

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

December 14, 2023

**PERMIT TO INSTALL**  
144-23

**ISSUED TO**  
Guardian Industries, LLC

**LOCATED AT**  
14600 Romine Road  
Carleton, Michigan 48117

**IN THE COUNTY OF**  
Monroe

**STATE REGISTRATION NUMBER**  
B1877

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>October 20, 2023</b>	
DATE PERMIT TO INSTALL APPROVED: <b>December 14, 2023</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

**Table of Contents**

COMMON ACRONYMS ..... 2

POLLUTANT / MEASUREMENT ABBREVIATIONS..... 3

GENERAL CONDITIONS ..... 4

EMISSION UNIT SPECIAL CONDITIONS..... 6

    EMISSION UNIT SUMMARY TABLE ..... 6

    EU00079..... 8

    EU00080..... 20

    EUCRUSHING..... 32

FLEXIBLE GROUP SPECIAL CONDITIONS..... 34

    FLEXIBLE GROUP SUMMARY TABLE ..... 34

    FG00097..... 35

APPENDIX 1 Monitoring Requirements..... 37

APPENDIX 2 Recordkeeping..... 38

APPENDIX 3 Testing Procedures..... 39

## COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

## POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO <sub>2</sub>	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

## GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install 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 this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit 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 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. 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 Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. 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). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

## EMISSION UNIT SPECIAL CONDITIONS

### 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 / 12-14-2023</p>	NA

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
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>	03-01-1972 / 04-10-2015 / 01-17-2018 / 09-04-2018 / 12-14-2023	NA
EUCRUSHING	A 30 ton per hour portable crusher to size cullet for use.	TBD	NA
EUGENERATOR1	Diesel oil fired backup electrical generator with a maximum rater capacity of 2640 brake horsepower (BHP).	01-01-2000 / 12-14-2023	FG00097
EUGENERATOR2	Diesel oil fired backup electrical generator with a maximum rater capacity of 2640 brake horsepower (BHP).	01-01-2000 / 12-14-2023	FG00097

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**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)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	0.45 lb/ton of glass produced <sup>A, 3</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	Hourly	EU00079	SC III.1, IV.3	40 CFR 52.21(c)&(d)
3. PM2.5	10.3 pph	Hourly	EU00079	SC III.1, IV.3	40 CFR 52.21(c)&(d)
4. NOX	80% Removal Efficiency <sup>A, B, 3</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)

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
5. NOX	6,314 lb/Day <sup>C, 3</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)
6. SO2	1.2 lb/ton of glass produced (normal Operation) <sup>A, D, 3</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, 3</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</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, 3</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>3</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 w/o SCR</sub> (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>3</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.<sup>3</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))
  - 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>3</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))
  - 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.<sup>3</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))
  - d. 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>3</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))
  - 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>3</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>3</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</sub> w/o DS = 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>3</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>3</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	Calendar Day	EU00079	SC VI.8	R 336.1205(3) R 336.1225 40 CFR 52.21(c)&(d)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
2. Coated cullet use <sup>1</sup>	110 tons per Day	Calendar Day	EU00079	SC VI.18	R 336.1205(3) R 336.1225

<sup>1</sup> For the purposes of the limit and Special conditions VI.18, coated cullet is defined as glass coated with metal/metal oxides and glass coated with a thin film of polyethylene.

3. The permittee shall burn only natural gas in EU00079. **(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. **(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>3</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>3</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>3</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>3</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>3</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>3</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>3</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>3</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>3</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>3</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>3</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>3</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. (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>3</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. **(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 EU00079 Dry Scrubber reagent silo unless the bin vent is installed, maintained, and Operated in a satisfactory manner. **(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. **(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. **(R 336.1225, R 336.1910)**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

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. **(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 3. 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>3</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 3. 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>3</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 336.2001, 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 336.2001, R 336.2003, R 336.2004)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

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 1 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>3</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>3</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>3</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>3</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>3</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>3</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>3</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. (**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. (**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>3</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>3</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>3</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))**
18. The permittee shall keep, in a satisfactory manner, all daily coated cullet usage rate records for EU00079 on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1225)**

## **VII. REPORTING**

NA

## **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>
SVL 1001	102	199	R 336.1225 40 CFR 52.21(c)&(d)

## **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart SSSSSS, as they apply to EU00079. **(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.

**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)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
3. PM	0.45 lb/ton of glass produced <sup>A, 3</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)
4. PM10	12.2 pph	Hourly	EU00080	SC III.1, IV.3	R 336.2803 R 336.2804 40 CFR 52.21(c)& (d)
5. PM2.5	12.2 pph	Hourly	EU00080	SC III.1, IV.3	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
6. NO <sub>x</sub>	80% Removal Efficiency <sup>A, B, 3</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)
7. NO <sub>x</sub>	10,433 lb/Day <sup>C, 3</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)
8. SO <sub>2</sub>	1.2 lb/ton of glass produced (normal Operation) <sup>A, D, 3</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)
9. SO <sub>2</sub>	3,224 lb/Day	24-hour Block Average (During Furnace Startup)	EU00080	SC VI.3	R 336.2803 R 336.2804 40 CFR 52.21(c)& (d)
10. SO <sub>2</sub>	3,224 lb/Day <sup>E, 3</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)
11. Selenium	2.03 pph	Hourly	EU00080	SC V.1	R 336.1205(3) R 336.1225
12. Glass manufacturing metal HAPs <sup>F</sup>	0.02 lb/ton of glass produced	Hourly	EU00080	SC V.2	R 336.1225 R 336.1959 40 CFR 63.11451

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
13. Sulfuric Acid Mist	1.6 pph <sup>A, 3.</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

- <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:
- 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)**)
  - 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)**)
  - 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)**)
  - 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)**)
- <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)**)
- <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)**)
- <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)**)
- <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)**)
- <sup>F</sup> Glass manufacturing HAPs: arsenic, cadmium, chromium, lead, manganese, and nickel.

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>3</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)**)

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

Where:  $NO_{x\text{ SCR Maint}}$  =  $NO_x$  emission limit during Maintenance of the Furnace canals, the SCR, the DS, or the PF, in pounds per Day  
MH = Hours of Maintenance  
 $NO_x$  w/o SCR (lb/Day) = 10,433 lb/Day  
NH = Normal Hours = 24 - MH

13. **Alternative Compliance Option for  $NO_x$ .** The permittee may elect to use the following alternative compliance option in lieu of complying with the  $NO_x$  emission limits in SC I.4 and I.5, provided that the permittee satisfies the requirements below.<sup>3</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  $NO_x$  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  $NO_x$  per Ton of glass produced (measured after the SCR) in lieu of the final  $NO_x$  emission limit in SC I.4. The permittee shall comply with a 30-day Rolling Average Emission Rate of 1.6 lb  $NO_x$  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  $NO_x$  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  $NO_x$  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  $NO_x$  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  $NO_x$  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  $NO_x$  Limit for Abnormally Low Production Rate Days, which shall be calculated as follows:<sup>3</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  $NO_x$  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:  $NO_{xAbn}$  =  $NO_x$  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: (**"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</sub> w/o DS = 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>3</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>3</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	Calendar Day	EU00080	SC VI.8	R 336.1205(3) R 336.1225 R 336.1702 R 336.2803 R 336.2804 40 CFR 52.21(c)&(d)
2. Coated cullet use <sup>1</sup>	130 tons per Day	Calendar Day	EU00080	SC VI.18	R 336.1205(3) R 336.1225

<sup>1</sup> For the purposes of the limit and Special conditions VI.18, coated cullet is defined as glass coated with metal/metal oxides and glass coated with a thin film of polyethylene.

3. The permittee shall burn only natural gas in EU00080. **(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. **(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>3</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 Startup, 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>3</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>3</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>3</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>3</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>3</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>3</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. (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>3</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>3</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>3</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>3</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>3</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. (**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. (**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. (**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. (**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. (**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. (**R 336.1225, R 336.1910**)

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (**R 336.1201(3)**)

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. (**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. (**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 SSSSSS**)

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 3. 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>3</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 3. 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>3</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 336.2001, 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 336.2001, R 336.2003, R 336.2004)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

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>3</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>3</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>3</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>3</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>3</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>3</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>3</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. (**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. (**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. (**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>3</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>3</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>3</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 2, 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. **(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))**
18. The permittee shall keep, in a satisfactory manner, all coated cullet usage rate records for EU00080 on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1225)**

## **VII. REPORTING**

1. The permittee shall submit records of the annual emission of NO<sub>x</sub> from EU00080 described in Appendix 2, 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> exceed 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). **(R 336.2818)**

**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. SVFURN2	78	150	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c)&(d)

**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. **(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.

## **EUCRUSHING EMISSION UNIT CONDITIONS**

### **DESCRIPTION**

A 30 ton per hour portable crusher to size cullet for use.

**Flexible Group ID:** NA.

### **POLLUTION CONTROL EQUIPMENT**

NA

#### **I. EMISSION LIMIT(S)**

1. There shall be no visible emissions from EUCRUSHING. **(R 336.1301, 40 CFR 52.21(c) & (d))**

#### **II. MATERIAL LIMIT(S)**

NA

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

1. The permittee shall not operate EUCRUSHING for more than 12 hours per calendar day. **(40 CFR 52.21(c) & (d))**

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

NA

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

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

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

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner acceptable to the AQD District Supervisor, a log of the daily hours of operation of EUCRUSHING. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 52.21)**
2. The permittee shall perform, and document non-certified visible emissions observations as required in SC I.1 on a daily basis when the emission point in EUCRUSHING 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 336.1301, 40 CFR 52.21(c) & (d))**

#### **VII. REPORTING**

NA

**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).

## FLEXIBLE GROUP SPECIAL CONDITIONS

### 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	Two diesel oil fired backup electrical generators with a maximum rated capacity of 2640 brake horsepower (BHP) each.	EUGENERATOR1, EUGENERATOR2

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

**DESCRIPTION**

Two diesel oil fired backup electrical generators with a maximum rated capacity of 2640 brake horsepower (BHP) each.

**Emission Unit:** EUGENERATOR1, EUGENERATOR2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NOx	Shall not exceed 35.90 tons	12-month rolling time period as determined at the end of each calendar month.	EUGENERATOR1, EUGENERATOR2	SC VI.2	R 336.1205

**II. MATERIAL LIMIT(S)**

1. The permittee shall only burn diesel fuel in FG00097 with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205, 40 CFR 52.21(c) & (d), 40 CFR 80.510(b))**

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

1. The permittee shall not operate the backup electrical generators for more than 1,150 generator-hours per 12-month tolling 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. **(R 336.1201(3))**
2. The permittee shall only burn diesel fuel in the backup electrical generators. **(R 336.1201(3))**

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

1. The permittee shall equip and maintain each backup electrical generator with a non-resettable hour meter to track operating hours. **(R 336.1205(1)(a) & (3), R 336.1225)**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

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. **(R 336.1205, 40 CFR 52.21 (c) & (d))**

1. The permittee shall monitor and record, the total hours of operation for each electrical generator in FG00097 on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. **(R 336.1205, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
2. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel used in FG00097, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), 40 CFR 80.510(b))**

**VII. REPORTING**

NA

**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. SVGENERATOR1	18	26.0	R 336.1225, 40 CFR 52.21(c) &(d)
2. SVGENERATOR2	18	26.0	R 336.1225, 40 CFR 52.21(c) &(d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to FG00097. **(40 CFR Part 63 Subparts A & ZZZZ, 40 CFR 63.6595)**

**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).

### APPENDIX 1 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 2 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 3 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.