

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

EFFECTIVE DATE: February 1, 2021  
REVISION DATES: May 4, 2021, August 18, 2021  
ISSUED TO

**Guardian Industries, LLC**

State Registration Number (SRN): B1877

LOCATED AT

14600 Romine Road, Carleton, Michigan 48117

**RENEWABLE OPERATING PERMIT**

Permit Number: MI-ROP-B1877-2021b

Expiration Date: February 1, 2026

Administratively Complete ROP Renewal Application Due Between  
August 1, 2024 and August 01, 2025

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-B1877-2021b

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

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Scott Miller, Jackson 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-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.

This permit does not relieve the permittee from any responsibilities or obligations imposed on the permittee, at the source under Consent Decree "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015," entered in 2015 between the USEPA and the permittee.

## 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).<sup>2</sup> **(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:"<sup>2</sup> **(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.<sup>1</sup> **(R 336.1901(a))**
  - b. Unreasonable interference with the comfortable enjoyment of life and property.<sup>1</sup> **(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).<sup>2</sup> **(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.<sup>2</sup> **(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.<sup>2</sup> **(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.<sup>2</sup> **(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.<sup>2</sup> **(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.<sup>2</sup> **(R 336.1201(4))**

#### **Footnotes:**

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

<sup>2</sup>This 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 source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

### POLLUTION CONTROL EQUIPMENT

NA

### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	8.9 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	SOURCE-WIDE	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	22.4 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	SOURCE-WIDE	SC VI.2	R 336.1205(3)

### 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 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.<sup>2</sup> (R 336.1205(3))
2. The permittee shall keep the following information on a monthly basis:<sup>2</sup> (R 336.1205(3))
  - a. Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
  - b. 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. For the first month

following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months.

- c. Calculations shall be based on the most recent approved stack test data, material usage data, emission factors, or other method acceptable to the AQD District Supervisor. The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.

**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:**

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

<sup>2</sup>This 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
EU00079	<p>Flat glass manufacturing Line #1 consisting of a raw material melting Furnace, glass forming and finishing, and glass cutting. Line #1 produces flat glass using the float method. Materials are weighed and mixed with water in the batch house before entering the natural gas fired Furnace. Glass then enters the tin bath to be formed and drawn. Next, it enters a Lehr to reduce its temperature. The natural gas-fired Furnace portion of the emission unit is controlled by a Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR). Pursuant to Paragraph 56 of Consent Decree, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015," the applicable requirements of the Consent Decree have been incorporated into this permit.</p> <p>The emission unit includes a 4,000 cubic foot Dry Scrubber reagent storage silo equipped with a passive bin vent and a 20,000 gallon pressurized aqueous ammonia storage tank.</p>	<p>05-01-1969 05-31-2018</p>	<p>NA</p>

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU00080	<p>Flat glass manufacturing Line #2 consisting of a raw material melting Furnace, glass forming and finishing, and glass cutting. Line #2 produces flat glass using the float method. Materials are weighed and mixed with water in the batch house before entering the natural gas fired Furnace. Glass then enters the tin bath to be formed and drawn. Next, it enters a lehr to reduce its temperature. The natural gas-fired Furnace portion of the emission unit is controlled by a Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR). Pursuant to Paragraph 56 of Consent Decree, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015," the applicable requirements of the Consent Decree have been incorporated into this permit.</p> <p>The emission unit includes a 3,000 cubic foot Dry Scrubber reagent storage silo equipped with a passive bin vent and a 20,000 gallon pressurized aqueous ammonia storage tank.</p>	<p>03-01-1972            04-10-2015            01-17-2018            09-04-2018</p>	NA
EUDUSTL1	Pulse jet dust collection system used to filter glass particles from crushing operation.	07-21-1989	NA
EUDUSTL2	Pulse jet dust collection system used to filter glass particles from crushing operation.	04-03-1991	NA
EUL2WASTESILO	800 ft <sup>3</sup> Line #2 air pollution control system waste silo equipped with a passive bin vent.	04-10-2015	NA
EUL1WASTESILO	800 ft <sup>3</sup> Line #1 air pollution control system waste silo equipped with a passive bin vent (PTI No. 51-18A).	07-09-2020	NA
EUFIREPUMP	Rule 285(2)(g) exempt existing compression ignition (CI) engine, 100-500 HP, subject to 40 CFR 63, Subpart ZZZZ.	01-01-2004	NA
EUGENERATOR1	Diesel oil fired emergency backup electrical generator with a maximum rated capacity of 2640 brake horsepower (BHP).	01-01-2000	FG00097
EUGENERATOR2	Diesel oil fired emergency backup electrical generator with a maximum rated capacity of 2640 brake horsepower (BHP).	01-01-2000	FG00097
EUCOLDCLEANERS	Used for rinsing machine parts. Cold cleaners are located in maintenance, crib/stock area; roller hearth; and at the sputter coating maintenance area.	01-01-1995	FG00098

**EU00079**  
**EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Flat glass manufacturing Line #1 consisting of a raw material melting Furnace, glass forming and finishing, and glass cutting. Line #1 produces flat glass using the float method. Materials are weighed and mixed with water in the batch house before entering the natural gas fired Furnace. Glass then enters the tin bath to be formed and drawn. Next, it enters a lehr to reduce its temperature. The natural gas-fired Furnace portion of the emission unit is controlled by a Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR). Pursuant to Paragraph 56 of Consent Decree, “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015,” the applicable requirements of the Consent Decree have been incorporated into this permit.

The emission unit includes a 4,000 cubic foot Dry Scrubber reagent storage silo equipped with a passive bin vent and a 20,000 gallon pressurized aqueous ammonia storage tank.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Catalyst impregnated ceramic filter air pollution Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR)

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.45 lb/ton of glass produced <sup>A, 2, 3, 4</sup>	Hourly	EU00079	SC V.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 19b; Act 451, Section 324.5503(b), R 336.1331(1)(c)
2. PM10	10.3 pph <sup>2</sup>	Hourly	EU00079	SC III.1, IV.3	40 CFR 52.21(c)&(d)
3. PM2.5	10.3 pph <sup>2</sup>	Hourly	EU00079	SC III.1, IV.3	40 CFR 52.21(c)&(d)
4. NOX	80% Removal Efficiency <sup>A, B, 2, 3, 4</sup>	30-day Rolling Average <sup>C</sup>	EU00079	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10b, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d)
5. NOX	6,314 lb/Day <sup>C, 2, 3, 4</sup>	24-hour Block Average (During Control Device Startup or Malfunction)	EU00079	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.ii, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. SO2	1.2 lb/ton of glass produced (normal Operation) <sup>A, D, 2, 3, 4</sup>	30-day Rolling Average <sup>E</sup>	EU00079	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.b, Act 451, Section 324.5503(b) 40 CFR 52.21(c)&(d)
7. SO2	3,095 lb/Day <sup>E, 2, 3, 4</sup>	24-hour Block Average (During DS or PF Startup or Malfunction)	EU00079	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.ii, Act 451, Section 324.5503(b) 40 CFR 52.21(c)&(d)
8. Glass manufacturing metal HAPs <sup>F</sup>	0.02 lb/ton of glass produced <sup>G, 2</sup>	Hourly	EU00079	SC V.1	R 336.1225 R 336.1959 40 CFR 63.11451
9. Sulfuric Acid Mist	1.6 pph <sup>A, 2, 3, 4</sup>	Hourly	EU00079	SC V.2	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 22, Act 451, Section 324.5503(b) R 336.1225

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
<p><sup>A</sup> Except during a Control Device or Furnace Startup or, for each pollutant, during Malfunction or Maintenance of a Control Device as specified below:</p> <ul style="list-style-type: none"> <li>• NO<sub>x</sub>: SCR, DS, or PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 10.a and 10.b, Act 451, Section 324.5503(b))</li> <li>• SO<sub>2</sub>: DS, PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.b, Act 451, Section 324.5503(b))</li> <li>• PM: PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 19.a and 19.b, Act 451, Section 324.5503(b))</li> <li>• H<sub>2</sub>SO<sub>4</sub>: DS or PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 22.a and 22.b, Act 451, Section 324.5503(b))</li> </ul> <p><sup>B</sup> The permittee shall demonstrate compliance with the 80%, 30-day Rolling Average NO<sub>x</sub> Removal using a NO<sub>x</sub> CEMS. The 30-day Rolling Average for each Calendar Day shall be determined as of the end of the Day. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 6.hhh and 10.b, Act 451, Section 324.5503(b))</p> <p><sup>C</sup> For each Operating Day that the SCR does not Operate or is not Operating normally because of the Control Device Startup or Malfunction of the SCR, DS, or PF for any period of time, the permittee may exclude that Day’s Removal Efficiency from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency. During the Day(s) excluded from the 30-day Rolling Average Emission Rate a CEMS shall be used to demonstrate the permittee’s compliance with a 6,314 lb/day NO<sub>x</sub> Limit on a 24-hour Block Average. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.ii, Act 451, Section 324.5503(b))</p> <p><sup>D</sup> The permittee shall demonstrate compliance with the 30-day Rolling Average SO<sub>2</sub> Emission Rate using an SO<sub>2</sub> CEMS. The 30-day Rolling Average for each Calendar Day shall be determined as of the end of the Day. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 6.ggg and 15.b, Act 451, Section 324.5503(b))</p> <p><sup>E</sup> For any Operating Day during Control Device Startup or on which a Malfunction of the DS or PF occurs, the permittee may exclude the emissions generated during that Operating Day (or Days) from the Furnace connected to that DS or PF from the 30-day Rolling Average Emission Rate. During the Day(s) excluded from the 30-day Rolling Average Emission Rate a CEMS shall be used to demonstrate the permittee’s compliance with a 3,095 lb/day SO<sub>2</sub> Limit on a 24-hour Block Average. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.ii, Act 451, Section 324.5503(b))</p> <p><sup>F</sup> Glass manufacturing metal HAPs: arsenic, cadmium, chromium, lead, manganese, and nickel.</p> <p><sup>G</sup> This limit does not apply until the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials.</p>					

10. For any Operating Day where Maintenance activities on the Furnace canals, SCR, DS, or PF are performed, the permittee may exclude the Maintenance Day from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency. For any Day which is excluded from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency, a NO<sub>x</sub> CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per Day limit.<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.iii, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

$$NO_{x\ SCR\ Maint} = \frac{MH \times NOx\ w/o\ SCR}{24} + \frac{NH \times NOx\ w/o\ SCR \times 0.2}{24}$$

Where: NO<sub>x SCR Maint</sub> = NO<sub>x</sub> emission limit during Maintenance of the Furnace canals, the SCR, the DS, or the PF, in pounds per Day  
 MH = Hours of Maintenance

NO<sub>x</sub> w/o SCR (lb/Day) = 6,314 lb/Day  
NH = Normal Hours = 24 - MH

11. **Alternative Compliance Option for NO<sub>x</sub>.** The permittee may elect to use the following alternative compliance option in lieu of complying with the NO<sub>x</sub> emission limits in SC I.4 and I.5, provided that the permittee satisfies the requirements below.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12, Act 451, Section 324.5503(b))
- If the permittee is able to reduce the 30-day Rolling Average Emission Rate into the SCR to less than 8.0 lb NO<sub>x</sub> per Ton of glass produced for at least 180 consecutive Days of normal Operation (excluding periods that qualify as Maintenance, Malfunction, Furnace Start-up, Control Device Start-up or Abnormally Low Production Rate Days), the permittee may notify USEPA and the AQD District Supervisor that it elects to comply with a 30-day Rolling Average Emission Rate of 1.6 lb NO<sub>x</sub> per Ton of glass produced (measured after the SCR) in lieu of the final NO<sub>x</sub> emission limit in SC I.4. The permittee shall comply with a 30-day Rolling Average Emission Rate of 1.6 lb NO<sub>x</sub> per Ton of glass produced 60 Days after the permittee provides notice to the USEPA and the AQD. After electing to comply with the alternative compliance option, the permittee may not revert to complying with the NO<sub>x</sub> emission limit in SC I.4. If the USEPA determines that the permittee has not satisfied any of the following criteria, the permittee must continue complying with the NO<sub>x</sub> emission limit in SC I.4.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12.a, Act 451, Section 324.5503(b))
  - The permittee’s notice must include all 30-day rolling average data for NO<sub>x</sub> for the 12-month period prior to the date the notice is submitted. The permittee must clearly identify any Days that it believes are exempted from the 30-day Rolling Average Emission Rate and indicate which exemption applies (i.e., Maintenance, Malfunction, Furnace or Control Device Start-up, or Abnormally Low Production Rate Days).<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12.b, Act 451, Section 324.5503(b))
  - The permittee’s notice must identify any equipment installed and explain all actions taken to achieve reduced emissions at the Furnace for which it seeks an Alternative Compliance Option. The permittee shall continue to operate any equipment and continue all actions necessary to maintain such emission reductions.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12.c, Act 451, Section 324.5503(b))
  - The permittee may not elect to comply with an alternative compliance option for EU00079 if there have been any exceedances of the Final NO<sub>x</sub> Emission Limit in SC I.4 within the preceding twelve (12) months.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12.d, Act 451, Section 324.5503(b))
  - The permittee must continue to operate the SCR at all times as required in CD 10 and/or 11. However, the permittee may also comply with a NO<sub>x</sub> Limit for Abnormally Low Production Rate Days, which shall be calculated as follows:<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 12.e, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

The permittee may exclude the NO<sub>x</sub> emissions generated from the Furnace during an Abnormally Low Production Rate Day (or Days) from the 30-day Rolling Average Emissions Rate. During these Days, a CEMS shall be used to demonstrate the permittee’s compliance on a 24-hour Block Average with the following pound per Day limit:

$$NO_{xAbn} = 1.6 \frac{\text{lb } NO_x}{\text{ton glass produced}} \times \frac{P}{0.35}$$

Where: NO<sub>xAbn</sub> = NO<sub>x</sub> emission limit, in pounds per Day, for the Furnace using SCR during Days when an Abnormally Low Production Rate is occurring  
P = Furnace-specific production threshold of 192 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

12. **SO<sub>2</sub> Limit During Maintenance of the Dry Scrubber or Particulate Control Device.** For any Operating Day when Maintenance is performed on the DS or PF, the permittee may exclude the emissions generated during that Operating Day (or Days) from the Furnace from the 30-day Rolling Average Emission Rate. During the Days excluded from the 30-day Rolling Average Emission Rate, a CEMS shall be used to demonstrate the permittee's compliance with the following pound per Day SO<sub>2</sub> limit on a 24-hour Block Average:<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.iii, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

$$SO_{2\text{Scrub Maint}} = \frac{MH \times SO_{2\text{ w/o DS}}}{24} + \frac{NH \times \left[ 1.2 \times \left( \frac{P}{0.35} \right) \right]}{24}$$

Where: SO<sub>2Scrub Maint</sub> = SO<sub>2</sub> emission limit during Maintenance of the DS, in pounds per Day  
 MH = Hours of Maintenance  
 SO<sub>2 w/o DS</sub> = SO<sub>2</sub> emission limit for the Furnace during an event where the DS is not operating, which is 3,095 pounds per Day  
 NH = Normal Hours = 24 – MH  
 P = Furnace-specific production threshold of 192 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

13. **SO<sub>2</sub> Limit during Abnormally Low Production Rate Days.** When the Furnace is Operating at an Abnormally Low Product Rate, the permittee may exclude the SO<sub>2</sub> emissions generated from the Furnace during the Operating Day (or Days) from the 30-day Rolling Average Emissions Rate. During the Days excluded from the 30-day Rolling Average Emissions Rate, a SO<sub>2</sub> CEMS shall be used to demonstrate the permittee's compliance with the following pound per Day SO<sub>2</sub> limit on a 24-hour Block Average:<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.iv, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

$$SO_{2\text{Abn}} = \frac{1.2 \text{ lb } SO_2}{\text{ton glass produced}} \times \frac{P}{0.35}$$

Where: SO<sub>2Abn</sub> = SO<sub>2</sub> emission limit (in pounds per Day) for the Furnace during Days when an Abnormally Low Production Rate is occurring  
 P = Furnace-specific production threshold of 192 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

14. In the event increased production capacity is allowed through a future Permit to Install, the daily emission limits in SC I.5 and I.7 may be increased by no more than the ratio below.<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 17, Act 451, Section 324.5503(b))

$$\text{New pound per day limit} = \text{Original pound per day limit} \times \frac{COD_{\text{new}}}{COD_{\text{old}}}$$

Where: COD<sub>new</sub> = New daily glass production in tons of glass per day  
 COD<sub>old</sub> = Original daily glass production in tons of glass per day

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Raw Glass Production	550 tons per Day <sup>2</sup>	Calendar Day	EU00079	SC VI.8	R 336.1205(3) R 336.1225 40 CFR 52.21(c) &(d)

2. The permittee shall burn only natural gas in EU00079.<sup>2</sup> (R 336.1225, R 336.1702, 40 CFR 52.21(c)&(d))

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EU00079 unless a Malfunction Abatement Plan (MAP) as described in Rule 911(2), has been implemented and is being maintained. The MAP shall, at a minimum, specify the following:
  - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 Days after such an event occurs. The permittee shall also amend the MAP within 45 Days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 Days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes under the amended plan to achieve compliance with all applicable emission limits.<sup>2</sup> (**R 336.1225, R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c)&(d), 40 CFR 63.11453(e)**)

2. No more than once every two (2) calendar years, the permittee may use up to 96 hours to complete a Canal Change on their downstream equipment. In the event a Canal Change becomes necessary in less than 2 years, Guardian shall notify EPA and the AQD District Supervisor at least 30 days prior to the Canal Change to provide the opportunity for the EPA and the AQD District Supervisor to investigate the necessity of Canal Change and object. During this period: the Furnace shall operate at an Abnormally Low Production Rate of less than 192 tons per day, good air pollution control practices shall be used at all times, the Dry Scrubber and Particulate Filter shall be operated, and the SCR shall be operated unless the inlet temperature or flow to the SCR drops to less than 115% of the minimum operating temperature or flow (as defined by the SCR vendor) for fifteen (15) consecutive minutes, the permittee may discontinue use of the SCR until temperature and flow stabilize at 115% of the recommended minimums.<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 30.b, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d)**)
3. At all times, including during Abnormally Low Production Rate Days, Furnace Startup, a Control Device Start-up, Malfunction, and Maintenance, the permittee shall maintain and operate the Furnace, all Control Devices, and any other associated air pollution control equipment in accordance with 40 CFR 60.11(d), taking into consideration ammonia slip.<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 29, Act 451, Section 324.5503(b), R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.1910, 40 CFR 52.21(c)&(d). 40 CFR 60.11(d)**)
4. For no more than the 30 days allowed for Furnace Startup, the Furnace exhaust may bypass the SCR and DS to avoid having the operating inlet temperature of the SCR and DS fall below its operational range. During these bypass Days the permittee shall burn no more than five (5) million standard cubic feet of natural gas in the Furnace per Day. When technically feasible and available, the permittee will operate the SCR and DS on the Furnace exhaust.<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraphs 10.c.i and 15.c.i, Act 451, Section 324.5503(b)**)
5. Any Operating hour that is exempted from the applicable 30-day Rolling Average Emission Rate because of Maintenance being performed on a Control Device is subject to the following restrictions and must comply with the following requirements:
  - a. Scheduled or preventive Maintenance of Control Devices shall occur and shall be completed while the Furnace connected to the Control Device is not Operating, unless the Furnace connected to the Control

- Device is scheduled to have a Continuous Operating Year.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 30.a, Act 451, Section 324.5503(b))
- b. During a Continuous Operating Year, scheduled or preventive Maintenance on the Control Device may be conducted while the Furnace connected to the Control Device is Operating.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 30.a, Act 451, Section 324.5503(b))
  - c. All Control Device Maintenance occurring during a Continuous Operating Year must also be performed in accordance with the following requirements:
    - i. Maintenance on all add-on control devices shall not exceed 144 hours total per Calendar Year.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 30.a.i, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))
    - ii. Bypassing the Control Device (or a portion of the Control Device) for the purpose of scheduled or preventive Maintenance shall not exceed 144 hours per Calendar Year.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraphs 30.a.ii, 30.a.iii and 30.a.iv, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

- 1. The permittee shall Operate the Furnace passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the Control Device; or Maintenance of the SCR, DS, or PF) through the SCR in compliance with the following:<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 10.a, Act 451, Section 324.5503(b))
  - a. The SCR must be designed for a removal efficiency of at least 90 percent NO<sub>x</sub>.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 10.a.i, Act 451, Section 324.5503(b))
  - b. While the SCR is operating, the permittee shall continuously operate the SCR in accordance with good air pollution control practice for minimizing emissions to the extent practicable, consistent with 40 CFR 60.11(d) taking into consideration Ammonia Slip.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 10.a.ii, Act 451, Section 324.5503(b))
- 2. The permittee shall Operate the Furnace passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the Control Device; or Maintenance of the SCR, DS, or PF) through a DS.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraphs 15.a and 22.a, Act 451, Section 324.5503(b))
- 3. The permittee shall Operate the Furnace passing all stack gases (except during Furnace Startup; Control Device Start-up; Malfunction of the Control Device; or Maintenance of the PF) through a PF.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 19.a, Act 451, Section 324.5503(b))
- 4. The permittee shall not Operate the EU00079 Control Device unless a gauge, which measures the pressure drop across the Control Device and sounds an alarm when the pressure drop exceeds the normal Operating range specified in the MAP required by SC III.1, is installed, maintained and Operated in a satisfactory manner.<sup>2</sup> (R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c)&(d))
- 5. The permittee shall install, calibrate, maintain and Operate in a satisfactory manner, a device to monitor and record the NO<sub>x</sub> and SO<sub>2</sub> emissions and flow from EU00079 on a continuous basis.<sup>2, 3, 4</sup> (40 CFR 52.21(c)&(d), “**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 26, Act 451, Section 324.5503(b))
- 6. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee shall not use metal HAP containing raw materials in EU00079 unless the Control Device is installed, maintained, and Operated in a satisfactory manner.<sup>2</sup> (R 336.1205, R 336.1224, R 336.1225, R 336.1910, R 336.1959, 40 CFR Part 63, Subpart SSSSS)
- 7. The permittee shall not Operate the EU00079 Dry Scrubber reagent silo unless the bin vent is installed, maintained, and Operated in a satisfactory manner.<sup>2</sup> (R 336.1331, R 336.1910, 40 CFR 52.21(c)&(d))

8. The permittee shall not fill the EU00079 ammonia tank unless the vapor balance system is installed, maintained and Operated in a satisfactory manner.<sup>2</sup> **(R 336.1225, R 336.1910)**
9. The permittee shall equip and maintain the EU00079 ammonia tank with both a pressure safety relief valve and vacuum breaker safety valve.<sup>2</sup> **(R 336.1225, R 336.1910)**

See Appendix 3

#### **V. TESTING/SAMPLING**

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

1. Within 120 days after the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee shall verify glass manufacturing HAP emission rates from EU00079 by testing at owner's expense, in accordance with Department requirements. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; or 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 90 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.<sup>2</sup> **(R 336.1205, R 336.1224, R 336.1225, R 336.1959, R 336.2001, R 336.2003, R 336.2004, 40 CFR Part 63, Subpart SSSSSS)**
2. The permittee shall verify Sulfuric Acid Mist emission rates from EU00079 by testing at owner's expense annually using Conditional Test Method CTM 13, 13A or B, in accordance with Department requirements and Appendix 5. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. No less than 90 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.<sup>2,3,4</sup> **(R 336.1225, R 336.2001, R 336.2003, R 336.2004, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 23, Act 451, Section 324.5503(b))**
3. The permittee shall verify PM emission rates from EU00079 by testing at owner's expense annually using Test Method 5 in 40 CFR Part 60, Appendix A, in accordance with Department requirements and Appendix 5. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. No less than 90 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.<sup>2,3,4</sup> **(R 336.1225, R 336.1331(1)(c), R 336.2001, R 336.2003, R 336.2004, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 21, Act 451, Section 324.5503(b))**
4. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee shall verify the HAPs emission rates from EU00079, 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))**

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 continuously monitor and record, in a satisfactory manner, the NO<sub>x</sub> and SO<sub>2</sub> emissions and flow from the furnace in EU00079. The permittee shall operate each Continuous Emission Monitoring System (CEMS) to meet the timelines, requirements and reporting detailed in Appendix 3 and shall use the CEMS data for determining compliance with SC I.4, I.5, I.6, I.7, I.10, I.11, I.12, and I.13.<sup>2, 3, 4</sup> **(40 CFR 52.21(c)&(d), “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 26, Act 451, Section 324.5503(b))**
2. NO<sub>x</sub> and SO<sub>2</sub> CEMS shall be installed, calibrated, certified, maintained, and operated in accordance with 40 CFR 60.13; 40 CFR Part 60, Appendix B (Performance Specification 2); and 40 CFR Part 60, Appendix F (Quality Assurance Procedures).<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 26.b, Act 451, Section 324.5503(b))**
3. NO<sub>x</sub> and SO<sub>2</sub> CEMS shall continuously monitor and record the hourly NO<sub>x</sub> and SO<sub>2</sub> emission concentrations in parts per million (ppm) during each Operating Day.<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 26.a, Act 451, Section 324.5503(b))**
4. When the CEMS is used to determine compliance with an emission rate (i.e., pounds per Ton, pounds per Day, or Tons per year) the data acquisition and handling system for the CEMS shall convert the ppm values into pounds per hour values using an O<sub>2</sub> CEMS or a flow monitor installed, calibrated, certified, maintained, and operated in accordance with 40 CFR 60.13; 40 CFR Part 60, Appendix B (Performance Specification 2 or 6, as applicable); and 40 CFR Part 60 Appendix F (Quality Assurance Procedures).<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 27, Act 451, Section 324.5503(b))**
5. At the end of each Operating Day, the data acquisition and handling system shall divide the total daily emissions in pounds per Day for valid CEMS hourly data by the total Tons of glass produced during the Operating Day (reduced proportionally based on the valid CEMS data hours) to describe the pound per Ton emission rate for the Operating Day. The resulting number shall be recorded in units of pounds of pollutant per Ton of glass produced for the Operating Day.<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 27, Act 451, Section 324.5503(b))**
6. Events that will trigger a CEMS Certification (or CEMS re-certification) include any Furnace Startup or Control Device Startup. The permittee shall commence such CEMS re-Certification no later than thirty (30) Days after Furnace Startup concludes, or a Control Device Startup period concludes. If a Furnace Startup and a Control Device Startup happen at the same time, then the CEMS re-certification shall not be conducted until the first Operating Day after the later startup event concludes.<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 26.d, Act 451, Section 324.5503(b))**
7. The permittee shall not perform CEMS Certification or CEMS re-Certifications during Abnormally Low Production Rate Days, Furnace Start-up, Control Device Start-up, Malfunction of any Control Device, or Maintenance of any Control Device. By no later than thirty (30) Days after any CEMS Certification Event concludes at the Furnace, except as provided in SC VI.6 for a concurrent Furnace Startup and Control Device Startup, a new CEMS Certification or CEMS re-Certification shall be performed for the Furnace. If a CEMS Certification Event occurs at the Furnace, the requirement to demonstrate compliance continuously with the emission limits in SC I.4, I.5, I.6, and I.7 will be suspended until CEMS Certification or CEMS re-Certification is complete (provided that the seven-day test required for CEMS Certification is commenced within thirty (30) Days following the conclusion of the CEMS Certification Event).<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 28, Act 451, Section 324.5503(b))**
8. The permittee shall keep, in a satisfactory manner, all daily raw glass production rate records for EU00079 on file at the facility and make them available to the Department upon request.<sup>2, 3, 4</sup> **(R 336.1205, R 336.1225, 40 CFR 52.21(c)&(d), “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 41, Act 451, Section 324.5503(b))**

9. The permittee shall record the time, reason, and duration of each Control Device bypass. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> **(R 336.1205, 40 CFR 52.21(c)&(d))**
10. The permittee shall record the date, reason, any corrective actions taken (if it was a malfunction), duration, CEMS data (in pounds of NO<sub>x</sub> and/or SO<sub>2</sub> per Day), and calculation of the applicable emissions (in pounds of NO<sub>x</sub> and/or SO<sub>2</sub> per Day) for each Operating Day(s) excluded from the 30-day Rolling Average Emission Rate calculation. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2, 3, 4</sup> **(40 CFR 52.21(c)&(d), “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 42, Act 451, Section 324.5503(b))**
11. The permittee shall maintain the following records for each EU00079 Furnace Start-up. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 43, Act 451, Section 324.5503(b))**
  - a. The amount of salt cake added to the batch materials, in pounds per ton of total batch material (including cullet).
  - b. The total natural gas usage in that Furnace, in million standard cubic feet.
  - c. The excess oxygen percentage, as measured and recorded using a probe and a portable analyzer in the crown of each Furnace regenerator (at least once per shift).
  - d. A description of whether thermal blankets or similar techniques were used during this period.
12. The permittee shall keep a record of the following information on file at the facility and make it available to the Department upon request.<sup>2, 3, 4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 41, Act 451, Section 324.5503(b))**
  - a. The hourly NO<sub>x</sub> emissions before and after the SCR as calculated using CEMS data, in ppm.
  - b. The hourly SO<sub>2</sub> emissions as calculated using CEMS data, in pounds per hour.
  - c. The 30-day rolling average NO<sub>x</sub> removal efficiency, if applicable.
  - d. The 30-day rolling average SO<sub>2</sub> emission rate, if applicable.
13. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee must submit an Initial Notification within 120 days after EU00079 becomes subject to 40 CFR Part 63, Subpart SSSSSS and must include the information specified in 40 CFR 63.9(b)(2)(i) through (iv). **(R 336.1959, 40 CFR 63.11456(b)(1))**
14. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee shall do one of the following:
  - a. If the permittee is required to conduct a performance test, the permit must submit a Notification of Compliance Status, including the performance test results, before the close of business on the 60<sup>th</sup> day following the completion of the performance test. **(R 336.1959, 40 CFR 63.11456(b)(1))**
  - b. If the permittee can satisfy the conditions specified in 40 CFR 63.11452(a)(2) and is not required to conduct a performance test, the permittee must submit a Notification of Compliance Status, including the results of the previous performance test, before the close of business 2 years from the date of when the glass manufacturing metals HAPs were used as raw materials. **(R 336.1959, 40 CFR 63.11456(b)(2))**
15. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee must keep the following records: **(R 336.1959, 40 CFR 63.11457(a))**
  - a. A copy of any Initial Notification and Notification of Compliance Status submitted and all documentation supporting those notifications.
  - b. The records specified in 40 CFR 63.10(b)(2) and (c)(1) through (13), as applicable to 40 CFR Part 63, Subpart SSSSSS.

- c. The records required to show continuous compliance with each emission limit that applies.
  - d. The records of production rate on a process throughput basis (either feed rate to the process unit or discharge rate from the process unit). The production data must include the amount (weight or weight percent) of each ingredient in the batch formulation, including all glass manufacturing metal HAP compounds.
  - e. Records of all required monitoring data and supporting information.
  - f. Records of any approved alternative monitoring method(s) or test procedure(s).
16. The permittee's records must be in a form suitable and readily available for expeditious review. **(R 336.1959, 40 CFR 63.11457(b))**
17. The permittee must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee may keep the records offsite for the remaining 3 years. **(R 336.1959, 40 CFR 63.11457(d))**

See Appendices 3 and 4

**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, including RATA 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. SVL 1001	102 <sup>2</sup>	199 <sup>2</sup>	R 336.1225 40 CFR 52.21(c)&(d)

**IX. OTHER REQUIREMENT(S)**

1. Once the permittee begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, the permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources, as specified in 40 CFR Part 63, Subparts A and SSSSSS, as they apply to EU00079.<sup>2</sup> **(R 336.1959, 40 CFR Part 63, Subparts A and SSSSSS)**

**Footnotes:**

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

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

<sup>3</sup> This condition is federally enforceable and was originally established in the consent decree settling, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.

<sup>4</sup> Definitions specific to this condition can be found in Appendix 1-B, Definitions.

**EU00080**  
**EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Flat glass manufacturing Line #2 consisting of a raw material melting Furnace, glass forming and finishing, and glass cutting. Line #2 produces flat glass using the float method. Materials are weighed and mixed with water in the batch house before entering the natural gas fired Furnace. Glass then enters the tin bath to be formed and drawn. Next, it enters a lehr to reduce its temperature. The natural gas-fired portion of the emission unit is controlled by a Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR). Pursuant to Paragraph 56 of USEPA Consent Decree in Civil Case 15-13426 (CD), the applicable requirements of the CD have been incorporated into this permit.

The emission unit includes a 3,000 cubic foot Dry Scrubber reagent storage silo equipped with a passive bin vent and a 20,000 gallon pressurized aqueous ammonia storage tank.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Catalyst impregnated ceramic filter air pollution Control Device consisting of a Dry Scrubber (DS), Particulate Filter (PF), and Selective Catalytic Reduction (SCR)

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.45 lb/ton of glass produced <sup>A, 2, 3, 4</sup>	Hourly	EU00080	SC V.4	"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 19.3b, Act 451, Section 324.5503(b) R 336.1331(1)(c)
2. PM10	12.2 pph <sup>2</sup>	Hourly	EU00080	SC III.1, IV.3	R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
3. PM2.5	12.2 pph <sup>2</sup>	Hourly	EU00080	SC III.1, IV.3	R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
4. NO <sub>x</sub>	80% Removal Efficiency <sup>A, B, 2, 3, 4</sup>	30-day Rolling Average <sup>C</sup>	EU00080	SC VI.3	"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 10.b, Act 451, Section 324.5503(b) R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
5. NO <sub>x</sub>	10,433 lb/Day <sup>C, 2, 3, 4</sup>	24-hour Block Average (During Control Device Startup or Malfunction)	EU00080	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.ii, Act 451, Section 324.5503(b) R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
6. SO <sub>2</sub>	1.2 lb/ton of glass produced (normal Operation) <sup>A, D 2, 3, 4</sup>	30-day Rolling Average <sup>E</sup>	EU00080	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.b, Act 451, Section 324.5503(b) R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
7. SO <sub>2</sub>	3,224 lb/Day <sup>2</sup>	24-hour Block Average (During Furnace Startup)	EU00080	SC VI.3	R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
8. SO <sub>2</sub>	3,224 lb/Day <sup>E, 2, 3, 4</sup>	24-hour Block Average (During DS or PF Startup or Malfunction)	EU00080	SC VI.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.ii, Act 451, Section 324.5503(b)
9. Selenium	2.03 pph <sup>2</sup>	Hourly	EU00080	SC V.1	R 336.1205(3) R 336.1225
10. Glass manufacturing metal HAPs <sup>F</sup>	0.02 lb/ton of glass produced <sup>2</sup>	Hourly	EU00080	SC V.2	R 336.1225 R 336.1959 40 CFR 63.11451
11. Sulfuric Acid Mist	1.6 pph <sup>A, 2, 3, 4</sup>	Hourly	EU00080	SC V.3	“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 22, Act 451, Section 324.5503(b) R 336.1225

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
<p><sup>A</sup> Except during a Control Device or Furnace Startup or, for each pollutant, during Malfunction or Maintenance of a Control Device as specified below:</p> <ul style="list-style-type: none"> <li>• NO<sub>x</sub>: SCR, DS, or PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 10.a and 10.b, Act 451, Section 324.5503(b))</li> <li>• SO<sub>2</sub>: DS, PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.b, Act 451, Section 324.5503(b))</li> <li>• PM: PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 19.a and 19.b, Act 451, Section 324.5503(b))</li> <li>• H<sub>2</sub>SO<sub>4</sub>: DS or PF (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 22.a and 22.b, Act 451, Section 324.5503(b))</li> </ul> <p><sup>B</sup> The permittee shall demonstrate compliance with the 80%, 30-day Rolling Average NO<sub>x</sub> Removal using a NO<sub>x</sub> CEMS. The 30-day Rolling Average for each Calendar Day shall be determined as of the end of the Day. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 6.hhh and 10.b, Act 451, Section 324.5503(b))</p> <p><sup>C</sup> For each Operating Day that the SCR does not Operate or is not Operating normally because of the Control Device Startup or Malfunction of the SCR, DS, or PF for any period of time, the permittee may exclude that Day’s Removal Efficiency from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency. During the Day(s) excluded from the 30-day Rolling Average Emission Rate a CEMS shall be used to demonstrate the permittee’s compliance with a 10,433 lb/day NO<sub>x</sub> Limit on a 24-hour Block Average. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.ii, Act 451, Section 324.5503(b))</p> <p><sup>D</sup> The Permittee shall demonstrate compliance with the 30-day Rolling Average SO<sub>2</sub> Emission Rate using an SO<sub>2</sub> CEMS. The 30-day Rolling Average for each Calendar Day shall be determined as of the end of the Day. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 6.ggg and 15.b, Act 451, Section 324.5503(b))</p> <p><sup>E</sup> For any Operating Day during Control Device Startup or on which a Malfunction of the DS or PF occurs, the permittee may exclude the emissions generated during that Operating Day (or Days) from the Furnace connected to that DS or PF from the 30-day Rolling Average Emission Rate. During the Day(s) excluded from the 30-day Rolling Average Emission Rate a CEMS shall be used to demonstrate the permittee’s compliance with a 3,224 lb/day SO<sub>2</sub> Limit on a 24-hour Block Average. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 15.c.ii, Act 451, Section 324.5503(b))</p> <p><sup>F</sup> Glass manufacturing HAPs: arsenic, cadmium, chromium, lead, manganese, and nickel.</p>					

12. For any Operating Day where Maintenance activities on the Furnace canals, SCR, DS, or PF are performed, the permittee may exclude the Maintenance Day from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency. For any Day which is excluded from the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency, a NO<sub>x</sub> CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per Day limit.<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.c.ii, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))

$$NO_{x\ SCR\ Maint} = \frac{MH \times NO_{x\ w/o\ SCR}}{24} + \frac{NH \times NO_{x\ w/o\ SCR} \times 0.2}{24}$$

Where: NO<sub>x SCR Maint</sub> = NO<sub>x</sub> emission limit during Maintenance of the Furnace canals, the SCR, the DS, or the PF, in pounds per Day

MH = Hours of Maintenance  
 NO<sub>x w/o SCR</sub> (lb/Day) = 10,433 lb/Day  
 NH = Normal Hours = 24 - MH

13. **Alternative Compliance Option for NO<sub>x</sub>**. The permittee may elect to use the following alternative compliance option in lieu of complying with the NO<sub>x</sub> emission limits in SC I.4 and I.5, provided that the permittee satisfies the requirements below.<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12, Act 451, Section 324.5503(b))
- a. If the permittee is able to reduce the 30-day Rolling Average Emission Rate into the SCR to less than 8.0 lb NO<sub>x</sub> per Ton of glass produced for at least 180 consecutive Days of normal Operation (excluding periods that qualify as Maintenance, Malfunction, Furnace Start-up, Control Device Start-up or Abnormally Low Production Rate Days), the permittee may notify USEPA and the AQD District Supervisor that it elects to comply with a 30-day Rolling Average Emission Rate of 1.6 lb NO<sub>x</sub> per Ton of glass produced (measured after the SCR) in lieu of the final NO<sub>x</sub> emission limit in SC I.4. The permittee shall comply with a 30-day Rolling Average Emission Rate of 1.6 lb NO<sub>x</sub> per Ton of glass produced 60 Days after the permittee provides notice to the USEPA and the AQD. After electing to comply with the alternative compliance option, the permittee may not revert to complying with the NO<sub>x</sub> emission limit in SC I.4. If the USEPA determines that the permittee has not satisfied any of the following criteria, the permittee must continue complying with the NO<sub>x</sub> emission limit in SC I.4. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12.a, Act 451, Section 324.5503(b))
  - b. The permittee’s notice must include all 30-day Rolling Average Data for NO<sub>x</sub> for the 12-month period prior to the date the notice is submitted. The permittee must clearly identify any Days that it believes are exempted from the 30-day Rolling Average Emission Rate and indicate which exemption applies (i.e., Maintenance, Malfunction, Furnace or Control Device Start-up, or Abnormally Low Production Rate Days). (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12.b, Act 451, Section 324.5503(b))
  - c. The permittee’s notice must identify any equipment installed and explain all actions taken to achieve reduced emissions at the Furnace for which it seeks an Alternative Compliance Option. The permittee shall continue to operate any equipment and continue all actions necessary to maintain such emission reductions. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12.c, Act 451, Section 324.5503(b))
  - d. The permittee may not elect to comply with an alternative compliance option for EU00080 if there have been any exceedances of the Final NO<sub>x</sub> Emission Limit in SC I.4 within the preceding twelve (12) months. (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12.d, Act 451, Section 324.5503(b))
  - e. The permittee must continue to operate the SCR at all times as required in CD 10 and/or 11. However, the permittee may also comply with a NO<sub>x</sub> Limit for Abnormally Low Production Rate Days, which shall be calculated as follows:<sup>2, 3, 4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 12.e, Act 451, Section 324.5503(b), R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))

The permittee may exclude the NO<sub>x</sub> emissions generated from the Furnace during an Abnormally Low Production Rate Day (or Days) from the 30-day Rolling Average Emissions Rate. During these Days, a CEMS shall be used to demonstrate the permittee’s compliance on a 24-hour Block Average with the following pound per Day limit:

$$NO_{xAbn} = 1.6 \frac{lb NO_x}{ton\ glass\ produced} \times \frac{P}{0.35}$$

Where: NO<sub>xAbn</sub> = NO<sub>x</sub> emission limit, in pounds per Day, for the Furnace using SCR during Days when an Abnormally Low Production Rate is occurring  
P = Furnace-specific production threshold of 228 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

14. **SO<sub>2</sub> Limit During Maintenance of the Dry Scrubber or Particulate Control Device.** For any Operating Day when Maintenance is performed on the DS or PF, the permittee may exclude the emissions generated during that Operating Day (or Days) from the Furnace from the 30-Day Rolling Average Emission Rate. During the Days excluded from the 30-day Rolling Average Emission Rate, a CEMS shall be used to demonstrate the permittee's compliance with the following pound per Day SO<sub>2</sub> limit on a 24-hour Block Average:<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 15.c.iii, Act 451, Section 324.5503(b), R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)**)

$$SO_{2\text{Scrub Maint}} = \frac{MH \times SO_{2\text{ w/o DS}}}{24} + \frac{NH \times \left[ 1.2 \times \left( \frac{P}{0.35} \right) \right]}{24}$$

Where: SO<sub>2Scrub Maint</sub> = SO<sub>2</sub> emission limit during Maintenance of the DS, in pounds per Day  
 MH = Hours of Maintenance  
 SO<sub>2 w/o DS</sub> = SO<sub>2</sub> emission limit for the Furnace during an event where the DS is not operating, which is 3,224 pounds per Day  
 NH = Normal Hours = 24 – MH  
 P = Furnace-specific production threshold of 228 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

15. **SO<sub>2</sub> Limit during Abnormally Low Production Rate Days.** When the Furnace is Operating at an Abnormally Low Product Rate, the permittee may exclude the SO<sub>2</sub> emissions generated from the Furnace during the Operating Day (or Days) from the 30-day Rolling Average Emissions Rate. During the Days excluded from the 30-day Rolling Average Emissions Rate, a SO<sub>2</sub> CEMS shall be used to demonstrate the permittee's compliance with the following pound per Day SO<sub>2</sub> limit on a 24-hour Block Average:<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 15.c.iv, Act 451, Section 324.5503(b), R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)**)

$$SO_{2\text{Abn}} = \frac{1.2 \text{ lb } SO_2}{\text{ton glass produced}} \times \frac{P}{0.35}$$

Where: SO<sub>2Abn</sub> = SO<sub>2</sub> emission limit (in pounds per Day) for the Furnace during Days when an Abnormally Low Production Rate is occurring  
 P = Furnace-specific production threshold of 228 Tons of glass produced per Day (e.g. the Abnormally Low Production Rate).

16. In the event increased production capacity is allowed through a future Permit to Install, the daily emission limits in SC I.5, I.7, and I.8 may be increased by no more than the ratio below.<sup>2, 3, 4</sup> (**"U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 17, Act 451, Section 324.5503(b)**)

$$\text{New pound per day limit} = \text{Original pound per day limit} \times \frac{COD_{\text{new}}}{COD_{\text{old}}}$$

Where: COD<sub>new</sub> = New daily glass production in tons of glass per day  
 COD<sub>old</sub> = Original daily glass production in tons of glass per day

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Raw Glass Production	650 tons per Day <sup>2</sup>	Calendar Day	EU00080	SC VI.1	<b>R 336.1205(3) R 336.1225 R 336.1702 R 336.2803 R 336.2804 40 CFR 52.21(c)&amp;(d)</b>

2. The permittee shall burn only natural gas in EU00080.<sup>2</sup> **(R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EU00080 unless a Malfunction Abatement Plan (MAP) as described in Rule 911(2), has been implemented and is being maintained. The MAP shall, at a minimum, specify the following:
  - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 Days after such an event occurs. The permittee shall also amend the MAP within 45 Days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 Days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes under the amended plan to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1959, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d), 40 CFR 63.11453(e))**

2. No more than once every two (2) calendar years, the permittee may use up to 96 hours to complete a Canal Change on their downstream equipment. In the event a Canal Change becomes necessary in less than 2 years, Guardian shall notify EPA and the AQD District Supervisor at least 30 days prior to the Canal Change to provide the opportunity for the EPA and the AQD District Supervisor to investigate the necessity of Canal Change and object. During this period: the Furnace shall operate at an Abnormally Low Production Rate of less than 228 tons per day, good air pollution control practices shall be used at all times, the Dry Scrubber and Particulate Filter shall be operated, and the SCR shall be operated unless the inlet temperature or flow to the SCR drops to less than 115% of the minimum operating temperature or flow (as defined by the SCR vendor) for fifteen (15) consecutive minutes, the permittee may discontinue use of the SCR until temperature and flow stabilize at 115% of the recommended minimums.<sup>2,3,4</sup> **(“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 30.b, Act 451, Section 324.5503(b), R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))**

3. At all times, including during Abnormally Low Production Rate Days, Furnace Startup, a Control Device Start-up, Malfunction, and Maintenance, the permittee shall maintain and operate the Furnace, all Control Devices, and any other associated air pollution control equipment in accordance with 40 CFR § 60.11(d), taking into consideration ammonia slip.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 29, Act 451, Section 324.5503(b), R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d). 40 CFR 60.11(d))
4. For no more than the 30 days allowed for Furnace Startup, the Furnace exhaust may bypass the SCR and DS to avoid having the operating inlet temperature of the SCR and DS fall below its operational range. During these bypass Days, the permittee shall burn no more than five (5) million standard cubic feet of natural gas in the Furnace per Day. When technically feasible and available, the permittee will operate the SCR and DS on the Furnace exhaust.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 10.c.i and 15.c.i, Act 451, Section 324.5503(b))
5. Any Operating hour that is exempted from the applicable 30-day Rolling Average Emission Rate because of Maintenance being performed on a Control Device is subject to the following restrictions and must comply with the following requirements:
  - a. Scheduled or preventive Maintenance of Control Devices shall occur and shall be completed while the Furnace connected to the Control Device is not Operating, unless the Furnace connected to the Control Device is scheduled to have a Continuous Operating Year.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 30.a, Act 451, Section 324.5503(b))
  - b. During a Continuous Operating Year, scheduled or preventive Maintenance on the Control Device may be conducted while the Furnace connected to the Control Device is Operating.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 30.a, Act 451, Section 324.5503(b))
  - c. All Control Device Maintenance occurring during a Continuous Operating Year must also be performed in accordance with the following requirements:
    - i. Maintenance on all add-on control devices shall not exceed 144 hours total per Calendar Year.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 30.a.i, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))
    - ii. Bypassing the Control Device (or a portion of the Control Device) for the purpose of scheduled or preventive Maintenance shall not exceed 144 hours per Calendar Year.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 30.a.ii, 30.a.iii and 30.a.iv, Act 451, Section 324.5503(b), 40 CFR 52.21(c)&(d))
6. The total time during which NO<sub>x</sub> emissions may be exempted from the 30-day Rolling Average Emission Rate because of Maintenance being performed on a Control Device shall not exceed 144 hours per calendar year.<sup>2</sup> (R 336.2802, 40 CFR 52.21(c)&(d))

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall Operate the Furnace passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the Control Device; or Maintenance of the SCR, DS, or PF) through the SCR in compliance with the following:<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.a, Act 451, Section 324.5503(b))
  - a. The SCR must be designed for a removal efficiency of at least 90 percent NO<sub>x</sub>.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.a.i, Act 451, Section 324.5503(b))
  - b. While the SCR is operating, the permittee shall continuously operate the SCR in accordance with good air pollution control practice for minimizing emissions to the extent practicable, consistent with 40 CFR 60.11(d) taking into consideration Ammonia Slip.<sup>2,3,4</sup> (“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 10.a.ii, Act 451, Section 324.5503(b))
2. The permittee shall Operate the furnace passing all stack gases (except during Furnace Startup; Control Device Startup; Malfunction of the Control Device; or Maintenance of the SCR, DS, or PF) through a DS.<sup>2,3,4</sup> (“U.S. et

**al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraphs 15.a and 22.a, Act 451, Section 324.5503(b))**

3. The permittee shall Operate the Furnace passing all stack gases (except during Furnace Startup; Control Device Start-up; Malfunction of the Control Device; or Maintenance of the PF) through a PF.<sup>2,3,4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 19.a, Act 451, Section 324.5503(b))**)
4. The permittee shall not Operate the EU00080 Control Device unless a gauge, which measures the pressure drop across the Control Device and sounds an alarm when the pressure drop exceeds the normal Operating range specified in the MAP required by SC III.1, is installed, maintained and Operated in a satisfactory manner.<sup>2</sup> (**R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))**)
5. The permittee shall install, calibrate, maintain and Operate in a satisfactory manner, a device to monitor and record the NO<sub>x</sub> and SO<sub>2</sub> emissions and flow from EU00080 on a continuous basis.<sup>2</sup> (**R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))**)
6. The permittee shall not use metal HAP containing raw materials in EU00080 unless the Control Device is installed, maintained, and Operated in a satisfactory manner.<sup>2</sup> (**R 336.1205, R 336.1224, R 336.1225, R 336.1910, R 336.1959, 40 CFR Part 63, Subpart SSSSSS**)
7. The permittee shall not Operate the EU00080 Dry Scrubber reagent silo unless the bin vent is installed, maintained, and Operated in a satisfactory manner.<sup>2</sup> (**R 336.1331, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d))**)
8. The permittee shall not fill the EU00080 ammonia tank unless the vapor balance system is installed, maintained and Operated in a satisfactory manner.<sup>2</sup> (**R 336.1225, R 336.1910**)
9. The permittee shall equip and maintain the EU00080 ammonia tank with both a pressure safety relief valve and vacuum breaker safety valve.<sup>2</sup> (**R 336.1225, R 336.1910**)

**See Appendix 3**

**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 selenium emission rates from EU00080 by testing at owner's expense, in accordance with Department requirements. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; or 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 90 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.<sup>2</sup> (**R 336.1205, R 336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004**)
2. The permittee shall verify glass manufacturing HAP emission rates from EU00080 by testing at owner's expense, in accordance with Department requirements. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; or 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 90 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.<sup>2</sup> (R 336.1205, R 336.1224, R 336.1225, R 336.2001, R 336.1959, R 336.2003, R 336.2004, 40 CFR Part 63, Subpart SSSSS)

3. The permittee shall verify Sulfuric Acid Mist emission rates from EU00080 by testing at owner's expense annually using Conditional Test Method CTM 13, 13A or B, in accordance with Department requirements and Appendix 1. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. No less than 90 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.<sup>2, 3, 4</sup> (R 336.1225, R 336.2001, R 336.2003, R 336.2004, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 23, Act 451, Section 324.5503(b))
4. The permittee shall verify PM emission rates from EU00080 by testing at owner's expense annually using Test Method 5 in 40 CFR Part 60, Appendix A, in accordance with Department requirements and Appendix 5. The hourly emission rate during testing shall be determined by the average of the acceptable test runs per the method requirements. No less than 90 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.<sup>2, 3, 4</sup> (R 336.1225, R 336.1331(1)(c), R 336.2001, R 336.2003, R 336.2004, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 21, Act 451, Section 324.5503(b))
5. The permittee shall verify the selenium and glass manufacturing HAPs emission rates from EU00080, 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)
6. 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 continuously monitor and record, in a satisfactory manner, the NO<sub>x</sub> and SO<sub>2</sub> emissions and flow from the furnace in EU00080. The permittee shall operate each Continuous Emission Monitoring System (CEMS) to meet the timelines, requirements and reporting detailed in Appendix B and shall use the CEMS data for determining compliance with SC I.4, I.5, I.6, I.7, I.12, I.13, I.14, and I.15.<sup>2, 3, 4</sup> (R 336.1205, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d), "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 25, Act 451, Section 324.5503(b))
2. NO<sub>x</sub> and SO<sub>2</sub> CEMS shall be installed, calibrated, certified, maintained, and operated in accordance with 40 CFR 60.13; 40 CFR Part 60, Appendix B (Performance Specification 2); and 40 CFR Part 60, Appendix F (Quality Assurance Procedures).<sup>2, 3, 4</sup> ("U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 26.b, Act 451, Section 324.5503(b))
3. NO<sub>x</sub> and SO<sub>2</sub> CEMS shall continuously monitor and record the hourly NO<sub>x</sub> and SO<sub>2</sub> emission concentrations in parts per million (ppm) during each Operating Day.<sup>2, 3, 4</sup> ("U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" paragraph 26.a, Act 451, Section 324.5503(b))
4. When the CEMS is used to determine compliance with an emission rate (i.e., pounds per Ton, pounds per Day, or Tons per year) the data acquisition and handling system for the CEMS shall convert the ppm values into pounds per hour values using an O<sub>2</sub> CEMS or a flow monitor installed, calibrated, certified, maintained, and operated in accordance with 40 CFR 60.13; 40 CFR Part 60, Appendix B (Performance Specification 2 or 6, as

applicable); and 40 CFR Part 60 Appendix F (Quality Assurance Procedures).<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 27, Act 451, Section 324.5503(b))

5. At the end of each Operating Day, the data acquisition and handling system shall divide the total daily emissions in pounds per Day for valid CEMS hourly data by the total Tons of glass produced during the Operating Day (reduced proportionally based on the valid CEMS data hours) to describe the pound per Ton emission rate for the Operating Day. The resulting number shall be recorded in units of pounds of pollutant per Ton of glass produced for the Operating Day.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 27, Act 451, Section 324.5503(b))
6. Events that will trigger a CEMS Certification (or CEMS re-certification) include any Furnace Startup or Control Device Startup. The permittee shall commence such CEMS re-Certification no later than thirty (30) Days after Furnace Startup concludes, or a Control Device Startup period concludes. If a Furnace Startup and a Control Device Startup happen at the same time, then the CEMS re-certification shall not be conducted until the first Operating Day after the later startup event concludes.<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 26.d, Act 451, Section 324.5503(b))
7. The permittee shall not perform CEMS Certification or CEMS re-Certifications during Abnormally Low Production Rate Days, Furnace Start-up, Control Device Start-up, Malfunction of any Control Device, or Maintenance of any Control Device. By no later than thirty (30) Days after any CEMS Certification Event concludes at the Furnace, except as provided in SC VI.6 for a concurrent Furnace Startup and Control Device Startup, a new CEMS Certification or CEMS re-Certification shall be performed for the Furnace. If a CEMS Certification Event occurs at the Furnace, the requirement to demonstrate compliance continuously with the emission limits in SC I.4, I.5, I.6, I.7, and I.8 will be suspended until CEMS Certification or CEMS re-Certification is complete (provided that the seven-day test required for CEMS Certification is commenced within thirty (30) Days following the conclusion of the CEMS Certification Event).<sup>2, 3, 4</sup> (“**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 28, Act 451, Section 324.5503(b))
8. The permittee shall keep, in a satisfactory manner, all daily raw glass production rate records for EU00080 on file at the facility and make them available to the Department upon request.<sup>2</sup> (**R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)**, “**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 41, Act 451, Section 324.5503(b))
9. The permittee shall keep, in a satisfactory manner, monthly natural gas usage rate records for EU00080 on file at the facility and make them available to the Department upon request.<sup>2</sup> (**R 336.1205, R 336.1225, R 336.1702, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)**)
10. The permittee shall record the time, reason, and duration of each Control Device bypass. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> (**R 336.1205, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)**)
11. The permittee shall record the date, reason, any corrective actions taken (if it was a malfunction), duration, CEMS data (in pounds of NO<sub>x</sub> and/or SO<sub>2</sub> per Day), and calculation of the applicable emissions (in pounds of NO<sub>x</sub> and/or SO<sub>2</sub> per Day) for each Operating Day(s) excluded from the 30-day Rolling Average Emission Rate calculation. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2, 3, 4</sup> (**R 336.1201(3)**, “**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 42, Act 451, Section 324.5503(b))
12. The permittee shall maintain the following records for each EU00080 Furnace Start-up. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2, 3, 4</sup> (**R 336.1201(3)**, “**U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015**” paragraph 43, Act 451, Section 324.5503(b))
  - a. The amount of salt cake added to the batch materials, in pounds per ton of total batch material (including cullet).
  - b. The total natural gas usage in that Furnace, in million standard cubic feet.

- c. The excess oxygen percentage, as measured and recorded using a probe and a portable analyzer in the crown of each Furnace regenerator (at least once per shift).
  - d. A description of whether thermal blankets or similar techniques were used during this period.
13. The permittee shall keep a record of the following information on file at the facility and make it available to the Department upon request:<sup>2, 3, 4</sup> (**“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 41, Act 451, Section 324.5503(b)**)
- a. The hourly NO<sub>x</sub> emissions before and after the SCR as calculated using CEMS data, in ppm
  - b. The hourly SO<sub>2</sub> emissions as calculated using CEMS data, in pounds per hour
  - c. The 30-day rolling average NO<sub>x</sub> removal efficiency, if applicable
  - d. The 30-day rolling average SO<sub>2</sub> emission rate, if applicable
14. The permittee shall calculate and keep records of the annual emissions of NO<sub>x</sub> from EU00080 as described in Appendix 4, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of EU00080 resume and shall continue for ten (10) years.<sup>2</sup> (**R 336.2818**)
15. The permittee must keep the following records: (**R 336.1959, 40 CFR 63.11457(a)**)
- a. A copy of any Initial Notification and Notification of Compliance Status submitted and all documentation supporting those notifications.
  - b. The records specified in 40 CFR 63.10(b)(2) and (c)(1) through (13), as applicable to 40 CFR Part 63, Subpart SSSSSS.
  - c. The records required to show continuous compliance with each emission limit that applies.
  - d. The records of production rate on a process throughput basis (either feed rate to the process unit or discharge rate from the process unit). The production data must include the amount (weight or weight percent) of each ingredient in the batch formulation, including all glass manufacturing metal HAP compounds.
  - e. Records of all required monitoring data and supporting information.
  - f. Records of any approved alternative monitoring method(s) or test procedure(s).
16. The permittee's records must be in a form suitable and readily available for expeditious review. (**R 336.1959, 40 CFR 63.11457(b)**)
17. The permittee must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee may keep the records offsite for the remaining three years. (**R 336.1959, 40 CFR 63.11457(d)**)

**See Appendices 3 and 4**

## **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 NO<sub>x</sub> from EU00080 described in Appendix 4, in tons per calendar year, to the AQD Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:

- a. The calendar year actual emission of NO<sub>x</sub> exceeds the baseline actual emissions 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.14, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection).<sup>2</sup> **(R 336.2818)**

5. The permittee shall submit any performance test reports including RATA 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. SVFURN2	78 <sup>2</sup>	150 <sup>2</sup>	<b>R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c)&amp;(d)</b>

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources, as specified in 40 CFR Part 63, Subparts A and SSSSSS, as they apply to EU00080.<sup>2</sup> **(R 336.1959, 40 CFR Part 63, Subparts A and SSSSSS)**

**Footnotes:**

- <sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
- <sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).
- <sup>3</sup> This condition is federally enforceable and was originally established in the consent decree settling, "U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015" and also pursuant to Act 451, Section 324.5503(b), and will remain in effect after termination of the consent decree.
- <sup>4</sup> Definitions specific to this condition can be found in Appendix 1-B, Definitions.

**EUDUSTL1  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Pulse jet dust collection system used to filter glass particles from crushing operation.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Pulse jet dust collection system

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter	0.05 lbs. per 1000 lbs. of exhaust gas, calculated on a dry gas basis <sup>2</sup>	Instantaneous	EUDUSTL1	SC VI.1 SC VI.3	<b>R 336.1331</b>
2. Visible Emissions	0% Opacity <sup>2</sup>	Instantaneous	EUDUSTL1	SC VI.4	<b>R 336.1331(1)(c)</b>

**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 continuously measure the pressure drop and record daily as an indicator of proper operation of the dust collector. The indicator range is 0 to 8 inches of H<sub>2</sub>O. **(R 336.213(3))**
2. The pressure gauge shall continuously monitor the differential pressure of the baghouse. The averaging period is instantaneous. If the monitor has been determined to be defective, it shall be replaced with a factory calibrated monitor. **(R 336.213(3))**

- The permittee shall perform, and document non-certified visible emissions observations as required in SC I.2 on a daily basis when the emission point in EUDUSTL1 is operating. If during the observation there are any visible emissions detected from an emission point, a USEPA Method 9 certified visible emissions observation shall be conducted for a minimum of 15 minutes to determine the actual opacity from that emission point. Records of the non-certified visible emissions observations, USEPA Method 9 observations that are performed, the reason for any visible emissions observed and any corrective actions taken shall be kept on file and in a format acceptable to the AQD. **(R 336.213(3), R 336.1301(1)(c))**

**VII. REPORTING**

- Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- 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))**
- 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. SVL10021	24 X 24 <sup>2</sup>	30 <sup>2</sup>	R 336.1201(3)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

**EUDUSTL2  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Pulse jet dust collection system used to filter glass particles from crushing operation.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Pulse jet dust collection system.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter	0.10 lbs. per 1000 lbs. of exhaust gases, calculated on a dry gas basis <sup>2</sup>	Instantaneous	EUDUSTL2	SC VI.1 SC VI.3	R 336.1331

**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 continuously measure the pressure drop and record daily as an indicator of proper operation of the dust collector. The indicator range is 0 to 8 inches of H<sub>2</sub>O. **(40 CFR 64.6(c)(1)(i and ii))**
2. The pressure gauge shall continuously monitor the differential pressure of the baghouse. The averaging period is instantaneous. If the monitor has been determined to be defective, it shall be replaced with a factory calibrated monitor. **(40 CFR 64.6(c)(1)(iii))**
3. An excursion is a departure from the indicator range of 0 to 8 inches H<sub>2</sub>O. **(40 CFR 64.6(c)(2))**
4. Upon detecting an excursion or exceedance, the permittee 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). Once an excursion has been detected a work order will be generated and the proper corrective action will be performed. Corrective action can come in the form of but not limited to sensing line restriction, differential pressure gauge replacement, defective filter bags, and chamber seal integrity. **(40 CFR 64.7(d))**

5. 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 permittee 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 permittee 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, in frequent, 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))**

## **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. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

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. The permittee shall promptly notify the AQD if a modification to the CAM Plan is needed because the existing plan is found to be inadequate and shall submit a proposed modification to the ROP if necessary. **(40 CFR 64.7(e))**

### **Footnotes:**

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

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

**EUL2WASTESILO  
EMISSION UNIT CONDITIONS**

**DESCRIPTION**

800 ft<sup>3</sup> air pollution control system waste silo equipped with a passive bin vent on Line #2

Flexible Group ID: NA

**POLLUTION CONTROL EQUIPMENT**

Bin vent

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not operate EUL2WASTESILO unless the bin vent is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> (R 336.1225, 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))

NA

**VI. MONITORING/RECORDKEEPING**

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

NA

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVWASTESILO	6 <sup>2</sup>	1.5 <sup>2</sup>	R 336.1225 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

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

**EUL1WASTESILO  
EMISSION UNIT CONDITIONS**

**DESCRIPTION**

800 ft<sup>3</sup> Line #1 air pollution control system waste silo equipped with a passive bin vent

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Bin vent filter

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

NA

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not operate EUL1WASTESILO unless the bin vent filter is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> (R 336.1225, 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))

NA

**VI. MONITORING/RECORDKEEPING**

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

NA

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVL1WASTESILO	6 <sup>2</sup>	8 <sup>2</sup>	<b>R 336.1225 40 CFR 52.21(c)&amp;(d)</b>

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

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

**EUFIREPUMP  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Rule 285(2)(g) exempt existing compression ignition (CI) engine, 100-500 HP, subject to 40 CFR Part 63, Subpart ZZZZ.

Flexible Group ID: NA

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Diesel Fuel	15 ppm sulfur content by weight	As-fired	EUFIREPUMP	SOURCE-WIDE SC VI.5	<b>40 CFR 63.6604(b)</b> <b>40 CFR 80.510(b)</b>

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. Annual Operating Hours: The permittee shall limit operation of emission units as follows:
  - a. Emergency stationary RICE may be operated for the purposes of maintenance checks and readiness testing up to 100 hours per year. The permittee may petition for approval of additional hours to be used for maintenance checks and readiness testing, but 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 ICE beyond 100 hours per calendar year. **(40 CFR 63.6640(f)(2))**
  - b. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 63.6640(f)(1))**
  - c. Emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those hours are to be counted towards the 100 hours per year for maintenance and readiness testing. **(40 CFR 63.6640(f)(4))**
2. The permittee shall comply with the following requirements, except during periods of startup **(40 CFR 63.6603(a))**:
  - a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.3;
  - b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and,
  - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace, as necessary. **(40 CFR Part 63 Subpart ZZZZ, Table 2d)**
3. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement in SC III.2. The oil analysis program must be performed at the same frequency as oil changes are required. The analysis program must analyze Total Base Number, viscosity, and percent water content. If Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5,

the oil must be changed within two business days of receiving the analysis results, if the engine is in operation. If the engine is not in operation at the time that the results are received, the oil must be changed within two business days or before commencing operation, whichever is the latter. **(40 CFR 63.6625(i))**

4. The permittee shall not operate EUFIREPUMP unless operation and maintenance is performed according to manufacturer's emission-related written instructions or develop your own 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 63.6625(e))**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain emission units with a non-resettable hour meter 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 for CI Engine(s), the permittee shall test for Total Base Number, viscosity and percent water content and maintain within the acceptable limits as specified in SC III.3. **(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. The permittee shall monitor and record in a satisfactory manner the fuel type and usage rate for EUFIREPUMP on a monthly basis. **(R 336.1213(3))**
2. The permittee shall record the reason for operation each time the engine is started and shall document the hours of operation, the reason for operation, whether the operation was for emergency or nonemergency use, and, if applicable, what classified the operation as an emergency. **(R 336.1213(3))**
3. The permittee shall record all maintenance conducted on emission units. **(40 CFR 63.6655(e))**

**See Appendices 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)**

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) as specified in 40 CFR Part 63, Subparts A and ZZZZ. **(R 336.1213(3), 40 CFR Part 63, Subparts A and ZZZZ)**

**Footnotes:**

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

<sup>2</sup> 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.

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FG00097	Diesel oil fired emergency backup electrical generator with a maximum rated capacity of 2500 brake horsepower (BHP)	EUGENERATOR1, EUGENERATOR2
FG00098	Cold cleaners; used to rinsing machine parts. Cold cleaners are located in maintenance, crib/stock area; roller hearth; and at the sputter coating maintenance area.	EUCOLDCLEANERS

**FG00097**  
**FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Two diesel oil fired emergency backup electrical generators with a maximum rated capacity of 2500 brake horsepower (BHP) each.

**Emission Units:** EUGENERATOR1, EUGENERATOR2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	Shall not exceed 23.45 tons <sup>2</sup>	Per 12-month rolling time period as determined at the end of each calendar month.	EUGENERATOR1, EUGENERATOR2	SC VI.1	R 336.1205

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Diesel fuel	The total diesel fuel consumed shall not exceed 51,100 gallons <sup>2</sup>	Per 12-month rolling time period as determined at the end of each calendar month.	EUGENERATOR1, EUGENERATOR2	SC VI.1	R 336.1201(3)
2. Sulfur content of diesel fuel	15 ppm <sup>a, b</sup>	As Fired	EUGENERATOR1, EUGENERATOR2	SC VI.1	<b>40 CFR 63.6604(b) 40 CFR 80.510(b)</b>

- a. The permittee must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. **(40 CFR 63.6604(b))**
- b. In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined material limit shall be considered compliance with the material limit established by **40 CFR 63.6604(b) and 40 CFR 80.510(b)**; and also compliance with the material limit established by **R 336.1201(3)**, an additional applicable requirement that has been subsumed within this condition.

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

- 1. The emergency backup electrical generators shall not be operated for more than 700 generator-hours per 12-month rolling time period as determined at the end of each calendar month. A generator-hour is defined as the sum of the actual hours of operation of each electrical generator.<sup>2</sup> **(R 336.1201(3))**
- 2. Diesel fuel only shall be burned in the generators.<sup>2</sup> **(R 336.1201(3))**

3. Each emergency stationary RICE's annual operating hours are specified in 40 CFR 63.6640(f). Operating specifications include:
  - a. There is no time limit in emergency situations. **(40 CFR 63.6640(f)(1))**
  - b. Operate up to 100 hours per year for maintenance and testing. The permittee may petition for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. **(40 CFR 63.6640(f)(2))**
  - c. Operate up to 50 hours per year in non-emergency situations (counted towards the 100 hours per year threshold). **(40 CFR 63.6640(f)(4))**
4. The permittee shall meet operating requirements specified per 40 CFR 63.6603(a). **(40 CFR 63.6603(a), 40 CFR Part 63, Subpart ZZZZ, Table 2d, Line 4)**
  - a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
  - b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first and replace as necessary;
  - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace, as necessary.
5. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement in SC III.4.a. The oil analysis program must be performed at same frequency as oil changes are required. Analysis program must test the parameters, perform follow up oil change, if specified, and keep records per 40 CFR 63.6625(i). **(40 CFR 63.6625(i))**
6. Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. **(40 CFR 63.6625(h), 40 CFR Part 63, Subpart ZZZZ, Table 2d)**
7. The permittee shall not operate FG00097 unless operation and maintenance is performed according to manufacturer's emission-related written instructions or the permittee's maintenance plan. To the extent practicable, the permittee's plan must provide for maintenance and operation of engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6625(e), 40 CFR 63.6640(a))**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. Emission unit shall be equipped with a non-resettable hour meter to track 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))**

NA

#### **VI. MONITORING/RECORDKEEPING**

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

1. If using oil analysis program, the permittee shall test for and record and maintain the Total Base Number, viscosity and percent water content every 500 hours or annually (whichever comes first) & maintain within acceptable limits in 40 CFR 63.6625(i). **(40 CFR 63.6625(i))**
2. The permittee shall record all maintenance conducted on emission units. **(40 CFR 63.6655(e))**
3. The permittee shall record the number of hours the engine operated from the non-resettable hour meter and document the hours spent for emergency, including what classified the operation as emergency and non-emergency operation. **(40 CFR 63.6655(f))**
4. The permittee shall keep the following records per 40 CFR Part 63.6655(a). **(40 CFR 63.6655(a))**

- 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, according to the requirement in 40 CFR 63.10(b)(2)(xiv).
- b. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control (if applicable) and monitoring equipment (if applicable).
- c. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).
- 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 in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control (if applicable) and monitoring equipment (if applicable) to its normal or usual manner of operation.

## **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 must submit an annual report no later than March 31 containing the following information: **(40 CFR 63.6650(h))**
  - a. Company name and address where the engine is located.
  - b. Date of the report and beginning and ending dates of the reporting period.
  - c. Engine site rating and model year.
  - d. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
  - e. Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
  - f. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
  - g. Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
  - h. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.
  - i. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

**See Appendix 8**

## **VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) as they apply to emission units subject to 40 CFR Part 63, Subpart ZZZZ. **(R 336.1213(3), 40 CFR Part 63, Subparts A and ZZZZ)**

**Footnotes:**

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

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

**FG00098**  
**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:** EUCOLDCLEANERS

**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

## 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.

<b>Emission Unit/Flexible Group ID</b>	<b>Non-Applicable Requirement</b>	<b>Justification</b>
EU00079, EU00080	40 CFR Part 60, Subpart CC - Standards of Performance for Glass Manufacturing Plants	Both lines were installed prior to June 15, 1979 and have not been modified since.

## APPENDICES

### Appendix 1-A. 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 <sub>2</sub> 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 <sub>2</sub> 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	Malfunaction Abatement Plan	NO <sub>x</sub>	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 <sub>2</sub>	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 1-B. Definitions

- a. "Abnormally Low Production Rate" shall mean a glass production rate for the EU00079 Furnace that is at or below 192 tons per day for EU00079 and at or below 228 tons per day for EU00080;
- b. "Abnormally Low Production Rate Day" shall mean any Operating Day where glass production at a Furnace occurs at or below an Abnormally Low Production Rate for at least one continuous hour;
- c. "Calendar Year" shall mean the period commencing on January 1 and ending on December 31 of the same year.
- d. "Canal change" shall mean the replacement of a refractory device used to transfer the molten glass from the Furnace to the forming process. Canal Change includes the stoppage of molten glass into the forming process, replacement and installation of a new canal, heat-up of the canal, and restart of production.
- e. "CEMS" shall mean Continuous Emission Monitoring System.
- f. "CEMS Certification or CEMS Recertification" shall mean the certification of a CEMS as required by 40 CFR 60.13, 40 CFR Part 60, Appendix B (Performance Specification 2), and 40 CFR Part 60, Appendix F (Quality Assurance Procedures).
- g. "Continuous Operating Year" shall mean a Calendar Year during which a Furnace that is connected to a Control Device Operates on every Day of that Calendar Year.
- h. "Control Device" shall mean a catalyst impregnated ceramic filter air pollution Control Device, which consists of an SCR, Dry Scrubber and Particulate Filter.
- i. "Control Device Start-up" shall mean the period of time from commencing Operation of a Control Device until Operation of the Device is stable and the Device has achieved normal Operating conditions. However, such period shall only occur during the Control Device Start-up or re-Start-up after the Effective Date and shall not exceed thirty (30) Days.
- j. "Daily Glass Production" shall mean the Tons of glass produced per Day from the Furnace (commonly known as "pulled") as calculated by the measurement method or the weight method. It will be calculated using a weighted average of approximately 12 samples taken throughout a Day to give a daily production rate.
- k. "Day" shall mean a calendar Day unless expressly stated to be a business Day. In computing any period of time, where the last Day would fall on a Saturday, Sunday, or state holiday, the period shall run until the close of business of the next business Day. A Day starts at 12:00 a.m. and ends at 11:59 p.m.
- l. "Dry Scrubber" shall mean a pollution control system, sometimes referred to as a sorbent injection system, which involves the addition of an alkaline material into the gas stream to react with the acid gases. The acid gases react with the alkaline sorbents to form solid salts. There is no moisture added in the reaction chamber or reaction area.
- m. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.
- n. "Furnace" shall mean a unit comprised of a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.
- o. "Furnace Startup" shall mean the period of time during which a Furnace's refractory is heated from ambient temperature to Operating temperature. A Furnace Startup shall last no more than 40 Days and includes the slow heating of the Furnace refractory, initially with portable burners and transitioning to main burners once the Furnace reaches a temperature at which it can commence Operation. Furnace Startup shall be considered complete the later of when (i) production commences, or (ii) when the operating inlet temperature of the DS reaches its operational range on a consistent basis. Furnace Startup also includes the initial filling of the Furnace, following the heat-up, with cullet and/or raw materials, to a level at which production launch can commence.
- p. "Inlet" shall mean the concentration of NO<sub>x</sub> (in ppmv) measured prior to a Control Device.
- q. "Maintenance" shall mean activities necessary to keep the glass manufacturing process, including the Furnace, related process equipment or systems and Control Device, in normal Operating condition.
- r. "Malfunction" shall mean, consistent with 40 CFR 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution Control Device, process equipment, or a process to Operate in a normal or usual manner but shall not include failures that are caused by poor Maintenance or careless Operation.
- s. "NO<sub>x</sub>" shall mean the sum of oxides of nitrogen in the flue gas, collectively expressed as NO<sub>2</sub>.
- t. "Operate," "Operation," "Operating" and "Operated" shall mean any time when fuel is fired in a Furnace.
- u. "Operating Day" shall mean any Day where any fuel is fired into a Furnace.
- v. "Outlet" shall mean the NO<sub>x</sub> and SO<sub>2</sub> concentration (in ppmv) measured after a Control Device.
- w. "Particulate Filter" shall mean a control device that uses filtration technology to reduce Particulate Matter emissions, including, but not limited to, electrostatic precipitators, baghouses, and ceramic filter systems.
- x. "Particulate Matter" and "PM" shall mean any finely divided solid or liquid material, other than uncombined water, as measured using EPA Method 5 (40 CFR Part 60, Appendix A).
- y. "Removal Efficiency" for NO<sub>x</sub> shall mean the percent reduction in concentration of NO<sub>x</sub> achieved by a Furnace's

Control Device. This percent reduction shall be calculated by subtracting the Outlet concentration from the Inlet concentration, dividing difference by the Inlet concentration and then multiplying the result by 100.

- z. "Selective Catalytic Reduction" and "SCR" shall mean a pollution control device that reacts ammonia (NH<sub>3</sub>) or urea with NO<sub>x</sub> to form nitrogen (N<sub>2</sub>) and water (H<sub>2</sub>O) using a catalyst to speed the reaction. SCRs include traditional add-on SCRs and catalyst-impregnated ceramic filters.
- aa. "SO<sub>2</sub>" shall mean the pollutant sulfur dioxide.
- bb. "Sulfuric Acid Mist" shall mean the compound H<sub>2</sub>SO<sub>4</sub>.
- cc. "Ton" and "Tons" shall mean short ton (equal to 2000 pounds) or short tons.
- dd. "24-hour Block Average" shall be calculated by averaging all valid one-hour emissions data outputs (concentrations or pounds) for a given Operating Day and using the daily glass production rates (in tons) on that Operating Day where applicable.
- ee. "30-day Rolling Average Emission Rate" shall be expressed as pounds of pollutant emitted per ton of glass produced and calculated at a Furnace in accordance with the following formula and sub-paragraphs i. and ii below:

$$30 - \text{Day average} \left( \frac{\text{lb E}}{\text{ton}} \right) = \frac{\text{COD}_E(\text{lbs}) + \text{P29D}_E(\text{lbs})}{\text{COD}_{\text{Prod}}(\text{tons}) + \text{P29D}_{\text{Prod}}(\text{tons})}$$

Where: 30-day average (lb E/ton) = The 30-day Rolling Average Emission Rate

E = emissions of NO<sub>x</sub> or SO<sub>2</sub>.

COD = Current Operating Day where the relevant 30-day Rolling Average Emission Rate is the applicable limit.

COD<sub>E</sub> = The daily emissions as measured by a CEMS on the COD, in pounds.

COD<sub>Prod</sub> = Daily glass production on the COD, in tons of glass.

P29D = The Previous 29 Operating Days where the relevant 30-day Rolling Average Emission Rate is the applicable limit.

P29D<sub>E</sub> = The sum of the daily NO<sub>x</sub> or SO<sub>2</sub> emissions as measured by a CEMS during the P29D, in pounds.

P29D<sub>Prod</sub> = The sum of the daily glass production during the P29D, in tons of glass.

- i. A new 30-day Rolling Average Emission Rate shall be calculated for each new Operating Day where the 30-day Rolling Average Emission Rate is the applicable standard. Any Operating Day where the newly calculated 30-day Rolling Average Emission Rate exceeds the limit is a separate one Day violation; and
  - ii. Certain Abnormally Low Production Rate Days, Furnace and/or Control Device Startup Days, Malfunction Days, and Maintenance Days may be excluded from the 30-day Rolling Average Emission Rate.
- ff. "30-day Rolling Average NO<sub>x</sub> Removal Efficiency" shall be calculated by summing the Removal Efficiency 24-hour Block Averages from each Furnace (or combined stack, if applicable) for each Operating Day and previous twenty-nine (29) Operating Days when the 30-day Rolling Average NO<sub>x</sub> Removal Efficiency was the applicable standard and then dividing by 30. A new 30-day Rolling Average NO<sub>x</sub> Removal Efficiency shall be calculated for each new Operating Day. Any Operating Day where the newly calculated 30-day Rolling Average NO<sub>x</sub> Removal Efficiency is less than the Removal Efficiency limit is a separate one-Day violation.

## 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

The following monitoring procedures, methods, or specifications are the details to the continuous emission monitoring requirements identified and referenced in EU00079 and EU00080.

1. Within 60 Days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS
NO <sub>x</sub>	2
SO <sub>2</sub>	2
Flow	6

2. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
3. The CEMS shall be installed, calibrated, maintained, and Operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2 and 6 of Appendix B to 40 CFR Part 60.
4. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Within 30 Days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).
5. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 Days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
  - a. A report of each exceedance above the limits specified in the conditions of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
  - b. A report of all periods of CEMS downtime and corrective action.
  - c. A report of the total Operating time of EU00079 and EU00080 during the reporting period.
  - d. A report of any periods that the CEMS exceeds the instrument range.
  - e. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

### Appendix 4. Recordkeeping

The permittee shall use the following approved formats and procedures for the recordkeeping requirements referenced in EU00080. Alternative formats must be approved by the AQD District Supervisor.

All information in this Appendix shall be maintained pursuant to R 336.2818 for ten years after the emission unit(s) identified in Table C resume normal operations and shall be provided to the Department for the first year and thereafter made available to the Department upon request.

- A. Project Description: Allow NO<sub>x</sub> emissions of 10,433 pounds per day for up to 144 hours per calendar year because of Maintenance being performed on a Control Device. The daily emission limit of 10,433 pounds is

consistent with USEPA Consent Decree “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” and is an increase over the emissions allowed by PTI No. 105-14.

B. Applicability Test Description: Actual to projected actual

C. Emission Limitations

Table C

Emission Unit/Flexible Group ID	Pollutant	Emissions (tpy)			Reason for Exclusion
		Baseline Actual	Projected Actual	Excluded	
EU00080	NO <sub>x</sub>	272.3	339.3	32.8	Emissions accommodated during the baseline period.

### Appendix 5. Testing Procedures

The permittee shall use the following approved test plans, procedures, and averaging to measure the pollutant emissions for the applicable requirements referenced in EU00079 and EU00080.

The following requirements apply to testing for emissions of PM and sulfuric acid mist for EU00079 and EU00080.

1. **Source/Stack Testing.** All source/stack tests shall be conducted in accordance with the requirements of the specified Test Method and shall be performed under representative Operating conditions or applicable state requirements for the Furnace. (**“U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015” paragraph 31**)
  - a. Each test shall be comprised of at least three (3) valid one-hour stack test runs.
  - b. The permittee shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, the permittee shall replace it with an additional valid test run.
  - c. The permittee shall report the results of the discarded test runs to the USEPA and the AQD District Supervisor and shall provide all information necessary to document why the test run was not valid.
  - d. Source stack testing shall not be conducted during Abnormally Low Production Rate Days, a Furnace Startup, a Control Device Startup, a Malfunction of the Furnace or relevant Control Device, or Maintenance of the Furnace or relevant Control Device.

### 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-B1877-2014. 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-B1877-2014b is being reissued as Source-Wide PTI No. MI-PTI-B1877-2021.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
105-14	201500027	The source is an existing flat glass manufacturing facility operating at major PSD source levels. The two flat glass lines were installed prior to PSD regulations and the facility is therefore grandfathered but any new projects can trigger PSD if emissions are over significance. The facility is a minor source of HAP emissions. PTI No. 105-14 is for making some modifications to Line #2 – adding new metal-containing raw ingredients to make a new product; adding an UltraCat control device to control NOx, SO2, and PM; and installing a new ammonia tank and reagent silo to support the new control device. There will also be a new emission point from the handling and packaging of dust materials captured by the new control device. The use of the metal-containing raw ingredients will make Line #2 subject to Area Source MACT SSSSSS. The installation of the control device is part of an EPA Consent Decree.	EU00080 EUL2WASTESILO EUWMBUILDING
16-17A	201700102	Incorporating the requirements for Line 2 from the USEPA Consent Decree “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015”	EU00080
16-17B	NA	Incorporating the requirements for Line 2 from the revised USEPA Consent Decree “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015”	EU00080
51-18	201800019 *	Incorporating the requirements for Line 1 from the USEPA Consent Decree “U.S. et al. v Guardian Industries, Civil Action 15-13426, E.D. MICH., 2015”	EU00079
51-18A	NA	To include the Line 1 pollution control device waste silo and its emissions in the facility’s permit.	EUL1WASTESILO
17-20	NA	Modification of the EUL2WASTESILO stack parameters.	EUL2WASTESILO

The following table lists the ROP amendments or modifications issued after the effective date of ROP No. MI-ROP-B1877-2021.

Permit to Install Number	ROP Revision Application Number - Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	202100081 / August 18, 2021	This Minor Modification was to remove EUSEAMER from the ROP, since the emission unit will be dismantled and removed from the facility. The change will be completed by July 1, 2021.	EUSEAMER

## **Appendix 7. Emission Calculations**

Specific emission calculations to be used with monitoring, testing or recordkeeping data are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

## **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.