

State Registration Number

**RENEWABLE OPERATING PERMIT**

ROP Number

B1877

**STAFF REPORT**

MI-ROP-B1877-2021b

**Guardian Industries, LLC**

State Registration Number (SRN): B1877

Located at

14600 Romine Road, Carleton, Monroe County, Michigan 48117

Permit Number: MI-ROP-B1877-2021b

Staff Report Date: October 26, 2020

Amended Dates: May 4, 2021  
July 2, 2021

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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State Registration Number

B1877

**RENEWABLE OPERATING PERMIT**

**October 26, 2020 - STAFF REPORT**

ROP Number

MI-ROP-B1877-  
2021

**Purpose**

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan’s Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source’s applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

**General Information**

Stationary Source Mailing Address:	Guardian Industries, LLC 14600 Romine Road Carleton, Michigan 48117
Source Registration Number (SRN):	B1877
North American Industry Classification System (NAICS) Code:	327211
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900045
Responsible Official:	Gautam Misra, Plant Manager 734-654-6206
AQD Contact:	Brian Carley, Environmental Quality Specialist 517-416-4631
Date Application Received:	March 15, 2019
Date Application Was Administratively Complete:	March 15, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	October 26, 2020
Deadline for Public Comment:	November 25, 2020

## Source Description

Guardian Industries, LLC is located at 14600 Romine Road Carleton, Michigan, and operates two float glass lines at the Carleton site. Line No. 1, located on the east side of the building, produces both clear and tinted glass. Line No. 2, located on the west side of the building, produces several types of green glass and tinted glass. The natural gas-fired furnace portion of each emission unit is controlled by a Control Device consisting of a dry scrubber, a particulate filter, and Selective Catalytic Reduction (SCR). Each line has a batch house where raw materials are mixed prior to being fed into the melting furnace. The molten glass then enters the molten tin bath, where it is formed and drawn. The glass is then pulled through the lehr where it is cooled under controlled conditions. After passing through the lehr, the glass is checked for defects and then cut to desired sizes. Defects and broken glass are detoured to be crushed and recycled. Additional operations covered by the permit include abrasive removal of sharp edges on glass sheets, two emergency backup diesel fired generators, an emergency fire pump, and a cold cleaner.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2018**.

### **TOTAL STATIONARY SOURCE EMISSIONS**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	18
Nitrogen Oxides (NO <sub>x</sub> )	795
Particulate Matter (PM)	181
Sulfur Dioxide (SO <sub>2</sub> )	145
Volatile Organic Compounds (VOCs)	23

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2018 by AQD:

<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>Tons per Year</b>
Benzene	0
Ethylbenzene	0
Formaldehyde	0
Naphthalene	0
Toluene	0
Xylenes Isomers	0
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>0</b>

\*\*As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

## Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

Monroe County is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the 8-hour ozone standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of sulfur dioxide, nitrogen oxides, and particulate matter exceeds 100 tons per year.

The stationary source is a “synthetic minor” source regarding HAP emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

EU00079 and EU00080 at the stationary source was subject to review under the Prevention of Significant Deterioration regulations of 40 CFR 52.21, because at the time of New Source Review permitting the potential to emit of nitrogen oxides was greater than 250 tons per year.

On September 29, 2015, The United States Environmental Protection Agency (USEPA) and the United States Department of Justice announced a settlement with Guardian Industries that resolved alleged violations of the Clean Air Act at Guardian's flat glass manufacturing facilities throughout the United States. This consent decree affects EU00079 and EU00080 at this stationary source. Those emission units are required to install air pollution control equipment to control emissions of nitrogen oxide, sulfur dioxide, particulate matter, and sulfuric acid mist as well as to comply with the emission limits specified in the consent decree. Pursuant to Paragraph 56 of U.S. v Guardian Industries, Civil Action 15-13426, 2015, the applicable requirements of the consent decree have been incorporated into Permit to Install Nos. 16-17B and 15-18. Pursuant to Act 451, Section 324.5503(b), with the incorporation of those permits into the ROP, the conditions of the consent decree will remain in effect after termination of the consent decree.

The stationary source is not subject to the New Source Performance Standards for Glass Manufacturing Plants promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subpart CC.

EU00079 and EU00080 at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Glass Manufacturing Area Sources promulgated in 40 CFR Part 63, Subparts A and SSSSSS.

EUGENERATOR1, EUGENERATOR2, and EUFIREPUMP at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT).

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

EUDUSTL1 does not have an emission limitation or standard that is subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because the unit does not have potential pre-control emissions over the major source thresholds. EUDUSTL1 pre-control emissions are based on emission tests that showed that this line produced 0.85 lbs./ton of glass crushed. Line 1 is limited to 550 tons of glass produced/day. If all the glass that is produced for a calendar year is crushed, then that gives the potential to emit prior to control as 85.3 tons/year, which is below major source threshold.

The following Emission Units/Flexible Groups are subject to CAM:

<b>Emission Unit/Flexible group ID</b>	<b>Pollutant/ Emission Limit</b>	<b>UAR(s)</b>	<b>Control Equipment</b>	<b>Monitoring (Include Monitoring Range)</b>	<b>Emission Unit/Flexible Group for CAM</b>	<b>PAM? *</b>
EUSEAMER	PM 0.01 lbs./1000 lbs. of exhaust gases	R 336.1331	Baghouse	Pressure drop of the baghouse to ensure proper operation of the baghouse (0-8 inches of H <sub>2</sub> O)	EUSEAMER	No

Emission Unit/Flexible group ID	Pollutant/Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/Flexible Group for CAM	PAM? *
EUDUSTL2	PM 0.10 lbs./1000 lbs. of exhaust gases	R 336.1331	Baghouse	Pressure drop of the baghouse to ensure proper operation of the baghouse (0-8 inches of H <sub>2</sub> O)	EUDUSTL2	No

\*Presumptively Acceptable Monitoring (PAM)

The pressure drop range represents proper operation of the baghouse as specified by the manufacturer to operate at a 96% efficiency. At this efficiency, these minor emission units emit less than one ton of PM10 annually.

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

### **Source-Wide Permit to Install (PTI)**

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B1877-2014 are identified in Appendix 6 of the ROP.

PTI Number			
72-00	41-90	653-87	905-85
825-85	300-72		

### **Streamlined/Subsumed Requirements**

The following table lists explanations of any streamlined/subsumed requirements included in the ROP pursuant to Rules 213(2) and 213(6). All subsumed requirements are enforceable under the streamlined requirement that subsumes them.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
FG00097	SC II.2	15 ppm No. 2 Fuel Oil sulfur content (40 CFR 63.6604(b) and 40 CFR 80.510(b))	0.04% sulfur by weight with a heat value of 18,000 BTU/lb (R 336.1201(3))	The diesel fuel sulfur limit as required by 40 CFR Part 63, Subpart ZZZZ (15 ppm sulfur limit, which is 0.0015%) is more stringent than the diesel fuel sulfur limit required by R 336.1201(3)

**Non-applicable Requirements**

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

**Processes in Application Not Identified in Draft ROP**

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

<b>PTI Exempt Emission Unit ID</b>	<b>Description of PTI Exempt Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EUJumboVacs	Three HVAC systems for coater room, offices, control room, and QC lab	R 336.1212(4)(c)	R 336.1280(2)(b)
EUJumboVents	Ventilation for white, sandblast, utility rooms, load/unload, warehouse	R 336.1212(4)(c)	R 336.1280(2)(b)
EUJumboQCs	Lab ductless fume hood and sample test furnace	R 336.1212(3)(d)	R 336.1283(2)(b)
EUJumboSandBlast 01	Sandblast room	R 336.1212(3)(f)	R 336.1285 (2)(l)(vi)(B)
EUJumboGel01	Gel adhesive application system	R 336.1212(4)(e)	R 336.1287(2)(a)
EUJumboVacuums	Vacuum entrance and exit pumps	R 336.1212(3)(f)	R 336.1285 (2)(l)(vi)(B)
EU00009	1.45 mmBTU/hr Rite boiler gas-oil	R 336.1212(4)(b)	R 336.1282(2)(b)
EU00011	525,000 BTU/hr Bock water heater	R 336.1212(4)(b)	R 336.1282(2)(b)
EU00074	75,000 BTU/hr Hamilton Boiler	R 336.1212(4)(b)	R 336.1282(2)(b)
EU00094	Sand blaster - 49 occasionally used for cleaning parts	R 336.1212(4)(b)	R 336.1285 (2)(l)(vi)(B)
EU49Oil/Mist	98 oil/mist eliminator used to filter oil emissions from pumps – EU00095 and EU1002	R 336.1212(4)(b)	R 336.1285(2)(f)
EU00101	Gas Tank-fuel tank used for maintenance equipment	R 336.1212(4)(b)	R 336.1284 (2)(g)(i)
EUBWATERHTR	76,000 BTU/hr Bradford White hot water heater	R 336.1212(4)(b)	R 336.1282(2)(b)
EUMAU550000	Eleven 550,000 BTU/hr make-up air units - U57,V47, BB53, Z57, F19, F15, I13, R13, EE13, BB47, and MM13	R 336.1212(4)(b)	R 336.1282(2)(b)
EUMAU1.5	Two 1.5 mmBTU/hr make-up air units - CC33 and LL33	R 336.1212(4)(b)	R 336.1282(2)(b)
EUMAU400000	Two 400,000 BTU/hr make-up air units - V77 and W91	R 336.1212(4)(b)	R 336.1282(2)(b)
EUMAUZ54	750,000 BTU/hr make-up air unit	R 336.1212(4)(b)	R 336.1282(2)(b)
EUHEATUNIT60000	Three 60,000 BTU/hr space heaters - BB72, CC55, and BB5	R 336.1212(4)(b)	R 336.1282(2)(b)
EUHEATUNITCC72	140,000 BTU/hr space heater	R 336.1212(4)(b)	R 336.1282(2)(b)

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUHEATUNITCC78	Eight 200,000 BTU/hr space heaters -CC78, I90, I41, I33, I25, R41, R23, and R33	R 336.1212(4)(b)	R 336.1282(2)(b)
EUHEATUNITCC41	Four 1.5 mmBTU/hr space heater - CC41, LL41, CC24, and LL24	R 336.1212(4)(b)	R 336.1282(2)(b)
EUHEATUNITFF55	100,000 Btu/hr space heater	R 336.1212(4)(b)	R 336.1282(2)(b)
EUINFRARED100000	Thirteen 100,000 BTU/hr infrared heating units - EE7, GG7, EE6, GG6, PQ8, OP8, PQ6, OP6, OP5, PQ5, ST5, FI23, and FI24	R 336.1212(4)(b)	R 336.1282(2)(b)
EUMAUC6	3.287 mmBTU/hr make-up air unit	R 336.1212(4)(b)	R 336.1282(2)(b)
EUROOFHEAT400000	Two 400,000 BTU/hr Roof Mounted heat/AC unit - LL7 and M7	R 336.1212(4)(b)	R 336.1282(2)(b)
EUACBB75	Roof Mounted heat/AC unit-BB75 225,000 BTU/hr	R 336.1212(4)(b)	R 336.1282(2)(b)
EUACAA68	Roof Mounted heat/AC unit-AA68 2.168 MMBTU/hr	R 336.1212(4)(b)	R 336.1282(2)(b)
EUAC290000	Two 290,000 BTU/hr roof mounted heat/AC unit - AA65 and AA61	R 336.1212(4)(b)	R 336.1282(2)(b)
EUAC400000	Two 400,000 BTU/hr roof mounted heat/AC unit - AA55 and BB63	R 336.1212(4)(b)	R 336.1282(2)(b)
EUAC450000	Two 450,000 BTU/hr roof mounted heat/AC units – BB74 and CC74	R 336.1212(4)(b)	R 336.1282(2)(b)
EUACBB70	Roof Mounted heat/AC unit - BB70 529,000 BTU/hr	R 336.1212(4)(b)	R 336.1282(2)(b)
EUACV61	Roof Mounted heat/AC unit - V61 120,000 BTU/hr	R 336.1212(4)(b)	R 336.1282(2)(b)
EUAC135000	Two 135,000 BTU/hr roof mounted heat/AC units - V63 and V64	R 336.1212(4)(b)	R 336.1282(2)(b)
EULOGOPRINTER	Small printer unit for applying Guardian Logo	R 336.1212(2)(h)	R 336.1287(2)(e)
EUSANDBLAST	Cleaning of coater components	R 336.1212(b)	R 336.1281(2)(d)
EUPROPANE	Propane Storage for Hi-Lo/forklift use 1,000 gallons	R 336.1212(2)(b)	R 336.1284(2)(b)
EUELECFURNACE	Electric Furnace for Tempering Line	R 336.1212(4)(b)	R 336.1282(2)(a)
EUCUTTINGOIL	Cutting Oil Mineral Spirits on line 1 & 2	R 336.1212(4)(b)	R 336.1285(2)(l)(vi)(B)
EUPRAXAIR	Praxair water treatment system	R 336.1212(4)(b)	R 336.1285(2)(y) & (II)
EUWELDING	Welding fume hood exhaust	R 336.1212(3)(f)	R 336.1285(2)(i)
EUCOOLINGTWR	Water cooling tower	R 336.1212(3)(a)	R 336.1280(2)(d)

**Draft ROP Terms/Conditions Not Agreed to by Applicant**

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

### **Action taken by EGLE, AQD**

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Scott Miller, Jackson District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

State Registration Number

B1877

**RENEWABLE OPERATING PERMIT**

ROP Number

MI-ROP-B1877-  
2021

**December 8, 2020 - STAFF REPORT ADDENDUM**

**Purpose**

A Staff Report dated October 26, 2020, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

**General Information**

Responsible Official:	Gautam Misra, Plant Manager 734-654-6206
AQD Contact:	Brian Carley, Environmental Quality Specialist 517-416-4631

**Summary of Pertinent Comments**

No pertinent comments were received during the 30-day public comment period.

**Changes to the October 26, 2020 Draft ROP**

No changes were made to the draft ROP.

State Registration Number  
B1877

**RENEWABLE OPERATING PERMIT**

ROP Number  
MI-ROP-B1877-2021a

**May 4, 2021 - STAFF REPORT FOR  
RULE 216(1)(a)(i)-(iv) ADMINISTRATIVE  
AMENDMENT**

**Purpose**

On February 1, 2021, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1877-2021, to Guardian Industries, LLC, pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(1)(a)(i-iv).

**General Information**

Responsible Official:	James Matthew Martin, Plant Manager 734-654-4252
AQD Contact:	Caryn Owens, Environmental Engineer 231-878-6688
Application Number:	202100067
Date Application for Administrative Amendment was Submitted:	April 1, 2021

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for an Administrative Amendment pursuant to Rule 216(1)(a)(i).

**Description of Changes to the ROP**

The Administrative Amendment No. 202100067 was to correct the numbering citations on page 25 of the ROP and correct reference of the emission unit EUL2WASTESILO on page 47 under Design/Equipment Parameters SC IV.1.

**Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Administrative Amendment to the ROP.

**Action Taken by EGLE**

The AQD approved an Administrative Amendment to ROP No. MI-ROP-B1877-2021, as requested by the stationary source. The delegated decision maker for the AQD is the District Supervisor.

State Registration Number  
B1877

**RENEWABLE OPERATING PERMIT**  
**July 2, 2021 - STAFF REPORT FOR RULE 216(2)**  
**MINOR MODIFICATION**

ROP Number  
MI-ROP-B1877-2021b

**Purpose**

On February 1, 2021, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1877-2021 to Guardian Industries, LLC pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

**General Information**

Responsible Official:	James Matthew Martin, Plant Manager 734-654-4252
AQD Contact:	Caryn Owens, Environmental Engineer 231-878-6688
Application Number:	202100081
Date Application for Minor Modification was Submitted:	May 10, 2021

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

**Description of Changes to the ROP**

Minor Modification Number 202100081 was to remove EUSEAMER from the ROP, since the emission unit will be dismantled and removed from the facility. The change will be completed by July 1, 2021.

**Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

**Action Taken by EGLE**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1877-2021, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.