
| 3. Nitrogen oxide (NO _x) emissions shall be determined by Method 7 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-1-.05 |
| 4. Carbon monoxide (CO) emissions shall be determined by Method 10 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-1-.05 |
| 5. Chromium compound emissions shall be determined by Method 29 of 40 CFR Part 60, Appendix A. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.885] |
| 6. The Permittee shall conduct a performance test to demonstrate compliance with the chromium compound limit. The Permittee shall conduct the performance test according to the procedures in Subpart A of 40 CFR Part 63. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.884(a)] |
| 7. Direct measurement of material balance using good engineering practice shall be used to determine the amount of glass pulled during the performance test. The rate of glass produced is defined as the weight of glass pulled from the affected facility during the performance test divided by the number of hours taken to perform the performance test. | 40 CFR §60.296(d)(3) |
| 8. The Permittee must meet all applicable performance test requirements contained in 40 CFR Part 63 Subpart NNN. | ADEM Admin. Code R. 335-3-11-.06(39) [§63.884(b)] |

Emission Monitoring

- | | |
|---|----------------------------------|
| 1. This source's emission monitoring requirements under 40 CFR Part 64, " <i>Compliance Assurance Monitoring</i> ", can be found in Appendix A. | 40 CFR Part 64 |
| 2. A monitor shall be installed and maintained at a location on the ESP exhaust stack which shall continuously record the opacity in the exhaust stack. The type and location of the monitor must be approved by the Director prior to installation. | ADEM Admin. Code R. 335-3-16-.05 |
| 3. Particulate matter emissions tests are to be conducted at intervals not to exceed one year following the date of initial compliance testing. Each performance test shall consist of 3 runs. The Permittee shall use the average of the 3 runs in the | ADEM Admin. Code R. 335-3-16-.05 |

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applicable equation for determining compliance. All test reports must be submitted to the Department within 30 days of completion of testing.

- 4. The Permittee shall monitor the ESP according to the procedures in the operations, maintenance, and monitoring plan, which shall contain the following:
 - i. The ESP operating parameters to be monitored and the minimum and/or maximum values that will be used to identify any operational problems;
 - ii. A schedule for monitoring the ESP operating parameters;
 - iii. Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the ESP operating parameters are within the limits established during the performance test; and
 - iv. Procedures for the proper operation and maintenance of the ESP.

ADEM Admin. Code R.
335-3-11-.06(39)
[§63.883]
[§63.1383(c)]

Recordkeeping and Reporting Requirements

- 1. Records shall be kept of ESP parameter values used to monitor ESP performance, including any period when the values deviated from the established limits, the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected.
- 2. During periods of startups and shutdowns, records shall be kept of the type of fuel used to heat the furnace during startup/shutdown to demonstrate only natural gas or other clean fuels were used; and records shall be kept showing the furnace emissions were controlled using the ESP operated at the parameters established during performance testing.
- 3. A written report of the excess opacity emissions, as defined below, will be submitted to the Department for each calendar quarter within 30 days of the end of the quarter. The reports shall include the following:
 - (a) The magnitude of excess emissions over 20% computed from six-minute averages (data recorded during periods of opacity monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages).
 - (b) The date and time of commencement and completion of each time period of excess emissions.
 - (c) The nature and cause of the excess emissions (if known) and the corrective action taken or preventative measures adopted.

ADEM Admin. Code R.
335-3-11-.06(39)
[§63.886]
[§63.1386(d)(2)(ii)]

ADEM Admin. Code R.
335-3-11-.06(39)
[§63.888]
[§63.1389(f)]

ADEM Admin. Code R.
335-3-16-.05(c)(3)

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- (d) The date and time identifying each period during which the opacity monitoring system was inoperative (except for zero and span checks) and the nature of the system repairs or adjustments.
- (e) When no excess emissions have occurred and the opacity monitoring system was not inoperative or did not require repairs or adjustments, such information will be stated in the report.

4. A semi-annual monitoring report shall be submitted to the Department according to the following schedule:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

Reporting Period	Due Date
January 1 st through June 30 th	August 29 th
July 1 st through December 31 st	March 1 st

5. The semi-annual report shall include the following:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

- (a) A detailed description of every instance in which visible emissions greater than twenty (20%) percent opacity were observed, to include the date, time, cause of the visible emissions, and the corrective action taken.
- (b) The periods when the secondary voltage of the ESP was outside the operating parameters established during performance testing.
- (c) A statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required.

ADEM Admin. Code R. 335-3-11-.06(39)
[§63.886]
[§63.1386(e)]

Summary Page for Wool Fiberglass Process – Line 622 (A&B)

Permitted

Operating Schedule: 24 Hrs/day x 7 Days/week x 52 Weeks/yr = 8760 Hrs/yr

Emission limitations:

Emission Point #	Description	Pollutant	Emission limit	Regulation
2-2, 2-3	Wool Fiberglass Process with Wet Scubbers	PM*	Lesser of: 6.83 lbs/ton of glass or 62.64 lbs/hr	335-3-14-.04(9) BACT
2-2, 2-3	Wool Fiberglass Process with Wet Scubbers	PM	5.5 kg/Mg (11.0 lb/ton) of glass	40 CFR §60.682
2-2	Wool Fiberglass Forming	NOx	N/A	N/A
2-2	Wool Fiberglass Forming	CO	14.5 lbs/hr	335-3-14-.04(9) Anti-PSD
2-2	Wool Fiberglass Forming	SOx	N/A	N/A
2-2	Wool Fiberglass Forming	Methanol	N/A	N/A
2-3	Curing Oven (622A) and Cooling	NOx	12.0 lbs/hr	335-3-14-.04(9) BACT
2-3	Curing Oven (622A) and Cooling	CO	20.4 lbs/hr	335-3-14-.04(9) Anti-PSD

*Combined particulate matter emissions from the forming sections, curing ovens, and the cooling section

Provisos for Wool Fiberglass Process – Line 622 (A&B)

Federally Enforceable Provisos	Regulations
<u>Applicability</u>	
1. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, <i>“Major Source Operating Permits”</i> .	ADEM Admin. Code R. 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-14-.04, <i>“Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration Permitting (PSD)]”</i> .	ADEM Admin. Code R. 335-3-14-.04
3. This source has enforceable limits in place in order to prevent it from being subject to the provisions of ADEM Admin. Code R. 335-3-14-.04 <i>“Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration]”</i> .	ADEM Admin. Code R. 335-3-14-.04
4. The manufacturing lines are subject to the applicable requirements of 40 CFR 60 Subpart PPP, <i>“Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants”</i> .	40 CFR 60 Subpart PPP
5. The manufacturing lines are subject to the applicable requirements of 40 CFR 60 Subpart A, <i>“General Provisions”</i> .	40 CFR 60 Subpart A
6. The forming and curing sections are subject to the applicable requirements of 40 CFR 64, <i>“Compliance Assurance Monitoring”</i> .	40 CFR 64
<u>Emission Standards</u>	
1. The combined particulate matter emissions from the forming sections, the curing ovens, and the cooling section shall not exceed the lesser of 6.83 pounds per ton of glass produced or 62.64 pounds per hour.	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
2. Nitrogen oxide (NO _x) emissions from the thermal oxidizers on the 622A Curing Oven shall not exceed 12.0 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04(9) (BACT)
3. Carbon monoxide (CO) emissions from the 622A Curing Oven shall not exceed 20.4 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04(9) (Anti-PSD)
4. Carbon monoxide (CO) emissions from the 622 Forming Sections shall not exceed 14.5 pounds per hour (lb/hr).	ADEM Admin. Code R. 335-3-14-.04(9) (Anti-PSD)

Federally Enforceable Provisos	Regulations
5. The Permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.	ADEM Admin. Code R. 335-3-10-.02(68) [§60.682]
8. The scrubbers shall not operate with a pressure drop across the venturi of less than 3 inches of water column.	ADEM Admin. Code R. 335-3-16-.05
9. No phenol formaldehyde binders shall be used in this process.	ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD)
<u>Compliance and Performance Test Methods and Procedures</u>	
1. If testing is required, particulate emissions (PM) from this process shall be measured in accordance with 40 CFR Part 60, Appendix A, Method 5.	ADEM Admin. Code R. 335-3-1-.05
2. Visible emissions observations (VEO) shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.	ADEM Admin. Code R. 335-3-1-.05
3. The NO _x emissions shall be determined by Method 7 of 40 CFR Part 60, Appendix A.	ADEM Admin. Code R. 335-3-1-.05
4. The CO emissions shall as determined by Method 10 of 40 CFR Part 60, Appendix A.	ADEM Admin. Code R. 335-3-1-.05
5. The Permittee shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.	ADEM Admin. Code R. 335-3-10-.02(68) [§60.685(b)]
6. The Permittee shall determine compliance with the particulate matter standards as follows:	ADEM Admin. Code R. 335-3-10-.02(68) [§60.685(c)]
(a) The emission rate (E) of particulate matter shall be computed for each run using the following equation:	
$E=(C_t Q_{sd}) / (P_{avg} K)$	
where:	
E = emission rate of particulate matter, (lb/ton)	
C _t = concentration of particulate matter, (gr/dscf)	
Q _{sd} = volumetric flow rate of effluent gas, (dscf/hr)	
P _{avg} = average glass pull rate, (ton/hr)	
K = conversion factor, (7,000 gr/lb)	

Federally Enforceable Provisos	Regulations
<p>(b) Method 5E shall be used to determine the particulate matter concentration (C_t) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 90.1 dscf.</p> <p>(c) Pursuant to the May 15, 2006 alternative method approval letter (<i>Abstract for [0600088]-Appendix B</i>) from the EPA Office of Air Quality and Standards and the subsequent Federal Register notice dated July 26, 2007, the Permittee shall use continuous glass pull rate monitoring (Subpart NNN 63.1384(a)(3)) through the use of continuous glass flow cameras in lieu of the monitoring requirements specified in 40 CFR 60.685(c)(3).</p> <p>(d) To comply with 40 CFR 60.684(d), the Permittee shall record measurements as required in 60.684 (a) and (b) using the monitoring devices in 60.683 (a) and (b) during the particulate matter runs. [54 FR 6680, Feb. 14, 1989]</p>	
<p><u>Emission Monitoring</u></p>	
<p>1. This source's emission monitoring requirements under 40 CFR Part 64, "<i>Compliance Assurance Monitoring</i>", can be found in Appendix A.</p>	<p>40 CFR Part 64</p>
<p>2. Particulate matter emissions tests are to be conducted at intervals not to exceed one year following the date of initial compliance testing. Each performance test shall consist of 3 runs. The Permittee shall use the average of the three runs in the applicable equation for determining compliance. All test reports must be submitted to the Department within 30 days of completion of testing.</p>	<p>ADEM Admin. Code R. 335-3-16-.05</p>
<p>3. The Permittee who uses a wet electrostatic precipitator control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the primary and secondary current (amperes) and voltage in each electrical field and the inlet water flow rate. In addition, the Permittee shall determine the total residue (total solids) content of the water entering the control device once per day using Method 209A, "Total Residue Dried at 103–105 °C," in <i>Standard Methods for the Examination of Water and Wastewater</i>, 15th Edition, 1980 (incorporated by reference—see §60.17). Total residue shall be reported as percent by weight. All monitoring devices required under this paragraph are to be certified by their manufacturers to be accurate within ±5 percent over their operating range.</p>	<p>40 CFR §60.683(b)</p>

Federally Enforceable Provisos

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4. All monitoring devices required under this section are to be recalibrated quarterly in accordance with procedures under §60.13(b).

ADEM Admin. Code R. 335-3-10-.02(68) [§60.683(c)]

Recordkeeping and Reporting Requirements

1. A semi-annual monitoring report shall be submitted to the Department according to the following schedule:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

Reporting Period	Due date
January 1 st through June 30 th	August 29 th
July 1 st through December 31 st	March 1 st

2. The semi-annual report shall contain the following:

ADEM Admin. Code R. 335-3-16-.05(c)(3)

- (a) The periods when the pressure drop across a venturi scrubber was less than 3 inches of water column and the corrective action taken.
- (b) The periods when a venturi scrubber's water flow rate was outside the operating parameters established during compliance testing.
- (c) The quarterly calibrations of the required monitors.

APPENDIX CAM

**Compliance Assurance Monitoring (CAM)
Requirements**

CAM Plan for Raw Material Unloading and Conveying Dust Collectors

	Indicator 1
I. Indicator	Visible Emissions
Measurement Approach	Visible emissions observation by person familiar with Method 22
II. Indicator Range	An excursion for visible emissions is defined as the presence of any visible emissions above normal. Normal emissions from the raw material handling dust collectors would be defined as zero visible emissions. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	Measurement is being made at the emission point (dust collector exhaust and building openings).
B. Verification of Operation Status	NA
C. QA/QC Practices and Criteria	The observer will be familiar with Reference Method 22
D. Monitoring Frequency	Measured once daily
E. Data Collection Procedures	The visible emission observation will be recorded with the time and date. No observation required for days when specific source is not operated.
F. Averaging Period	Instantaneous

CAM Plan for Glass Melting Furnace – Line 621 – Dry ESP (EP 1-1)

	Indicator 1	Indicator 2
I. Indicator	Opacity	Secondary Voltage
Measurement Approach	COMs	Voltmeter
II. Indicator Range	While the unit is operating, an excursion is defined as an opacity measurement exceeding 20% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a voltage outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria		
A. Data Representativeness	Measurement is being made inside the exhaust of the baghouse.	The voltmeter measures the voltage at the control panel.
B. Verification of Operation Status	NA	NA
C. QA/QC Practices and Criteria	The COMs will be operated in accordance with 40 CFR, Part 60, Appendix B, and Performance Specifications 1 (PS1).	The voltmeter must be calibrated, operated, and maintained according to the manufacturer's guidance.
D. Monitoring Frequency	Measured once every 10 seconds	Measured once every minute
E. Data Collection Procedures	The opacity values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.	The voltage values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.
F. Averaging Period	6-minute average	180-minute average

CAM Plan for Wool Fiberglass Process – Line 621 – Wet Scrubbers (1-2)

	Indicator 1	Indicator 2
I. Indicator	Pressure Drop	Water Flow
Measurement Approach	Differential Pressure Gauge	Flow Meter
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a flow rate outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria		
A. Data Representativeness	The differential pressure gauge measures the pressure differential between the inlet and outlet of the scrubber.	The flow meter measures the flow rate at the inlet of the scrubber.
B. Verification of Operation Status	NA	NA
C. QA/QC Practices and Criteria	The differential pressure gauge must be calibrated, operated, and maintained according to the manufacturer's guidance.	The flow meter must be calibrated, operated, and maintained according to the manufacturer's guidance.
D. Monitoring Frequency	Measured once every minute	Measured once every minute
E. Data Collection Procedures	The pressure differential values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.	The flow rate values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.
F. Averaging Period	180-minute average	180-minute average

CAM Plan for Wool Fiberglass Process – Line 621 – Wet ESP (1-2)

	Indicator 1
I. Indicator	Secondary Voltage
Measurement Approach	Voltmeter
II. Indicator Range	While the unit is operating, an excursion is defined as a voltage outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The voltmeter measures the voltage at the control panel.
B. Verification of Operation Status	NA
C. QA/QC Practices and Criteria	The voltmeter must be calibrated, operated, and maintained according to the manufacturer's guidance.
D. Monitoring Frequency	Measured once every minute
E. Data Collection Procedures	The voltage values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.
F. Averaging Period	180-minute average

CAM Plan for Glass Melting Furnace – Line 622 – Dry ESP (EP 2-1)

	Indicator 1	Indicator 2
I. Indicator	Opacity	Secondary Voltage
Measurement Approach	COMs	Voltmeter
II. Indicator Range	While the unit is operating, an excursion is defined as an opacity measurement exceeding 20% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a voltage outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria		
A. Data Representativeness	Measurement is being made inside the exhaust of the baghouse.	The voltmeter measures the voltage at the control panel.
B. Verification of Operation Status	NA	NA
C. QA/QC Practices and Criteria	The COMs will be operated in accordance with 40 CFR, Part 60, Appendix B, and Performance Specifications 1 (PS1).	The voltmeter must be calibrated, operated, and maintained according to the manufacturer's guidance.
D. Monitoring Frequency	Measured once every 10 seconds	Measured once every minute
E. Data Collection Procedures	The opacity values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.	The voltage values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.
F. Averaging Period	6-minute average	180-minute average

CAM Plan for Wool Fiberglass Process – Line 622 – Wet Scrubbers (2-2)

	Indicator 1	Indicator 2
I. Indicator	Pressure Drop	Water Flow
Measurement Approach	Differential Pressure Gauge	Flow Meter
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a flow rate outside of the value established during periodic compliance testing. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria		
A. Data Representativeness	The differential pressure gauge measures the pressure differential between the inlet and outlet of the scrubber.	The flow meter measures the flow rate at the inlet of the scrubber.
B. Verification of Operation Status	NA	NA
C. QA/QC Practices and Criteria	The differential pressure gauge must be calibrated, operated, and maintained according to the manufacturer's guidance.	The flow meter must be calibrated, operated, and maintained according to the manufacturer's guidance.
D. Monitoring Frequency	Measured once every minute	Measured once every minute
E. Data Collection Procedures	The pressure differential values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.	The flow rate values are recorded by a plant data acquisition system, and historical data may be retrieved at any time.
F. Averaging Period	180-minute average	180-minute average