

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

EFFECTIVE DATE: September 3, 2021

REVISION DATE: May 27, 2022

ISSUED TO

Knauf Insulation, Inc.

State Registration Number (SRN): B7205

LOCATED AT

1000 East North Street, Albion, Calhoun County, Michigan 49224

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B7205-2021a

Expiration Date: September 3, 2026

Administratively Complete ROP Renewal Application
Due Between March 3, 2025 and March 3, 2026

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-B7205-2021a

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

Rex Lane, Kalamazoo District Supervisor

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AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
 - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
 - c. Inspect, at reasonable times, any of the following:
 - i. Any stationary source.
 - ii. Any emission unit.
 - iii. Any equipment, including monitoring and air pollution control equipment.
 - iv. Any work practices or operations regulated or required under the ROP.
 - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).² **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"² **(R 336.1301(1))**
 - a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
 - b. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
 - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.¹ **(R 336.1901(a))**
 - b. Unreasonable interference with the comfortable enjoyment of life and property.¹ **(R 336.1901(b))**

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).² **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
 - a. The date, location, time, and method of sampling or measurements.
 - b. The dates the analyses of the samples were performed.
 - c. The company or entity that performed the analyses of the samples.
 - d. The analytical techniques or methods used.
 - e. The results of the analyses.
 - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 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, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
 - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
 - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
 - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
 - a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
 - b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; “based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete.” The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.² **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
 - a. The applicable requirements are included and are specifically identified in the ROP.
 - b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
 - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
 - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
 - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
- a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
 - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
 - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
 - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
 - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
- a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
 - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
 - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
 - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
- June 21, 1999,
 - Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
 - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

Permit to Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.² **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.² **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.² **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.² **(R 336.1201(4))**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

B. SOURCE-WIDE CONDITIONS

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

SOURCE-WIDE CONDITIONS

DESCRIPTION

All process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment. (PTI No. 282-02B)

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall continue to maintain and operate its 24-hour telephone reporting system (i.e., the Knauf Insulation or Guardian Fiberglass Action Line) for local residents. The telephone number for this reporting system shall be published and maintained in the current local phone book directory for the City of Albion.¹ **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall keep the following information for the facility within 30 days of the end of each calendar month:
 - a. Gallons or pounds of each HAP containing raw material used.
 - b. Where applicable, gallons or pounds of each HAP containing material reclaimed.
 - c. HAP content, in pounds per gallon or pounds per pound, of each material used.
 - d. Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
 - e. Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month. Calculations shall be performed based on the methodology outlined in Appendix 7.

All records shall be kept in a format acceptable to the AQD District Supervisor and made available to the Department upon request.² **(R 336.1205(3), R 336.1901)**

See Appendix 7

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-MATHAND	Equipment used for raw material receiving, conveying, weighing, mixing, storing, and feeding to FG-FURNACE 1, 3 and 4; and EU-FURNACE#2, that utilizes internally and externally vented baghouse controls. (PTI No. 26-15A)	12-15-1980 06-02-1999 08-10-2005 01-31-2008	NA
EU-COLDCLEANER	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	12-15-1980	FG-COLDCLEANERS
EU-R290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 290.	2008	FG-RULE290
EU-FURNACE#1	One refractory lined electric melt furnace, controlled with an externally vented baghouse, that discharges molten glass to a refractory lined natural gas fired forehearth and then to EU-WBW3ALBFORMING. (PTI No. 26-15A)	02-05-2007	FG-FURNACE 1, 3 and 4
EU-FURNACE#2	One refractory lined electric melt furnace, controlled with an externally vented baghouse, that discharges molten glass to a refractory lined natural gas fired forehearth and then to EU-ML2ALBFORMING. (PTI No. 26-15A)	06-08-2004	NA
EU-FURNACE#3	One refractory lined electric melt furnace, controlled with an externally vented baghouse, that discharges molten glass to a refractory lined natural gas fired forehearth and then to FG-WBWALBFORMING. (PTI No. 26-15A)	12-15-1980 06-02-1999	FG-FURNACE 1, 3 and 4

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-FURNACE#4	One refractory lined electric melt furnace, controlled with an externally vented baghouse, that discharges molten glass to a refractory lined natural gas fired forehearth and then to FG-WBWALBFORMING. (PTI No. 26-15A)	06-08-2004	FG-FURNACE 1, 3 and 4
EU-BINDERMIX	The binder mixing system includes ECOSE ingredient storage tanks, ECOSE binder mix tanks, and process water tanks. (PTI No. 26-15A)	12-15-1980 06-02-1999 06-08-2004	NA
EU-ML2ALBFORMING	Resinated fiberglass forming and collection process consisting of natural gas-fired rotary spin fiberizers; one conveyORIZED collection screen; binder and de-dusting agent/wax spray applicators; that utilizes a high efficiency wet scrubber control system. (PTI No. 206-18)	06-08-2004 01-05-2008 04-05-2013 05-20-2013 12-20-2013 01-01-2016 TBD	FG-ML2ALB FG-CAMUNITS FG-FIBERIZATION
EU-ML2ALBCURING	One conveyor-fed natural gas fired curing oven with cooling section that utilizes a high efficiency wet scrubber control system. (PTI No. 26-15D)	06-08-2004 04-05-2013	FG-ML2ALB FG-FIBERIZATION
EU-FACESIZEPKG	Sizing and packaging operations for the resinated fiberglass production line consisting of one or more of the following processes: trimming, rolling, dicing, and packaging operations. Associated cleanup activities to be included. Operations utilize an internally vented bag filter followed by internally vented particulate controls or vent to the general in plant environment. (PTI No. 26-15A)	12-15-1980 06-02-1999 06-08-2004 03-17-2008	NA
EU-WBW1ALBFORMING	Non-resinated fiberglass forming and collection process consisting of natural gas-fired rotary spin fiberizers and conveyORIZED collection screens that utilize three externally vented venturi scrubbers. The line also includes a dicing operation with fugitive emissions from the use of an anti-static additive, silicone and/or de-dusting oil application that utilizes internally vented particulate controls. (PTI No. 26-15D)	12-15-1993 06-02-1999 06-08-2004 01-24-2007 01-01-2016	FG-WBWALBFORMING FG-CAMUNITS FG-FIBERIZATION
EU-WBW2ALBFORMING	Non-resinated fiberglass forming and collection process consisting of natural gas-fired rotary spin fiberizers and conveyORIZED collection screens that utilizes one externally vented venture scrubber. The line also includes a dicing operation with fugitive emissions from the use of an anti-static additive, silicone and/or de-dusting oil application that utilizes internally vented particulate controls. (PTI No. 26-15D)	01-01-2016	FG-WBWALBFORMING FG-CAMUNITS FG-FIBERIZATION

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-WBW3ALBFORMING	Non-resinated fiberglass forming and collection process fed by EU-FURNACE#1 consisting of natural gas-fired dual module forming section with one forming/fan zone, and three product fiberizers in each module. The process is equipped with a wet scrubber for each module followed by a shared wet electrostatic precipitator for control. Fluids, including de-dusting agent, are applied at various locations in the process. The product bagging process is controlled by two dust collectors that exhaust inside the building. The process includes cooling towers #2 and #3 which are equipped with drift eliminators. (PTI No. 132-19B)	TBD	FG-CAMUNITS
EU-DETROITDSL1	A reciprocating internal combustion engine (RICE) Detroit Diesel 490 hp emergency engine subject to the RICE National Emission Standard for Hazardous Air Pollutants found in 40 CFR Part 63, Subpart ZZZZ.	1981	FG-EXTRICEMACT<50 0bhp
EU-DETROITDSL2	A reciprocating internal combustion engine (RICE) Detroit Diesel 490 hp emergency engine subject to the RICE National Emission Standard for Hazardous Air Pollutants found in 40 CFR Part 63, Subpart ZZZZ.	1999	FG-EXTRICEMACT<50 0bhp
EU-ML2GEN	A reciprocating internal combustion engine (RICE) CAT 3412 823 hp emergency engine subject to the RICE National Emission Standard for Hazardous Air Pollutants found in 40 CFR Part 63, Subpart ZZZZ.	01-01-2006	FG-EXTRICEMACT>50 0bhp
EU-ALLEYGEN	A reciprocating internal combustion engine (RICE) CAT C18 900 hp emergency engine subject to the RICE National Emission Standard for Hazardous Air Pollutants found in 40 CFR Part 63, Subpart ZZZZ and subject to New Source Performance Standard (NSPS) 40 CFR Part 60, Subpart IIII.	08-01-2006	FG-NSPSSIII
EU-COOLTOWER	1,600 gallon per minute cooling tower equipped with drift eliminators. (PTI Nos. 26-15D and 132-19B)	01-01-2016	FG-COOLTOWERS
EU-COOLTOWER2	975 gallon per minute cooling tower equipped with drift eliminators. (PTI No. 132-19B)	11-18-2021	FG-COOLTOWERS
EU-COOLTOWER3	975 gallon per minute cooling tower equipped with drift eliminators. (PTI No. 132-19B)	11-18-2021	FG-COOLTOWERS

**EU-MATHAND
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Equipment used for raw material receiving, conveying, weighing, mixing, storing, and feeding to FG-FURNACE 1, 3 and 4; and EU-FURNACE#2, that utilizes internally and externally vented baghouse controls. (PTI No. 26-15A)

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Internally and externally vented baghouse controls

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Visible Emissions	10% Opacity ²	6-minute average	EU-MATHAND	SC VI.2	R 336.1301 R 336.1331 R 336.1901 40 CFR 52.21(j)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall record the identity and weight of each raw material (except for recycled cullet manufactured on site and recycled dust) mixed and weighed, in tons per 12 month rolling time period as determined at the end of each calendar month.² (R 336.1331, R 336.1901, 40 CFR 52.21(j))
2. The permittee shall perform and record the results (yes or no) of a weekly six-minute visible emission check of EU-MATHAND during daylight hours and under routine material unloading operations. The permittee shall record (yes or no)-whether visible emissions are observed. If visible emissions are observed exiting the material unloading area or from the external storage silo bin vents, the permittee shall promptly initiate corrective measures and/or preventative maintenance and record these activities in the records log.² (R 336.1213(3))

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-FURNACE#2
 EMISSION UNIT CONDITIONS**

DESCRIPTION

One refractory lined electric melt furnace controlled with an externally vented baghouse that discharges molten glass to a refractory lined natural gas fired forehearth and then to EU-ML2ALBFORMING. (PTI No. 26-15A)

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Externally vented baghouse control

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM10	0.23 lb/ton of glass pulled ²	Hourly	EU-FURNACE#2	SC V.1, V.2	R 336.1331 R 336.1901 40 CFR 52.21(j)
2. PM10	0.92 pph ²	Hourly	EU-FURNACE#2	SC V.1, V.2	R 336.1331 R 336.1901 40 CFR 52.21(c), (d) and (j)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall operate EU-FURNACE#2 in conjunction with the baghouse controls being installed, maintained and operated in a satisfactory manner. Satisfactory operation is defined as operation that does not result in the triggering of the bag leak detection system alarm.² (R 336.1225, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(j))

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall verify PM10 emission rates from EU-FURNACE#2 by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)

2. The permittee shall verify the PM10 emission rates from EU-FURNACE#2 at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall equip, calibrate, operate and maintain EU-FURNACE#2 with continuous pull rate monitors capable of monitoring the glass pull rate on an hourly basis.² **(R 336.1331, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**
2. The permittee shall install, calibrate, maintain and continuously operate in a satisfactory manner a baghouse leak detection (i.e. breakthrough) monitor and recorder for EU-FURNACE#2.² **(R 336.1225, R 336.1331, R 336.1901, 40 CFR 52.21(j))**
3. The permittee shall maintain the following records and emission calculations:² **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**
 - a. Hourly glass pull rate, in pounds (or tons) per hour, monitored.
 - b. Log of bag leak detection system alarms. The log shall identify the control device and include the date and time of the alarm; when the corrective actions were initiated; the cause of the alarm; an explanation of the corrective actions; when the cause was corrected. For alarm events greater than 2-hours in duration, an estimate of the quantity of PM10 emissions released.
 - c. Within 30 days of the end of each calendar month, emission calculations showing:
 - i. The mass VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - d. Calculations shall be performed based on the emission rates determined from the most recent performance tests in terms of pounds per ton of glass pulled, where the pull rate is determined according to the methodology in Appendix 7.

See Appendix 7

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Furnace 2	42 ²	150 ²	R 336.1225, 40 CFR 52.21 (c) and (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-FACESIZEPKG
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Sizing and packaging operations for the resinated fiberglass production line consisting of one or more of the following processes: trimming, rolling, dicing, and packaging operations. Associated cleanup activities to be included. Operations utilize an internally vented bag filter followed by internally vented particulate controls or vent to the general in plant environment. (PTI No. 26-15A)

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

An internally vented bag filter followed by internally vented particulate controls

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC	31.0 tpy ²	Per 12-month rolling time period as determined at the end of each calendar month	EU-FACESIZEPKG	SC V.1, VI.3	R 336.1225 R 336.1702(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste adhesive and cleanup solvent material(s) and shall store them in closed containers. The permittee shall dispose of all waste adhesive and cleanup solvent material(s) in an acceptable manner in compliance with all applicable state rules and federal regulations.² (R 336.1224, R 336.1702(a))

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall determine the VOC content and density of any adhesive and cleanup solvent material(s) associated with the adhesive application portion of EU-FACESIZEPKG, as applied and as received, using federal Reference Test Method 24, manufacturer's formulation data or alternative test methodology.² (R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition.² (R 336.1224, R 336.1225, R 336.1299, R 336.1702(a))

2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each adhesive and cleaning material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request.² **(R 336.1224, R 336.1225, R 336.1299, R 336.1702(a))**
3. The permittee shall maintain the following records and emission calculations:² **(R 336.1331, R 336.1702(a), 40 CFR 52.21(j))**
 - a. Identity and VOC content of each VOC-containing raw material used in EU-FACESIZEPKG.
 - b. Monthly usage of each VOC-containing raw material in EU-FACESIZEPKG.
 - c. Within 30 days of the end of each calendar month, emission calculations showing the VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-WBW3ALBFORMING
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Non-resinated fiberglass forming and collection process fed by EU-FURNACE#1 consisting of natural gas-fired dual module forming section with one forming/fan zone and three product fiberizers in each module. The process is equipped with a wet scrubber for each module followed by a shared wet electrostatic precipitator for control. Fluids, including de-dusting agent, are applied at various locations in the process. The product bagging process is controlled by two dust collectors that exhaust inside the building. (PTI No. 132-19B)

Flexible Group ID: FG-CAMUNITS

POLLUTION CONTROL EQUIPMENT

Two wet scrubbers in parallel followed by a wet electrostatic precipitator. The product bagging process is controlled by two dust collectors that exhaust inside the building.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM2.5	2.34 lb/ton of glass pulled ²	Hourly	EU-WBW3ALBFORMING	SC V.2, VI.1, VI.3, VI.4	40 CFR 52.21(c) & (d)
2. PM10	2.34 lb/ton of glass pulled ²	Hourly	EU-WBW3ALBFORMING	SC V.2, VI.1, VI.3, VI.4	40 CFR 52.21(c) & (d)
3. PM ^a	2.34 lb/ton of glass pulled ²	Hourly	EU-WBW3ALBFORMING	SC V.2, VI.1, VI.3, VI.4	R 336.1331
4. PM ^a	11.00 lb/ton of glass pulled ²	2-hour average	EU-WBW3ALBFORMING	SC V.2, VI.1, VI.3, VI.4	40 CFR Part 60 Subpart PPP
5. VOC	43.74 tpy ²	12-month rolling time period as determined at the end of each calendar month	EU-WBW3ALBFORMING	SC V.1, VI.1, VI.2, VI.3, VI.4	R 336.1702(a)

^a Compliance with R 336.1331 and 40 CFR Part 60, Subpart PPP will be evaluated using PM10 as a surrogate for total particulate and on a dry gas basis.

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 0.17 pounds of de-dusting agent per pound of glass pulled in EU-WBW3ALBFORMING based on a calendar day average.² **(R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not pull more than 110 tons of glass in EU-WBW3ALBFORMING per calendar day. The amount of glass pulled shall be determined in accordance with the methodology set forth in Appendix 7.² **(R 336.1225, R 336.1702(a), 40 CFR 52.21(a) & (d))**
2. The permittee shall not pull more than 40,150 tons of glass in EU-WBW3ALBFORMING per 12-month rolling time period as determined at the end of each calendar month. The amount of glass pulled shall be determined in accordance with the methodology set forth in Appendix 7.² **(R 336.1225, R 336.1702(a), 40 CFR 52.21(a) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-WBW3ALBFORMING unless the wet scrubber control systems are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each wet scrubber control system is demonstrated by maintaining the pressure drop and liquid flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent applicable performance test.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the following operating parameters of each EU-WBW3ALBFORMING wet scrubber control system on a continuous basis:² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
 - a. Differential pressure, certified to monitor within +/- one inch of water gauge over its operating range.
 - b. Scrubber liquid flow, certified to monitor within +/- 5 percent over its operating range.
3. The permittee shall not operate EU-WBW3ALBFORMING unless the wet electrostatic precipitator control system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the wet electrostatic precipitator control system is demonstrated by maintaining the primary and secondary current and voltage in each electrical field and the inlet water flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent applicable performance test, and the total solids content of the water entering the control device no greater than 2 percent by weight. If the USEPA approves maintaining the secondary voltage, rather than the primary and secondary current and the voltage, as an alternative under 40 CFR Part 60 Subpart PPP, the permittee shall maintain the secondary volts (kV) and the water flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent applicable performance test, and the total solids content of the water entering the control device no greater than 2 percent by weight.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the following operating parameters of the EU-WBW3ALBFORMING wet electrostatic precipitator control system on a continuous basis:² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
 - a. Primary current (amperes) in each electrical field, certified to monitor within +/- 5 percent over its operating range.
 - b. Secondary current (amperes) in each electrical field, certified to monitor within +/- 5 percent over its operating range.
 - c. Voltage in each electrical field, certified to monitor within +/- 5 percent over its operating range.
 - d. Inlet water flow rate, certified to monitor within +/- 5 percent over its operating range.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The VOC content and density of any raw material used in EU-WBW3ALBFORMING shall be determined using federal Reference Test Method 24, manufacturer's formulation data, or alternative test methodology approved by the AQD District Supervisor.² **(R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**
2. Within 180 days after commencement of trial operation, the permittee shall verify PM, PM10, and PM2.5 emission rates from EU-WBW3ALBFORMING by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M

The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21 (c) & (d))**

3. The permittee shall determine the total residue (total solids) content of the water entering the electrostatic precipitator control system 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 40 CFR 60.17). Total residue shall be reported as percent by weight.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
4. The permittee shall verify the PM, PM10, and PM2.5 emission rates from EU-WBW3ALBFORMING, at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
5. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall keep, in a satisfactory manner, the following records and emission calculations for EU-WBW3ALBFORMING on file at the facility and make them available to the Department upon request:² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
 - a. Within 30 days of the end of each calendar month, daily weight of glass pulled by EU-WBW3ALBFORMING in tons, as defined in Appendix 7.
 - b. Within 30 days of the end of each calendar month, annual weight of glass pulled by EU-WBW3ALBFORMING, as defined in Appendix 7, in tons per 12-month rolling time period as determined at the end of each calendar month.
 - c. Within 30 days of the end of each calendar month, weight of de-dusting oil used during each calendar month.
 - d. Within 30 days of the end of each calendar month, emission calculations showing the mass VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month. Calculations shall be performed based on the methodology outlined in Appendix 7.
 - e. Log of wet scrubber control system alarms. At a minimum, the log shall identify the control device and include the time, date, duration, probable causes or reasons for the system alarm, and a description of any corrective measures taken. For purposes of this condition, alarms are defined as any operating parameter monitoring data less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test.
 - f. Records of the wet scrubber control system operating parameters, specified in SC IV.2, at 30-minute intervals during each 2-hour test run of each performance test and at least once every 4 hours thereafter.
 - g. Log of wet electrostatic precipitator control system alarms. At a minimum, the log shall identify the control device and include the time, date, duration, probable causes or reasons for the system alarm, and a description of any corrective measures taken. For purposes of this condition, alarms are defined as any operating parameter monitoring data less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test.

- h. Records of the wet electrostatic precipitator control system operating parameters, specified in SC IV.4, at 30-minute intervals during each 2-hour test run of each performance test of the wet electrostatic precipitator control system and at least once every 4 hours thereafter, as defined in 40 CFR Part 60, Subpart PPP, with the exception of water solids content which shall be recorded during each performance test and once per day thereafter.
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each raw material used on EU-WBW3ALBFORMING, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both. The permittee shall keep all records on file at the facility and make them available to the Department upon request.² **(R 336.1225, R 336.1702(a))**
3. The permittee shall continuously monitor the pressure drop and liquid flow rate of each EU-WBW3ALBFORMING scrubber and shall record the pressure drop and liquid flow rate of each scrubber every four hours during process operation. Each monitor shall be calibrated once per calendar quarter.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
4. The permittee shall continuously monitor the primary and secondary current and the voltage in each electrical field and the inlet water flow rate of the wet electrostatic precipitator control system and shall record each of these parameters every four hours during process operation. If the USEPA approves monitoring the secondary voltage, rather than monitoring the primary and secondary current and the voltage, as an alternative under 40 CFR Part 60 Subpart PPP, the permittee shall continuously monitor the secondary voltage in each electrical field and the inlet water flow rate of the wet electrostatic precipitator control system and shall record each of these parameters every four hours during process operation. Each monitor shall be calibrated once per calendar quarter. If the USEPA approves less frequent calibration as an alternative under 40 CFR Part 60, Subpart PPP, the monitor shall be calibrated in accord with the USEPA approval, but no less frequently than annually.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
5. The permittee shall keep, in a satisfactory manner, records of the concentration of total residue in the water entering the electrostatic precipitator control system once during each performance test and once per day thereafter. The permittee shall keep all records on file at the facility and make them available to the Department upon request.² **(R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR Part 60, Subpart PPP)**
6. The permittee shall calculate and keep records of the annual emissions of PM_{2.5} and PM₁₀ from EU-WBW3ALBFORMING described in Appendix 10, in tons per calendar year. Calculations and record keeping shall begin upon issuance of Permit to Install No. 132-19B and shall continue for five (5) years.² **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**

See Appendices 7 and 10

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

5. The permittee shall submit semi-annual reports of exceedances of control device operating parameters required to be monitored in SC IV.2, per 40 CFR 60.684(d). For purposes of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test on a 4-hour average, with the exception of water solids content for which exceedances are defined as any monitoring data that are greater than 2 percent by weight.² **(40 CFR Part 60, Subpart PPP)**
6. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-WBW3ALBFORMING.² **(R 336.1201(7)(a))**
7. The permittee shall submit records of the annual emission of PM2.5 and PM10 from EU-WBW3ALBFORMING described in Appendix 10, in tons per calendar year, to the AQD Permit Section Supervisor within 75 days following the end of each reporting year if both the following occur:² **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**
 - a. The calendar year actual emissions of PM10 and PM2.5 exceed the baseline actual emissions (BAE) by a significant amount, and
 - b. The calendar year actual emissions differ from the pre-construction projection. The report shall contain the name, address, and telephone number of the facility (major stationary source); the annual emissions as calculated pursuant to SC VI.6, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection).
8. The permittee shall submit, within 30 days of receipt, all USEPA approvals of alternative monitoring and calibration requirements under 40 CFR Part 60, Subpart PPP.² **(40 CFR Part 60, Subpart PPP)**

See Appendices 8 and 10

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-WBW3ALBFORMING	72 ²	170 ²	R 336.1225 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and PPP, as they apply to EU-WBW3ALBFORMING.² **(40 CFR Part 60, Subparts A & PPP)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EU-BINDERMIX EMISSION UNIT CONDITIONS

DESCRIPTION

The binder mixing system includes ECOSE ingredient storage tanks, ECOSE binder mix tanks, and process water tanks. (PTI No. 26-15A)

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not store or utilize any phenol/formaldehyde containing binders. Compliance with this conditions is necessary to avoid applicability of 40 CFR Part 63, Subpart NNN.¹ **(R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The VOC content and density of any raw material used in EU-BINDERMIX shall be determined using federal Reference Test Method 24, manufacturer's formulation data or alternative test methodology.² **(R 336.1225, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each raw material used in the manufacture of binder solution, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data or both.² **(R 336.1225, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year.
(R 336.1213(4)(c))

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-ML2ALB	Resinated fiberglass forming and collection process consisting of natural gas-fired rotary spin fiberizers, one conveyORIZED collection screen, and binder and de-dusting agent/wax spray applicators as well as one conveyor-fed natural gas fired curing oven with cooling section. This equipment is controlled by four high efficiency wet scrubber control systems. (PTI No. 26-15D)	EU-ML2ALBFORMING EU-ML2ALBCURING
FG-WBWALBFORMING	Two non-resinated fiberglass forming and collection processes consisting of natural gas-fired rotary spin fiberizers and conveyORIZED collection screens that utilize four externally vented venturi scrubbers. The lines also include a dicing operation with fugitive emissions from the use of an anti-static additive, silicone and/or de-dusting oil application that utilizes internally vented particulate controls. (PTI No. 26-15D)	EU-WBW1ALBFORMING EU-WBW2ALBFORMING
FG-FURNACE 1, 3 and 4	A flexible group that includes melters associated with EU-WBW3ALBFORMING and FG-WBWALBFORMING, which are all vented to existing baghouses and stack. (PTI No. 26-15A)	EU-FURNACE#1, EU-FURNACE#3, EU-FURNACE#4
FG-COOLTOWERS	Three cooling towers, each equipped with drift eliminators. (PTI Nos. 26-15D and 132-19B)	EU-COOLTOWER EU-COOLTOWER2 EU-COOLTOWER3
FG-RULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 290.	EU-R290
FG-COLDCLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EU-COLDCLEANER
FG-EXTRICEMACT<500bhp	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at an area source of HAP emissions, existing emergency, compression ignition (CI) RICE equal to or less than 500 brake hp. A RICE is existing if the date of installation is before June 12, 2006.	EU-DETROITDSL1 EU-DETROITDSL2

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-EXTRICEMACT>500bhp	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at an area source of HAP emissions, existing emergency, compression ignition (CI) RICE greater than 500 brake hp. A RICE is existing if the date of installation is before June 12, 2006.	EU-ML2GEN
FG-NSPSIII	A 900 HP (671 kilowatts (kW)) new emergency compression ignition (diesel fuel fired) RICE engine located at an area source of HAP emissions, subject to MACT ZZZZ. The permittee is required to demonstrate compliance with the MACT by complying with the NSPS III. Engine manufactured after April 1, 2006.	EU-ALLEYGEN
FG-CAMUNITS	The equipment in this flexible group is subject to Compliance Assurance Monitoring, 40 CFR 64.6.	EU-ML2ALBFORMING EU-WBW1ALBFORMING EU-WBW2ALBFORMING EU-WBW3ALBFORMING
FG-FIBERIZATION	All process equipment associated with the conversion of the existing fiberization process to the Knauf fiberization process (PTI No. 26-15A)	EU-ML2ALBFORMING EU-ML2ALBCURING EU-WBW1ALBFORMING EU-WBW2ALBFORMING

**FG-ML2ALB
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Resinated fiberglass forming and collection process consisting of natural gas-fired rotary spin fiberizers, one conveyORIZED collection screen, and binder and de-dusting agent/wax spray applicators as well as one conveyor-fed natural gas fired curing oven with cooling section. This equipment is controlled by four high efficiency wet scrubber control systems. (PTI No. 26-15D)

Emission Units: EU-ML2ALBFORMING, EU-ML2ALBCURING

POLLUTION CONTROL EQUIPMENT

Four high efficiency wet scrubber control systems

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM2.5	5.59 lb/ton of glass pulled ²	Hourly	FG-ML2ALB	SC V.2, VI.1, VI.2	R 336.2810
2. PM10	5.59 lb/ton of glass pulled ²	Hourly	FG-ML2ALB	SC V.2, VI.1, VI.2	R 336.2810
3. PM ^a	5.59 lb/ton of glass pulled ²	Hourly	FG-ML2ALB	SC V.2, VI.1, VI.2	R 336.1331 R 336.2810
4. PM ^a	11.0 lb/ton of glass pulled ²	2-hour average	FG-ML2ALB	SC V.2, VI.1, VI.2	40 CFR Part 60, Subpart PPP
5. PM ^a	25.19 pph ²	Hourly	FG-ML2ALB	SC V.2, VI.2	R 336.2810
6. PM2.5	25.19 pph ²	Hourly	FG-ML2ALB	SC V.2, VI.2	R 336.2803 R 336.2804 R 336.2810
7. PM10	25.19 pph ²	Hourly	FG-ML2ALB	SC V.2, VI.2	R 336.2803 R 336.2804 R 336.2810
8. VOC	79 tpy ²	12-month rolling time period as determined at the end of each calendar month	FG-ML2ALB	SC V.1, VI.1	R 336.1702(a) 40 CFR 52.21(j)
9. Ammonia (CAS 7664-41-7)	5.2 lb/ton of glass pulled ¹	Hourly	FG-ML2ALB	SC V.2	R 336.1224 R 336.1225

^a Compliance with R 336.1331 and 40 CFR Part 60, Subpart PPP will be evaluated using PM10 as a surrogate for total particulate and on a dry gas basis.

II. MATERIAL LIMIT(S)

- The permittee shall not use more than 100 pounds of de-dusting agent per ton of glass pulled in FG-ML2ALB.² (R 336.1225, R 336.1702(a))

III. PROCESS/OPERATIONAL RESTRICTION(S)

- 1. The permittee shall not pull more than 108.0 tons of glass in FG-ML2ALB per calendar day. The amount of glass pulled shall be determined in accordance with the methodology set forth in Appendix 7.² (R 336.1225, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))

See Appendix 7

IV. DESIGN/EQUIPMENT PARAMETER(S)

- 1. The permittee shall not operate FG-ML2ALB unless the four wet scrubber control systems are installed, maintained and operated in a satisfactory manner. Satisfactory operation of each high efficiency wet scrubber control systems is demonstrated by maintaining pressure drop, and scrubber liquid flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent acceptable stack test.² (R 336.1225, R 336.1331, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.683)

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- 1. The VOC content and density of any raw material used in FG-ML2ALB shall be determined using federal Reference Test Method 24, manufacturer's formulation data or alternative test methodology.² (R 336.1225, R 336.1702(a), 40 CFR 52.21(j))
- 2. The permittee shall verify PM, PM10, PM2.5, and ammonia emission rates from FG-ML2ALB by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10/PM2.5	40 CFR Part 51, Appendix M
Ammonia	40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)

- 3. The permittee shall verify the PM, PM10, PM2.5, and ammonia emission rates from FG-ML2ALB, at a minimum, every five years from the date of the last test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)
- 4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. (R 336.1213(3))

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- 1. The permittee shall maintain the following records and emission calculations:² (R 336.1225, R 336.1331, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR 60.683)
 - a. Within 30 days of the end of each calendar month, daily weight of glass pulled by FG-ML2ALB in tons, as defined in Appendix 7.

- b. Within 30 days of the end of each calendar month, annual weight of glass pulled by FG-ML2ALB, as defined in Appendix 7, in tons per 12-month rolling time period as determined at the end of each calendar month.
 - c. Within 30 days of the end of each calendar month, weight of de-dusting agent used per ton of glass pulled.
 - d. Within 30 days of the end of each calendar month, emission calculations showing the mass VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month. Calculations shall be performed based on the methodology outlined in Appendix 7.
 - e. For each wet scrubber control system, a log of wet scrubber operating parameters (pressure drop, and scrubber liquid flow rate pursuant to SC IV.1). The log shall identify the date and time for each operating parameter, the 4-hour block average for each monitored operating parameter; the date and time when any 4-hour block average falls outside the range established during the most recent acceptable stack test; when the corrective actions were initiated; the cause of the out-of-range parameter; an explanation of the corrective actions; when the cause was corrected.
 - f. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each raw material used in the manufacture of binder solution, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both. The permittee shall keep all records on file at the facility and make them available to the Department upon request.
2. The permittee shall equip, calibrate, operate and maintain each high efficiency wet scrubber control system as follows:² **(R 336.1225, R 336.1331, R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60, Subpart PPP)**
 - a. With differential pressure monitors that are certified by their manufacturer to within +/- one inch of water gauge over their operating range.
 - b. With scrubber liquid flow meters that are certified by its manufacturer to be accurate within +/- 5 percent over its operating range.

See Appendix 7

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**
5. The permittee shall submit semi-annual reports of exceedances of control device operating parameters required to be monitored in SC IV.1, per 40 CFR 60.684(d). For purposes of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test on a 4-hour average.² **(40 CFR Part 60, Subpart PPP)**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ML2ALB	90 ²	168 ²	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and PPP, as they apply to FG-ML2ALB. **(40 CFR Part 60, Subparts A and PPP)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-WBWALBFORMING
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two non-resinated fiberglass forming and collection processes consisting of natural gas-fired rotary spin fiberizers and conveyerized collection screens that utilize four externally vented venturi scrubbers. The lines also include a dicing operation with fugitive emissions from the use of an anti-static additive, silicone and/or de-dusting oil application that utilizes internally vented particulate controls. (PTI No. 26-15D)

Emission Units: EU-WBW1ALBFORMING, EU-WBW2ALBFORMING

POLLUTION CONTROL EQUIPMENT

Four externally vented venturi scrubbers and internally vented particulate controls.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM2.5	5.33 lb/ton of glass pulled ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.1, VI.3	R 336.2810
2. PM10	5.33 lb/ton of glass pulled ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.1, VI.3	R 336.2810
3. PM ^a	5.33 lb/ton glass pulled ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.1, VI.3	R 336.1331 R 336.2810
4. PM ^a	11.00 lb/ton glass pulled ²	2-hour average	FG-WBWALBFORMING	SC V.2, VI.1, VI.3	40 CFR Part 60, Subpart PPP
5. PM ^a	23.98 pph ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.3	R 336.2810
6. PM2.5	23.98 pph ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.3	R 336.2803 R 336.2804 R 336.2810
7. PM10	23.98 pph ²	Hourly	FG-WBWALBFORMING	SC V.2, VI.3	R 336.2803 R 336.2804 R 336.2810
8. VOC	50.0 tpy ²	12-month rolling time period as determined at the end of each calendar month	FG-WBWALBFORMING	SC V.1, VI.1, VI.2, VI.3	R 336.1702(a) 40 CFR 52.21(j)

^a Compliance with R 336.1331 and 40 CFR Part 60, Subpart PPP will be evaluated using PM10 as a surrogate for total particulate and on a dry gas basis.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not pull more than 119 tons of glass in FG-WBWALBFORMING per calendar day. The amount of glass pulled shall be determined in accordance with the methodology set forth in Appendix 7.² (**R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j)**)

- 2. The permittee shall not pull more than 39,420 tons of glass in FG-WBWALBFORMING per 12-month rolling time period as determined at the end of each calendar month. The amount of glass pulled shall be determined in accordance with the methodology set forth in Appendix 7.² (R 336.1702(a), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j))

See Appendix 7

IV. DESIGN/EQUIPMENT PARAMETER(S)

- 1. The permittee shall not operate any emission unit in FG-WBWALBFORMING unless the associated wet scrubber control system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each wet scrubber control system is demonstrated by maintaining the pressure drop and liquid flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent applicable performance test.² (R 336.1331, R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60, Subpart PPP)
- 2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the following operating parameters of each FG-WBWALBFORMING wet scrubber control system on a continuous basis:² (R 336.1331, R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60, Subpart PPP)
 - a. Differential pressure, certified to monitor within +/- one inch of water gauge over its operating range.
 - b. Scrubber liquid flow, certified to monitor within +/- 5 percent over its operating range.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- 1. The VOC content and density of any raw material used in FG-WBWALBFORMING shall be determined using federal Reference Test Method 24, manufacturer's formulation data or alternative test methodology.² (R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))
- 2. The permittee shall verify PM, PM10, and PM2.5 emission rates from FG-WBWALBFORMING by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M

The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² (R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, R 336.2810)

- 3. The permittee shall verify the PM, PM10, and PM2.5 emission rates from FG-WBWALBFORMING at a minimum, every five years from the date of the last test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)
- 4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. (R 336.1213(3))

See Appendix 5

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall keep, in a satisfactory manner, the following records and emission calculations for FG-WBWALBFORMING on file at the facility and make them available to the Department upon request.² **(R 336.1331, R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60, Subpart PPP)**
 - a. Within 30 days of the end of each calendar month, daily weight of glass pulled by FG-WBWALBFORMING in tons, as defined in Appendix 7.
 - b. Within 30 days of the end of each calendar month, annual weight of glass pulled by FG-WBWALBFORMING, as defined in Appendix 7, in tons per 12-month rolling time period as determined at the end of each calendar month.
 - c. Weight of de-dusting oil used during each calendar month.
 - d. Within 30 days of the end of each calendar month, emission calculations showing the mass VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month. Calculations shall be performed based on the methodology outlined in Appendix 7.
 - e. Log of wet scrubber control system alarms. At a minimum, the log shall identify the control device and include the time, date, duration, probable causes or reasons for the system alarm, and a description of any corrective measures taken. For purposes of this condition, alarms are defined as any operating parameter monitoring data less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test.
 - f. Records of the wet scrubber control system operating parameters, specified in SC IV.2, at 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and at least once every 4 hours thereafter, as defined in 40 CFR Part 60, Subpart PPP.
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each raw material used on FG-WBWALBFORMING, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both. All records shall be kept on file for a period of at least five years and made available to the Department upon request.² **(R 336.1225, R 336.1702(a), 40 CFR 52.21(j))**
3. The permittee shall continuously monitor the pressure drop and liquid flow rate of each FG-WBWALBFORMING scrubber and shall record the pressure drop and liquid flow rate of each scrubber every four hours during process operation. The monitor shall be calibrated once per calendar quarter.² **(R 336.1331, R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(j), 40 CFR Part 60, Subpart PPP)**

See Appendix 7

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

5. The permittee shall submit semiannual reports of exceedances of control device operating parameters required to be monitored in SC IV.2, per 40 CFR 60.684(d). For purposes of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each parameter recorded during the most recent performance test on a 4-hour average.² **(40 CFR Part 60, Subpart PPP)**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-WBW-FORMING -WEST	72 ²	125 ²	R 336.2803, R 336.2804
2. SV-WBW-FORMING-EAST	84 ²	170 ²	R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and PPP, as they apply to FG-WBWALBFORMING.² **(40 CFR Part 60, Subparts A & PPP)**

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-FURNACE 1,3 and 4
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

A flexible group that includes melters associated with EU-WBW3ALBFORMING and FG-WBWALBFORMING, which are all vented to existing baghouses and stack. (PTI No. 26-15A)

Emission Units: EU-FURNACE#3, EU-FURNACE#4, EU-FURNACE#1

POLLUTION CONTROL EQUIPMENT

Externally vented baghouse control

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM10	0.46 lb/ton of glass pulled ²	Hourly	FG-FURNACE 1,3 and 4	SC V.1, V.2, V. 3	R 336.1331 R 336.1901 40 CFR 52.21(j)
2. PM10	2.08 pph ²	Hourly	FG-FURNACE 1,3 and 4	SC V.1, V.2, V.3	R 336.1331 R 336.1901 40 CFR 52.21(c), (d), and (j)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall operate FG-FURNACE 1,3 and 4 in conjunction with the baghouse controls being installed, maintained and operated in a satisfactory manner. Satisfactory operation is defined as operation that does not result in the triggering of the bag leak detection system alarm.² (R 336.1225, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(j))

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- Once every five years, the permittee shall verify PM10 from FG-FURNACE 1,3 and 4 by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² (R 336.1205, R 336.1224, R 336.1225)

2. The permittee shall verify PM10 emission rates from FG-FURNACE 1,3 and 4 by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall verify the PM10 emission rates from FG-FURNACE 1,3 and 4 at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall install, calibrate, maintain and continuously operate in a satisfactory manner a baghouse leak detection (i.e., breakthrough) monitor and recorder for FG-FURNACE 1,3 and 4.² **(R 336.1225, R 336.1331, R 336.1901, 40 CFR 52.21(j))**
2. The permittee shall maintain the following records and emission calculations:² **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**
 - a. Log of bag leak detection system alarms. The log shall identify the control device and include the date and time of the alarm; when the corrective actions were initiated; the cause of the alarm; an explanation of the corrective actions; and when the cause was corrected. For alarm events greater than 2-hours in duration, an estimate of the quantity of PM10 emissions released.
 - b. Within 30 days of the end of each calendar month, emission calculations showing:
 - i. The mass VOC emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - c. Calculations shall be performed based on the emission rates determined from the most recent performance tests in terms of pounds per ton of glass pulled.
3. The permittee shall equip, calibrate, operate and maintain FG-FURNACE 1,3 and 4 with continuous pull rate monitors capable of monitoring the glass pull rate on an hourly basis.² **(R 336.1331, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**

All records and reports shall be maintained on site for a period of five years and made available to the Department upon request.² **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1901, 40 CFR 52.21(j))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. (R 336.1213(3)(c), R 336.2001(5))

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-FURNACE 1,3, and 4	48 ²	125 ²	R 336.1225 40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-COOLTOWERS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Three cooling towers. (PTI Nos. 26-15D and 132-19B)

Emission Units: EU-COOLTOWER, EU-COOLTOWER2, EU-COOLTOWER3

POLLUTION CONTROL EQUIPMENT

Drift eliminators.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.39 tpy ²	12-month rolling time period as determined at the end of each calendar month.	EU-COOLTOWER	SC VI.6	R 336.1331(c) R 336.2810
2. PM10	0.39 tpy ²	12-month rolling time period as determined at the end of each calendar month.	EU-COOLTOWER	SC VI.6	R 336.2803 R 336.2804 R 336.2810
3. PM2.5	0.39 tpy ²	12-month rolling time period as determined at the end of each calendar month.	EU-COOLTOWER	SC VI.6	R 336.2803 R 336.2804 R 336.2810
4. PM	0.019 pph ²	Hourly	EU-COOLTOWER2	SC V.2	40 CFR 52.21(c) & (d)
5. PM10	0.019 pph ²	Hourly	EU-COOLTOWER2	SC V.2	40 CFR 52.21(c) & (d)
6. PM2.5	0.019 pph ²	Hourly	EU-COOLTOWER2	SC V.2	40 CFR 52.21(c) & (d)
7. PM	0.019 pph ²	Hourly	EU-COOLTOWER3	SC V.2	40 CFR 52.21(c) & (d)
8. PM10	0.019 pph ²	Hourly	EU-COOLTOWER3	SC V.2	40 CFR 52.21(c) & (d)
9. PM2.5	0.019 pph ²	Hourly	EU-COOLTOWER3	SC V.2	40 CFR 52.21(c) & (d)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Total Dissolved Solids (TDS) Content of the Circulating Water	2,200 ppmw ²	Monthly as determined based upon monthly parameter monitoring.	EU-COOLTOWER	SC VI.4, SC VI.5	R 336.2810
2. TDS Content of the Circulating Water	1,980 ppmw ²	Monthly as determined based upon monthly parameter monitoring.	EU-COOLTOWER2	SC VI.4, SC VI.5	40 CFR 52.21(c) & (d)
3. TDS Content of the Circulating Water	1,980 ppmw ²	Monthly as determined based upon monthly parameter monitoring.	EU-COOLTOWER3	SC VI.4, SC VI.5	40 CFR 52.21(c) & (d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall comply with the submitted inspection and maintenance program for EU-COOLTOWER submitted on April 2, 2019. At any time, the permittee may submit a modified program to the AQD District Supervisor for review and approval.² **(R 336.1910, R 336.2810)**
2. The permittee shall submit an inspection and maintenance program for EU-COOLTOWER2 and EU-COOLTOWER3 to the AQD District Supervisor within 60 days of permit issuance. After submittal, the permittee shall comply with the inspection and maintenance program for EU-COOLTOWER2 and EU-COOLTOWER3. At any time, the permittee may submit a modified program to the AQD District Supervisor for review and approval.² **(40 CFR 52.21(a) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EU-COOLTOWER with mist/drift eliminators with a vendor-certified maximum drift rate of 0.005 percent or less.² **(R 336.1910, R 336.2810)**
2. The permittee shall equip and maintain EU-COOLTOWER2 and EU-COOLTOWER3 with mist/drift eliminators with a vendor-certified maximum drift rate of 0.002 percent or less.² **(R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee may be required to verify drift loss from EU-COOLTOWER by testing, at owner's expense, in accordance with Department requirements. Testing shall be performed using the 2011 version of the Cooling Technology Institute's Acceptable Test Code (ATC) 140, unless the AQD approves use of an alternate method. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.1910, R 336.2001, R 336.2003, R 336.2004, R 336.2810)**

2. The permittee may be required to verify drift loss from EU-COOLTOWER2 and/or EU-COOLTOWER3 by testing, at owner's expense, in accordance with Department requirements. Testing shall be performed using the 2011 version of the Cooling Technology Institute's Acceptable Test Code (ATC) 140, unless the AQD approves use of an alternate method. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.² **(R 336.1910, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days before testing of the time and place performance tests will be conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.² **(R 336.1910, R 336.2810, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a record of the vendor's certification required in SC IV.1, for the life of EU-COOLTOWER.² **(R 336.1910, R 336.2810)**
3. The permittee shall maintain a record of the vendor's certification required in SC IV.2, for the life of EU-COOLTOWER2 and EU-COOLTOWER3.² **(R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall separately monitor and record the following for EU-COOLTOWER, EU-COOLTOWER2 and EU-COOLTOWER3.² **(R 336.1910, R 336.2810, 40 CFR 52.21(c) & (d))**
 - a. On a monthly basis, parameters needed to determine the TDS content of the circulating water.
 - b. On a monthly basis, parameters needed to determine the water recirculation rate.
5. The permittee shall separately calculate and keep records of the TDS in the circulating water for EU-COOLTOWER, EU-COOLTOWER2 and EU-COOLTOWER3 on a monthly basis.² **(R 336.1910, R 336.2810, 40 CFR 52.21(c) & (d))**
6. The permittee shall calculate and keep records of the PM, PM10, and PM2.5 emission rates from EU-COOLTOWER monthly, for each calendar month and each 12-month rolling time period, as determined at the end of each calendar month, using a method acceptable to the AQD District Supervisor.² **(R 336.1331(c), R 336.2803, R 336.2804, R 336.2810)**
7. The permittee shall maintain a record of any maintenance conducted for EU-COOLTOWER, EU-COOLTOWER2, and EU-COOLTOWER3.² **(R 336.1910, R 336.2810, 40 CFR 52.21(c) & (d))**
8. The permittee shall keep, in a satisfactory manner, all test reports for EU-COOLTOWER, EU-COOLTOWER2, and EU-COOLTOWER3, as required by SC V.1 and SC V.2, on file at the facility and make them available to the Department upon request.² **(R 336.1910, R 336.2001, R 336.2003, R 336.2004, R 336.2810, 40 CFR 52.21(c) & (d))**
9. The permittee shall keep records of the annual emissions of PM2.5 and PM10 from EU-COOLTOWER2 and EU-COOLTOWER3 described in Appendix 11, in tons per calendar year. Record keeping shall continue until March 3, 2027. **(R 336.1213(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-COOLTOWER	126 ²	20 ²	R 336.2803 R 336.2804
2. SV-COOLTWR2	120 ²	45.5 ²	40 CFR 52.21 (c) & (d)
3. SV-COOLTWR3	120 ²	45.5 ²	40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-RULE290 FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.

Emission Units installed on or after December 20, 2016: EU-R290

Emission Units installed prior to December 20, 2016: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

1. Each emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively. **(R 336.1290(2)(a)(i))**
2. Any emission unit for which CO₂ equivalent emissions are not more than 6,250 tons per month and for which the total uncontrolled or controlled emissions of all other air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all the following criteria listed below are met: **(R 336.1290(2)(a)(ii))**
 - a. For toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(2)(a)(ii)(A))**
 - b. For toxic air contaminants with initial risk screening levels greater than or equal to 0.04 microgram per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(2)(a)(ii)(B))**
 - c. The emission unit shall not emit any toxic air contaminants, excluding non-carcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 microgram per cubic meter. **(R 336.1290(2)(a)(ii)(C))**
 - d. For total mercury, the uncontrolled or controlled emissions shall not exceed 0.01 pounds per month from emission units installed on or after December 20, 2016. **(R 336.1290(2)(a)(ii)(D))**
 - e. For lead, the uncontrolled or controlled emissions shall not exceed 16.7 pounds per month from emission units installed on or after December 20, 2016. **(R 336.1290(2)(a)(ii)(E))**
3. Any emission unit that emits only particulate air contaminants without initial risk screening levels and other air contaminants that are exempted under Rule 290(2)(a)(i) or Rule 290(2)(a)(ii), if all the following provisions are met: **(R 336.1290(2)(a)(iii))**
 - a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than

or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(2)(a)(iii)(A))**

- b. The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in Rule 303. **(R 336.1290(2)(a)(iii)(B))**
- c. The initial threshold screening level for each particulate toxic air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(2)(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- 1. The provisions of Rule 290 apply to each emission unit that is operating pursuant to Rule 290. **(R 336.1290)**
- 2. The following requirements apply to emission units installed on or after December 20, 2016, utilizing control equipment:
 - a. An air cleaning device for volatile organic compounds shall be installed, maintained, and operated in accordance with the manufacturer's specifications. Examples include the following: **(R 336.1290(2)(b)(i), R 336.1910)**
 - i. Oxidizers and condensers equipped with a continuously displayed temperature indication device.
 - ii. Wet scrubbers equipped with a liquid flow rate monitor.
 - iii. Dual stage carbon absorption where the first canister is monitored for breakthrough and replaced if breakthrough is detected.
 - b. An air cleaning device for particulate matter shall be installed, maintained, and operated in accordance with the manufacturer's specifications or the permittee shall develop a plan that provides to the extent practicable for the maintenance and operation of the equipment in the manner consistent with good air pollution control practices for minimizing emissions. It shall also be equipped to monitor appropriate indicators of performance, for example, static pressure drop, water pressure, and water flow rate. **(R 336.1290(2)(b)(ii), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- 1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the EGLE, AQD Rule 290; Permit to Install Exemption Record form (EQP 3558) or in a format that is acceptable to the AQD District Supervisor. **(R 336.1213(3))**
 - a. Records identifying each air contaminant that is emitted. **(R 336.1213(3))**
 - b. Records identifying if each air contaminant is controlled or uncontrolled. **(R 336.1213(3))**
 - c. Records identifying if each air contaminant is either carcinogenic or non-carcinogenic. **(R 336.1213(3))**

- d. Records identifying the ITSL and IRSL, if established, of each air contaminant that is being emitted under the provisions of Rules 290(2)(a)(ii) and (iii). **(R 336.1213(3))**
 - e. Records of material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions in enough detail to demonstrate that the actual emissions of the emission unit meet the emission limits outlined in this table and Rule 290. Volatile organic compound emissions from units installed on or after December 20, 2016, shall be calculated using mass balance, generally accepted engineering calculations, or another method acceptable to the AQD District Supervisor. **(R 336.1213(3), R 336.1290(2)(d))**
 - f. Records are maintained on file for the most recent 2-year period and are made available to the department upon request. **(R 336.1213(3), R 336.1290(2)(e))**
2. The permittee shall maintain an inventory of each emission unit that is exempt pursuant to Rule 290. This inventory shall include the following information. **(R 336.1213(3))**
 - a. The permittee shall maintain a written description of each emission unit as it is maintained and operated throughout the life of the emission unit. **(R 336.1290(2)(c), R 336.1213(3))**
 - b. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(2)(a)(iii), the permittee shall maintain a written description of the control device, including the designed control efficiency and the designed exhaust gas flow rate. **(R 336.1213(3))**
 3. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(2)(a)(iii), the permittee shall perform a monthly visible emission observation of each stack or vent during routine operating conditions. This observation need not be performed using Method 9. The permittee shall keep a written record of the results of each observation. **(R 336.1213(3))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-COLDCLEANERS FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

Emission Unit: EU-COLDCLEANER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1611(2)(b), R 336.1707(3)(b))**
2. The permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. **(R 336.1213(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The cold cleaner must meet one of the following design requirements:
 - a. The air/vapor interface of the cold cleaner is no more than ten square feet. **(R 336.1281(2)(h))**
 - b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. **(R 336.1285(2)(r)(iv))**
2. The cold cleaner shall be equipped with a device for draining cleaned parts. **(R 336.1611(2)(b), R 336.1707(3)(b))**
3. All new and existing cold cleaners shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1611(2)(a), R 336.1707(3)(a))**
4. The cover of a new cold cleaner shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1707(3)(a))**
5. If the Reid vapor pressure of any solvent used in a new cold cleaner is greater than 0.6 psia; or, if any solvent used in a new cold cleaner is heated above 120 degrees Fahrenheit, then the cold cleaner must comply with at least one of the following provisions:

- a. The cold cleaner must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7. **(R 336.1707(2)(a))**
- b. The solvent bath must be covered with water if the solvent is insoluble and has a specific gravity of more than 1.0. **(R 336.1707(2)(b))**
- c. The cold cleaner must be controlled by a carbon adsorption system, condensation system, or other method of equivalent control approved by the AQD. **(R 336.1707(2)(c))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions. **(R 336.1213(3))**
2. The permittee shall maintain the following information on file for each cold cleaner: **(R 336.1213(3))**
 - a. A serial number, model number, or other unique identifier for each cold cleaner.
 - b. The date the unit was installed, manufactured or that it commenced operation.
 - c. The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h).
 - d. The applicable Rule 201 exemption.
 - e. The Reid vapor pressure of each solvent used.
 - f. If applicable, the option chosen to comply with Rule 707(2).
3. The permittee shall maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1611(3), R 336.1707(4))**
4. As noted in Rule 611(2)(c) and Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1213(3), R 336.1611(2)(c), R 336.1707(3)(c))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-EXTRICEMACT<500bhp FLEXIBLE GROUP CONDITIONS

DESCRIPTION

40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at an area source of HAP emissions, existing emergency, compression ignition (CI) RICE equal to or less than 500 brake hp. A RICE is existing if the date of installation is before June 12, 2006.

Emission Units: EU-DETROITDSL1, EU-DETROITDSL2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in each engine with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(40 63.6604(b), 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must comply with the requirements in Item 4 of Table 2d of 40 CFR Part 63, Subpart ZZZZ which apply to each engine in FG-EXTRICEMACT<500bhp as specified in the following:
 - a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.2;
 - b. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
 - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If the emergency engine is being operated during an emergency and it is not possible to shut down the engine to perform the management practice requirements on the schedule required, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State or local law has been abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law or which the risk was deemed unacceptable. **(40 CFR 63.6603(a), 40 CFR Part 63, Subpart ZZZZ, Table 2d.4)**

2. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement in SC III.1. The oil analysis must be performed at the same frequency specified for changing the oil in SC III.1. **(40 CFR 63.6625(i))**

3. The permittee shall operate and maintain each engine in FG-EXTRICEMACT<500bhp and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6605, 40 CFR 63.6625(e), 40 CFR 63.6640(a), 40 CFR Part 63, Subpart ZZZZ, Table 6.9)**
4. For each engine in FG-EXTRICEMACT<500bhp, the permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**
5. The permittee may operate each engine in FG-EXTRICEMACT<500bhp, for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 63.6640(f)(2))**
6. Each engine in FG-EXTRICEMACT<500bhp may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in **SC III.5**. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **(40 CFR 63.6640(f)(4))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-EXTRICEMACT<500bhp with non-resettable hours meters to track the operating hours. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. If using the oil analysis program, the permittee must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30% of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20% from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all these condemning limits are not exceeded, the permittee is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For each engine in FG-EXTRICEMACT<500bhp, the permittee shall keep in a satisfactory manner the following:
 - a. A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted,

- b. Records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment,
- c. Records of performance tests and performance evaluations,
- d. Records of all required maintenance performed on the air pollution control and monitoring equipment,
- e. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a), 40 CFR 63.6660)**

2. For each engine in FG-EXTRICEMACT<500bhp, the permittee shall keep in a satisfactory manner, records to demonstrate continuous compliance with the operation and maintenance of the engine according to the manufacturer's emission-related operation and maintenance instructions; or of a maintenance plan that provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660, 40 CFR Part 63, Subpart ZZZZ, Table 6.9)**
3. For each engine in FG-EXTRICEMACT<500bhp, the permittee shall keep in a satisfactory manner, records of the maintenance conducted to demonstrate that the engine and after-treatment control device (if any) were operated and maintained according to the developed maintenance plan. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(e), 40 CFR 63.6660)**
4. The permittee shall monitor and record, the total hours of operation for each engine in FG-EXTRICEMACT<500bhp, on a monthly basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-EXTRICEMACT<500bhp, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for emergency operation. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(f), 40 CFR 63.6660)**
5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-EXTRICEMACT<500bhp, demonstrating that the fuel meets the requirement of SC II.1. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 80.510(b))**
6. The permittee's records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1). **(40 CFR 63.6660(a))**
7. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5-years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.6660(b))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and **ZZZZ** for Stationary Reciprocating Internal Combustion Engines. **(40 CFR Part 63, Subparts A and ZZZZ)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-EXTRICEMACT>500bhp FLEXIBLE GROUP CONDITIONS

DESCRIPTION

40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at an area source of HAP emissions, existing emergency, compression ignition (CI) RICE greater than 500 brake hp. A RICE is existing if the date of installation is before June 12, 2006.

Emission Unit: EU-ML2GEN

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in each engine with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(40 63.6604(b), 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must comply with the requirements in Item 4 of Table 2d of 40 CFR Part 63, Subpart ZZZZ which apply to each engine in FG-EXTRICEMACT>500bhp as specified in the following:
 - a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.2;
 - b. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
 - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

If the emergency engine is being operated during an emergency and it is not possible to shut down the engine to perform the management practice requirements on the schedule required, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State or local law has been abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law or which the risk was deemed unacceptable. **(40 CFR 63.6603(a), 40 CFR Part 63, Subpart ZZZZ, Table 2d.4)**

2. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement in SC III.1. The oil analysis must be performed at the same frequency specified for changing the oil in SC III.1. **(40 CFR 63.6625(j))**
3. The permittee shall operate and maintain each engine in FG-EXTRICEMACT>500bhp and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner

consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6605, 40 CFR 63.6625(e), 40 CFR 63.6640(a), 40 CFR Part 63, Subpart ZZZZ, Table 6.9)**

4. For each engine in FG-EXTRICEMACT>500bhp, the permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**
5. The permittee may operate each engine in FG-EXTRICEMACT>500bhp for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 63.6640(f)(2))**
6. Each engine in FG-EXTRICEMACT>500bhp may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in **SC III.5**. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **(40 CFR 63.6640(f)(4))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-EXTRICEMACT>500bhp with non-resettable hours meters to track the operating hours. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. If using the oil analysis program, the permittee must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30% of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20% from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all these condemning limits are not exceeded, the permittee is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For each engine in FG-EXTRICEMACT>500bhp, the permittee shall keep in a satisfactory manner the following:
 - a. A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted,
 - b. Records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment,
 - c. Records of performance tests and performance evaluations,

- d. Records of all required maintenance performed on the air pollution control and monitoring equipment,
- e. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a), 40 CFR 63.6660)**

- 2. For each engine in FG-EXTRICEMACT>500bhp, the permittee shall keep in a satisfactory manner, records to demonstrate continuous compliance with the operation and maintenance of the engine according to the manufacturer's emission-related operation and maintenance instructions; or of a maintenance plan that provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660, 40 CFR Part 63, Subpart ZZZZ, Table 6.9)**
- 3. For each engine in FG-EXTRICEMACT>500bhp, the permittee shall keep in a satisfactory manner, records of the maintenance conducted to demonstrate that the engine and after-treatment control device (if any) were operated and maintained according to the developed maintenance plan. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(e), 40 CFR 63.6660)**
- 4. The permittee shall monitor and record, the total hours of operation for each engine in FG-EXTRICEMACT>500bhp on a monthly basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-EXTRICEMACT>500bhp, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(f), 40 CFR 63.6660)**
- 5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-EXTRICEMACT>500bhp, demonstrating that the fuel meets the requirement of SC II.1. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. The permittee shall keep all records on file and make them available to the department upon request. **(R 336.1213(3), 40 CFR 1090.305)**
- 6. The permittee's records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1). **(40 CFR 63.6660(a))**
- 7. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5-years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.6660(b))**

VII. REPORTING

- 1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- 2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
- 3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and ZZZZ for Stationary Reciprocating Internal Combustion Engines. **(40 CFR Part 63, Subparts A and ZZZZ)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-NSPSIII
 EMISSION UNIT CONDITIONS**

DESCRIPTION

A 900 HP (671 kilowatts (kW)) new emergency compression ignition (diesel fuel fired) RICE engine located at an area source of HAP emissions, subject to MACT ZZZZ. The permittee is required to demonstrate compliance with the MACT by complying with the NSPS III. Engine manufactured after April 1, 2006.

Emission Unit: EU-ALLEYGEN

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	11.4 g/kW-hr or 8.5 g/hp-hr	Hourly ^A	Each engine in FG-NSPSIII	SC V.1 SC VI.2	40 CFR 60.4205(a), Table 1 of 40 CFR Part 60, Subpart III
2. PM	0.54 g/kW-hr or 0.40 g/hp-hr	Hourly ^A	Each engine in FG-NSPSIII	SC V.1 SC VI.2	40 CFR 60.4205(a), Table 1 of 40 CFR Part 60, Subpart III
3. NOx	9.2 g/kW-hr or 6.9 g/hp-hr	Hourly ^A	Each engine in FG-NSPSIII	SC V.1 SC VI.2	40 CFR 60.4205(a), Table 1 of 40 CFR Part 60, Subpart III
4. HC	1.3 g/kW-hr or 1.0 g/hp-hr	Hourly ^A	Each engine in FG-NSPSIII	SC V.1 SC VI.2	40 CFR 60.4205(a), Table 1 of 40 CFR Part 60, Subpart III

^AThese emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in each engine in FG-NSPSIII with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(40 CFR 60.4207, 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee may run each engine in FG-NSPSIII for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal,

State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 60.4211(f)(2))**

2. The permittee may operate each engine in FG-NSPSIII up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f)(3))**
3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine in FG-NSPSIII:
 - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
 - b. Change only those emission-related settings that are permitted by the manufacturer, and
 - c. Meet the requirements as specified in 40 CFR 89, 94 and/or 1068, as they apply to the engine.If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine. **(40 CFR 60.4211(a) & (b))**
4. If the permittee purchased a non-certified engine or changes emission-related settings in a way that is not permitted by the manufacturer in FG-NSPSIII, to the extent practicable the permittee shall maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-NSPSIII with non-resettable hours meters to track the operating hours. **(40 CFR 60.4209)**
2. The maximum rated power output of each engine in FG-NSPSIII shall not exceed 900 HP (672 kW), as certified by the equipment manufacturer. **(40 CFR 60.4202, 40 CFR 60.4205)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. If each engine in FG-NSPSIII is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
 - a. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
 - b. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
 - c. Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 60.4211(g)(3), 40 CFR 60.4212)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3), 40 CFR 52.21 (c) & (d), 40 CFR Part 60, Subpart III)**
2. The permittee shall keep, in a satisfactory manner, the following records for each engine in FG-NSPSIII:
 - a. For each certified engine: The permittee shall keep records of the manufacturer certification documentation.
 - b. For each uncertified engine: The permittee shall keep records of testing required in SC V.1.The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**
3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for each engine in FG-NSPSIII:
 - a. For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.
 - b. For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**
4. The permittee shall monitor and record, the total hours of operation for each engine in FG-NSPSIII on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-NSPSIII, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FG-NSPSIII, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(R 336.1213(3), 40 CFR 60.4211, 40 CFR 60.4214)**
5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-NSPSIII, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b). The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1213(3), 40 CFR 60.4207(b), 40 CFR 1090.305)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit a notification specifying whether each engine in FG-NSPSIII will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60, Subpart III)**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and IIII, as they apply to each engine in FG-NSPSIIII. **(40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590(c))**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to FG-NSPSIIII. **(40 CFR Part 63, Subparts A & ZZZZ, 40 CFR 63.6585)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-CAMUNITS FLEXIBLE GROUP CONDITIONS

DESCRIPTION

The equipment in this flexible group is subject to Compliance Assurance Monitoring, 40 CFR 64.6.

Emission Units: EU-ML2ALBFORMING, EU-WBW1ALBFORMING, EU-WBW2ALBFORMING, EU-WBW3ALBFORMING

POLLUTION CONTROL EQUIPMENT

EU-ML2ALBFORMING – Fisher Klosterman Venturi Scrubbers, a mix of 650, 850 and 1100's.
EU-WBW1ALBFORMING – Venturi Scrubbers (3); cyclone with internally vented screen room and bag filters
EU-WBW2ALBFORMING – Venturi Scrubber (1); cyclone with internally vented screen room and bag filters
EU-WBW3ALBFORMING – Venturi Scrubbers (2); Wet Electrostatic Precipitator

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For EU-ML2ALBFORMING, the permittee shall continuously measure scrubber pressure drop and liquid flow rate and record a value at least once every four hours during the process operation as an indicator of proper operation of the scrubber. The averaging period is every four hours. The indicator range is established during performance testing. The monitor shall be calibrated once per calendar quarter. **(40 CFR 64.6(c)(1)(i and ii), 40 CFR 60.683)**
2. For EU-WBW1ALBFORMING, EU-WBW2ALBFORMING, and EU-WBW3ALBFORMING, the permittee shall continuously measure scrubber pressure drop and liquid flow rate and record a value at least once every four hours during the process operation as an indicator of proper operation of the scrubber. The averaging period is every four hours. The indicator range is established during performance testing. The monitor shall be calibrated once per calendar quarter. **(40 CFR 64.6(c)(1)(iii))**
3. An excursion is a reading outside the operational parameters from the venturi scrubber control device for either pressure drop or liquid flow rate that is established during performance testing. **(40 CFR 64.6(c)(2))**

4. For EU-WBW3ALBFORMING, the permittee shall continuously monitor and record the wet electrostatic precipitator (WESP) current, voltage, and water flow during process operation as an indicator of proper operation of the WESP. The indicator range is established during performance testing. If the USEPA approves maintaining the secondary voltage, rather than the primary and secondary current and the voltage, as an alternative under 40 CFR Part 60 Subpart PPP and an indicator of proper operation, the permittee shall maintain the secondary volts (kV) and the water flow rate within 70 percent or more of the lowest value and 130 percent or less of the highest value of each monitored operating parameter recorded during the most recent applicable performance test, and the total solids content of the water entering the control device no greater than 2 percent by weight. **(40 CFR 64.6(c)(1)(iii))**
5. For the WESP, the solids content shall be measured and recorded once per day. **(40 CFR 64.6(c)(1)(iii))**
6. An excursion is a reading outside the operational parameters from the WESP control device for either the current or voltage that is established during performance testing. If the USEPA approves maintaining the secondary voltage (kV), rather than the primary and secondary current and the voltage, an excursion is a reading outside the operational parameters from the WESP control device for the secondary voltage that is established during performance testing. **(40 CFR 64.6(c)(2))**
7. 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). An excursion triggers an inspection of the control device, corrective action and a reporting requirement. **(40 CFR 64.7(d))**
8. 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. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
9. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
10. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

See Appendix 7

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee 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 permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan 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. **(40 CFR 64.7(e))**

Footnotes:

- ¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
- ²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-FIBERIZATION
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

All process equipment associated with the conversion of the existing fiberization process to the Knauf fiberization process. (PTI No. 26-15A)

Emission Units: EU-ML2ALBFORMING, EU-ML2ALBCURING, EU-WBW1ALBFORMING, EU-WBW2ALBFORMING

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall calculate and keep records of the annual emissions of PM2.5 and PM10 from FG-FIBERIZATION described in Appendix 9, in tons per calendar year. Calculations and record keeping shall begin upon ROP issuance and shall continue through calendar year 2021.² (R 336.2818, 40 CFR 52.21 (r)(6)(c)(iii))

See Appendix 9

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))
4. The permittee shall submit records of the annual emission of PM2.5 and PM10 from FG-FIBERIZATION described in Appendix 9, in tons per calendar year, to the AQD Permit Section Supervisor within 75 days following the end of each reporting year if both the following occur:² **(R 336.2818, 40 CFR 52.21(r)(6)(c)(iii))**
 - a. The calendar year actual emissions of PM10 and PM2.5 exceed the baseline actual emissions (BAE) by a significant amount, and
 - b. The calendar year actual emissions differ from the pre-construction projection. The report shall contain the name, address, and telephone number of the facility (major stationary source); the annual emissions as calculated pursuant to SC VI.1, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection).

See Appendices 8 and 9

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

² This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that the requirements identified in the table below are not applicable to the specified emission unit(s) and/or flexible group(s). This determination is incorporated into the permit shield provisions set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii). If the permittee makes a change that affects the basis of the non-applicability determination, the permit shield established as a result of that non-applicability decision is no longer valid for that emission unit or flexible group.

Emission Unit/Flexible Group ID	Non-Applicable Requirement	Justification
Source-wide	40 CFR 60 Subpart CC--Glass Manufacturing NSPS	This Facility manufactures "fiberglass wool insulation," not "glass." There is a separate NSPS for fiberglass wool insulation that is applicable to this Facility.

APPENDICES

Appendix 1. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO ₂ e	Carbon Dioxide Equivalent
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
EGLE	Michigan Department of Environment, Great Lakes, and Energy	HAP	Hazardous Air Pollutant
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallons of Applied Coating Solids	HP	Horsepower
GC	General Condition	H ₂ S	Hydrogen Sulfide
GHGs	Greenhouse Gases	kW	Kilowatt
HVLP	High Volume Low Pressure*	lb	Pound
ID	Identification	m	Meter
IRSL	Initial Risk Screening Level	mg	Milligram
ITSL	Initial Threshold Screening Level	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NMOC	Non-methane Organic Compounds
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	ng	Nanogram
NA	Not Applicable	PM	Particulate Matter
NAAQS	National Ambient Air Quality Standards	PM10	Particulate Matter equal to or less than 10 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	%	Percent
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 5. Testing Procedures

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B7205-2015. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-B7205-2015 is being reissued as Source-Wide PTI No. MI-PTI-B7205-2021a.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	201500114/ October 9, 2015	Name change from Knauf Insulation, LLC to Knauf Insulation, Inc.	NA
26-15	201500115/ October 9, 2015	Incorporate PTI No. 26-15. The PTI is for conversion of the glass fiberization technology on existing lines 2, 3, and 4 at the Facility from the existing technology to a new fiberization technology. The Facility is also switching the ECOSE technology binder for all lines. The new ECOSE technology binder is phenol/formaldehyde free and; therefore, 40 CFR Part 63, Subpart NNN is no longer applicable. The following have been deleted or renamed as part of the PTI: EU-EU6 EU-EM7 EU-EM8 EU-EM9	EU-FURNACE#1 EU-FURNACE#2 EU-FURNACE#3 EU-FURNACE#4 EU-BINDERMIX EU-ML1ALBFORMING EU-ML1ALBCURING EU-ML2ALBFORMING EU-ML2ALBCURING EU-FACESIZEPKG EU-WBWALBFORMING FG-ML1ALB FG-ML2ALB FG-RICEMACT FG-NSPSIII FGCAM_UNITS FGFIBERIZATION

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
		EU-RESFORMCOL EU-RESCURE EU-RFC2 EU-RC2 EU-NRFORMCOL FG-RES1 FG-RES2 FG MELT 7 and 9 FG MELT 6,7, and 9	
26-15A	201600076/July 28, 2016	Incorporate PTI No. 26-15A, which amends the language in the testing requirements with the applicable requirements from 40 CFR Part 60, Subpart PPP, and a start-up Notification requirement was added.	EU-ML1ALBFORMING EU-ML1ALBCURING EU-WBWALBFORMING FG-ML1ALB FG-ML2ALB
NA	201700068*/May 11, 2017	Replacing two Generac diesel engines with a CAT diesel engine that is exempt from air use permitting under Rule 282(2)(g). Knauf indicated that they will comply with 40 CFR Part 60, Subpart IIII rather than ROP FG-NSPSIIII table until ROP renewal.	FG-RICEMACT FG-NSPSIIII
206-18	201900052*/March 15, 2019	Incorporate PTI No. 206-18 which is to be able to utilize a dedusting agent and install a tank to mix dedusting agents onsite as part of FG-ML2ALB	EU-ML2ALBFORMING
26-15D	201900146*/August 21, 2019	Incorporate PTI No. 26-15D into the ROP, which updates EU-WBW1ALBFORMING, EU-WBW2ALBFORMING in FG-WBWALBFORMING, and EU-COOLTOWER. Updates emissions for FG-ML2AB, and increases stack height for SV-WBW-FORMING-EAST.	EU-WBW1ALBFORMING EU-WBW2ALBFORMING EU-COOLTOWER FG-WBWALBFORMING
132-19A	202000115*/July 24, 2020	Incorporate PTI No. 132-19A which is to replace 8 existing fiberizers on Line 1 forming section with Knauf fiberizers. EU-FURNACE#1 is melter associated w/ ML1ALB & will have incremental emission increases associated w/ EU-WBW3ALBFORMING.	EU-WBW3ALBFORMING

The following table lists the ROP amendments or modifications issued after the effective date of ROP No. MI-ROP-B7205-2021.

Permit to Install Number	ROP Revision Application Number - Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
132-19B	202200085 / May 27, 2022	Incorporate PTI No. 132-19B into the ROP which is to convert a resinated fiberglass insulation line (Line 1) to the Knauf fiberization technology as a non-resinated line, and install two cooling towers (EU-COOLTOWER2 and EU-COOLTOWER3) that were not included in PTI No. 132-19A. The cooling towers are equipped with drift	EU-WBW3ALBFORMING EU-COOLTOWER EU-COOLTOWER2 EU-COOLTOWER3 FG-COOLTOWERS

Permit to Install Number	ROP Revision Application Number - Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
		eliminators to minimize particulate emissions.	

Appendix 7. Emission Calculations

A. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in FG-ML2ALB and FG-WBWALBFORMING.

Glass Pull Rate Calculation Methodology

The glass pull rate shall be calculated as the total rate of molten glass exiting the forehearth minus the glass that is reclaimed as cullet, in terms of pounds per hour.

$$\text{Pull Rate (lb/hr)} = \text{Melt Rate at Forehearth Exit (lb/hr)} - \text{Cullet Rate (lb/hr)}$$

B. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in FG-WBWALBFORMING.

VOC Mass Emission Calculation Methodology for FG-WBWALBFORMING

VOC mass emissions from FG-WBWALBFORMING shall be calculated as the total mass of VOC entering the process minus the total mass of VOC retained in the final product. The total mass of VOC entering the process shall be determined by multiplying the VOC content (lb/gal) of each raw material used by the quantity (gallons) of raw material used.

$$\text{VOC Emissions} = \text{Mass VOC Entering} - \text{Mass VOC Retained}$$

$$\text{Mass VOC Entering} = \text{Mass VOC in Raw Materials}^*$$

*Determined consistent with SC V.1 of FG-WBWALBFORMING

C. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in FG-ML2ALB.

VOC Mass Emission Calculation Methodology for FG-ML2ALB

VOC mass emissions from FG-ML2ALB shall be calculated as the mass of VOC entering the process minus retained in the final product. The mass of VOC entering the process includes the mass of VOC in the binder solution and the mass of VOC in the de-dusting agent applied.

$$\text{VOC Emissions} = \text{Mass VOC Entering} - (\text{Mass VOC Retained})$$

$$\text{Mass VOC Entering} = \text{Mass VOC in Binder Solution}^*$$

*Based on the VOC content of each raw material used to manufacture the Binder Solution determined consistent with SC V.1 of FG-ML2ALB multiplied by the mass of each raw material used.

D. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in EU-WBW3ALBFORMING.

Glass Pull Rate Calculation Methodology for EU-WBW3ALBFORMING

The glass pull rate shall be calculated as the total rate of molten glass exiting the forehearth minus the glass that is reclaimed as cullet, in terms of pounds per hour.

$$\text{Pull Rate (lb/hr)} = \text{Melt Rate at Forehearth Exit (lb/hr)} - \text{Cullet Rate (lb/hr)}$$

- E. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in EU-WBW3ALBFORMING.

VOC Mass Emission Calculation Methodology for EU-WBW3ALBFORMING

VOC mass emissions from EU-WBW3ALBFORMING shall be calculated as the total mass of VOC entering the process minus the total mass of VOC retained in the final product. The total mass of VOC entering the process shall be determined by multiplying the VOC content (lb/gal) of each raw material used by the quantity (gallons) of raw material used.

$$\text{VOC Emissions} = \text{Mass VOC Entering} - \text{Mass VOC Retained}$$

$$\text{Mass VOC Entering} = \text{Mass VOC in Raw Materials}^*$$

*Determined consistent with SC V.1 of EU-WBW3ALBFORMING

- F. The permittee shall use the following calculations in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in Section B (Source Wide Conditions).

Individual and Aggregate HAP Mass Emission Calculation Methodology (Source Wide)

Individual and aggregate HAP mass emissions from the facility shall be calculated as the mass of each volatile HAP entering the process plus the mass of each HAP generated during the production process.

$$\text{HAP Emissions} = \text{Raw Material HAP Content (lb/lb or lb/gal)} \times (\text{Raw Material Used} - \text{Raw Material Reclaimed (lb or gal)})$$

$$\text{Aggregate HAP Emissions} = \text{Sum of All Individual HAP Emissions}$$

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.

Appendix 9. Project Emissions for FG-FIBERIZATION

All information in this Appendix shall be maintained pursuant to R 336.2818(3) for 5 years after the emission units identified in Table C resume normal operation.

A. Project Description

Knauf proposes to replace the existing wool fiberglass fiberization technology on lines 2, 3, and 4 with a modified fiberization technology

B. Applicability Test Description

Knauf has demonstrated that the proposed project will not cause a significant emissions increase to the source using the A to A test. The Project Emissions Change equals the Projected Actual Emissions (PAE) minus the existing units Baseline Actual Emissions (BAE minus the exclude emissions)

C. Emissions Table

Emission Projections EU-ML2ALBFORMING, EU-ML2ALBCURING, EU-WBW1ALBFORMING, EU-WBW2ALBFORMING			
Pollutant	Projected Actual Emissions (TPY)	Baseline Actual Emissions (TPY)	Excluded
PM2.5	180.96	121.41	51.92
PM10	180.96	121.41	51.92

D. Netting Calculations and Discussion:

NA

Appendix 10. Project Emissions for EU-WBW3ALBFORMING

All information in this Appendix shall be maintained pursuant to R 336.2818(3) for 5 years after the emission units identified in Table C resume normal operation.

A. Project Description

Knauf proposes to replace the existing wool fiberglass fiberization technology on line 1 with a modified fiberization technology

B. Applicability Test Description

Knauf has demonstrated that the proposed project will not cause a significant emissions increase to the source using a hybrid test. The Project Emissions Change equals the Projected Actual Emissions (PAE) plus the Potential to Emit (PTE) minus the existing units Baseline Actual Emissions (BAE minus the exclude emissions)

C. Emissions Table

Emission Projections			
Pollutant	Projected Actual Emissions + Potential to Emit (TPY)	Baseline Actual Emissions (TPY)*	Excluded
PM2.5	48.8	39.82	0.26
PM10	54.47	44.35	1.16
* This includes BAE emissions for the Line 1 emission units that are being removed as part of the project and are included in the Project Emission Accounting analysis.			

D. Netting Calculations and Discussion:

NA

Appendix 11. Project Emissions for EU-COOLTOWER2 and EU-COOLTOWER3

All information in this Appendix shall be maintained pursuant to R 336.2818(3) for 5 years after the emission units identified in Table C resume normal operation.

- A. Project Description
 Knauf proposes to replace the existing wool fiberglass fiberization technology on line 1 with a modified fiberization technology. This includes installation of EU-COOLTOWER2 and EU-COOLTOWER3.
- B. Applicability Test Description
 Knauf has demonstrated that the proposed project will not cause a significant emissions increase to the source using a hybrid test. The Project Emissions Change equals the Projected Actual Emissions (PAE) plus the Potential to Emit (PTE) minus the existing units Baseline Actual Emissions (BAE minus the exclude emissions)
- C. Emissions Table

Emission Projections			
Pollutant	Projected Actual Emissions + Potential to Emit (TPY)	Baseline Actual Emissions (TPY)*	Excluded
PM2.5	48.97	39.82	0.26
PM10	54.64	44.35	1.16
* This includes BAE emissions for the Line 1 emission units that are being removed as part of the project and are included in the Project Emission Accounting analysis.			

D. Netting Calculations and Discussion:

NA