

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

EFFECTIVE DATE: May 7, 2024

ISSUED TO

Warm Rain Corporation

State Registration Number (SRN): N0544

LOCATED AT

51675 Industrial Drive, Calumet, Houghton County, Michigan 49913

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N0544-2024

Expiration Date: May 7, 2029

Administratively Complete ROP Renewal Application Due Between
November 7, 2027 and November 7, 2028

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

Michigan Department of Environment, Great Lakes, and Energy

Michael Conklin, Marquette District Supervisor

TABLE OF CONTENTS

AUTHORITY AND ENFORCEABILITY	3
A. GENERAL CONDITIONS.....	4
Permit Enforceability	4
General Provisions.....	4
Equipment & Design	5
Emission Limits.....	5
Testing/Sampling	5
Monitoring/Recordkeeping	6
Certification & Reporting	6
Permit Shield	7
Revisions	8
Reopenings.....	8
Renewals.....	9
Stratospheric Ozone Protection	9
Risk Management Plan.....	9
Emission Trading	9
Permit to Install (PTI)	10
B. SOURCE-WIDE CONDITIONS	11
C. EMISSION UNIT SPECIAL CONDITIONS	12
EMISSION UNIT SUMMARY TABLE.....	12
EUCLEANUP.....	13
D. FLEXIBLE GROUP SPECIAL CONDITIONS.....	15
FLEXIBLE GROUP SUMMARY TABLE.....	15
FGBOOTH.....	16
FGMACTWWW	18
E. NON-APPLICABLE REQUIREMENTS	23
APPENDICES	24
Appendix 1. Acronyms and Abbreviations.....	24
Appendix 2. Schedule of Compliance.....	25
Appendix 3. Monitoring Requirements	25
Appendix 4. Recordkeeping	25
Appendix 5. Testing Procedures	25
Appendix 6. Permits to Install.....	25
Appendix 7. Emission Calculations	25
Appendix 8. Reporting	28

AUTHORITY AND ENFORCEABILITY

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

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

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

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

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

A. GENERAL CONDITIONS

Permit Enforceability

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

General Provisions

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

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

Equipment & Design

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

Emission Limits

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

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

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

Testing/Sampling

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

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
 - a. The date, location, time, and method of sampling or measurements.
 - b. The dates the analyses of the samples were performed.
 - c. The company or entity that performed the analyses of the samples.
 - d. The analytical techniques or methods used.
 - e. The results of the analyses.
 - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

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

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

Permit Shield

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

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.
27. Nothing in this ROP shall alter or affect any of the following:
 - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
 - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
 - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**
 - d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**

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

Revisions

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

Reopenings

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

Renewals

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

Stratospheric Ozone Protection

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

Risk Management Plan

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

Emission Trading

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

Permit to Install (PTI)

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

Footnotes:

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

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

B. SOURCE-WIDE CONDITIONS

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

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

C. EMISSION UNIT SPECIAL CONDITIONS

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

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUBOOTH1	Dry filter spray booth for open molding gelcoat application.	01-01-1976	FGBOOTHS FGMACTWWWWW
EUBOOTH2	Dry filter spray booth for open molding fiberglass lay-up.	01-01-1976	FGBOOTHS FGMACTWWWWW
EUBOOTH3	Dry filter spray booth for open molding fiberglass lay-up.	01-01-1976	FGBOOTHS FGMACTWWWWW
EUBOOTH4	Dry filter spray booth for open molding fiberglass lay-up.	01-01-1976	FGBOOTHS FGMACTWWWWW
EUCLEANUP	Acetone and other solvents used throughout the facility for cleaning purposes.	01-01-1976	FGMACTWWWWW

**EUCLEANUP
EMISSION UNIT CONDITIONS**

DESCRIPTION

Acetone and other solvents used throughout the facility for cleaning purposes.

Flexible Group ID: FGMACTWWWW

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. All records shall be completed and made available by the 15th day of each calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1213(3))**
2. The permittee shall keep records of the following information on a monthly basis for EUCLEANUP:
 - a. The identity of each clean-up solvent used,
 - b. The amount (in gallons or pounds) of each clean-up solvent used,
 - c. Where applicable, gallons or pounds of each clean-up solvent reclaimed.

The records shall be kept in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**

VII. REPORTING

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

D. FLEXIBLE GROUP SPECIAL CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGBOOTH5	Four dry filter spray booths for gelcoat and fiberglass operations.	EUBOOTH1 EUBOOTH2 EUBOOTH3 EUBOOTH4
FGMACTWWWW	Each existing affected source at reinforced plastic composites production facilities as identified in 40 CFR Part 63, Subpart WWWW, 40 CFR 63.5785 and 40 CFR 63.5790 that emit less than 100 tpy of Hazardous Air Pollutant (HAP). Reinforced plastic composites production includes the following operations: open molding, mixing, cleaning of equipment used in reinforced plastic composites manufacture, HAP-containing materials storage, and repair operations associated with the production of plastic composites.	EUBOOTH1 EUBOOTH2 EUBOOTH3 EUBOOTH4 EUCLEANUP

FGBOOTHS FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Four dry filter spray booths for gelcoat and fiberglass operations.

Emission Units: EUBOOTH1, EUBOOTH2, EUBOOTH3, EUBOOTH4

POLLUTION CONTROL EQUIPMENT

Dry exhaust filters

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGBOOTHS unless all dry filters are properly installed, maintained, and operated in a satisfactory manner.² **(R 336.1201(3), R 336.1910)**
2. The permittee shall change the dry filters in FGBOOTHS when an inspection concludes that inadequate capture efficiency is taking place. **(R 336.1213(2))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall inspect FGBOOTHS on a daily basis to determine whether all filters are in place as specified in Appendix 3. **(R 336.1213(3))**
2. The permittee shall maintain a daily record on the condition of the exhaust filters contained in FGBOOTHS using the following format:
 - a. Date and time,
 - b. Inspector,
 - c. Booth number,
 - d. Are all filters in place (Y/N),
 - e. Are spare filters available (Y/N),
 - f. Corrective actions / comments.

The permittee shall compile these records into reports covering a 6-month reporting period. The records shall be kept in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**

3. The permittee shall keep the following information each calendar month for FGBOOTHs:
 - a. The identity of each resin, gel coat, and catalyst used,
 - b. The amount (in gallons or pounds) of each resin, gel coat, and catalyst used,
 - c. The VOC and HAP (styrene, methyl methacrylate, and any other HAP) content in weight percent of each resin, gel coat, and catalyst used.

The records shall be kept in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**

See Appendix 3

VII. REPORTING

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

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

**FGMACTWWWW
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Each existing affected source at reinforced plastic composites production facilities as identified in 40 CFR Part 63, Subpart WWWW, 40 CFR 63.5785 and 40 CFR 63.5790 that emit less than 100 tpy of HAP. Reinforced plastic composites production includes the following operations: open molding, mixing, cleaning of equipment used in reinforced plastic composites manufacture, HAP-containing materials storage, and repair operations associated with the production of plastic composites.

Emission Units: EUBOOTH1, EUBOOTH2, EUBOOTH3, EUBOOTH4, EUCLEANUP

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Organic HAP from Open Molding – non-CR/HS	88 lb/ton resin	12-month rolling average or as applied	Mechanical Resin Application portion of FGMACTWWWW	SC V.1, SC VI.2	40 CFR 63.5835(a), 40 CFR Part 63, Subpart WWWW, Table 3.2.a
2. Organic HAP from Open Molding – gel coat	267 lb/ton gel	12-month rolling average or as applied	White/off White Pigmented Gel Coating portion of FGMACTWWWW	SC V.1, SC VI.2	40 CFR 63.5835(a), 40 CFR Part 63, Subpart WWWW, Table 3.6.b
3. Organic HAP from Open Molding – gel coat	377 lb/ton gel	12-month rolling average or as applied	All Other Pigmented Gel Coating portion of FGMACTWWWW	SC V.1, SC VI.2	40 CFR 63.5835(a), 40 CFR Part 63, Subpart WWWW, Table 3.6.c

4. The permittee must use one or a combination of the following methods to meet the standards for open molding operations in Table 3 of 40 CFR Part 63, Subpart WWWW:
 - a. Demonstrate that an individual resin or gel coat, as applied, meets the applicable emission limit in Table 3 of 40 CFR Part 63, Subpart WWWW. **(40 CFR 63.5810(a))**
 - b. Demonstrate that, on average, the facility meets the individual organic HAP emissions limits for each unique combination of operation type and resin application method or gel coat type shown in Table 3 of 40 CFR Part 63, Subpart WWWW that applies to the facility. **(40 CFR 63.5810(b))**
 - c. Demonstrate compliance with a weighted average emission limit. Demonstrate each month that the permittee meets each weighted average of the organic HAP emissions limits in Table 3 of 40 CFR Part 63, Subpart WWWW that apply to the weighted average organic HAP emissions limit for all open molding operations. **(40 CFR 63.5810(c))**

- d. Meet the organic HAP emissions limit for one application method and use the same resin(s) for all application methods of that resin type. This option is limited to resins of the same type. The resin types for which this option may be used are non-corrosion-resistant, corrosion-resistant and/or high strength, and tooling. **(40 CFR 63.5810(d))**

The permittee may switch between the compliance options in (a) through (d). When changing to an option based on a 12-month rolling average, the permittee must base the average on the previous 12 months of data calculated using the compliance option changing to, unless previously used an option that did not require the permittee to maintain records of resin or gel coat. In this case, the permittee must immediately begin collecting resin and gel coat use data and demonstrate compliance 12 months after changing options. **(40 CFR 63.5810)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. At all times, including periods of startup, shutdown, and malfunction, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.5835(c))**
2. The permittee must be in compliance at all times with the work practice standards in Table 4 of 40 CFR Part 63, Subpart WWWW as follows: **(40 CFR 63.5805(c), 40 CFR 63.5835(a))**
 - a. For closed molding operation using compression/injection molding, uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting. **(40 CFR Part 63, Subpart WWWW, Table 4.1)**
 - b. The permittee shall not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin. **(40 CFR Part 63, Subpart WWWW, Table 4.2)**
 - c. For each HAP-containing materials storage operation, the permittee must keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP containing materials storage tanks may be vented as necessary for safety. **(40 CFR Part 63, Subpart WWWW, Table 4.3)**
 - d. For each mixing operation, the permittee must use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation. **(40 CFR Part 63, Subpart WWWW, Table 4.6)**
 - e. For each mixing operation, the permittee must close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety. **(40 CFR Part 63, Subpart WWWW, Table 4.7)**
 - f. For each mixing operation, the permittee must keep the mixer covers closed while actual mixing is occurring, except when adding materials or changing covers to the mixing vessels. **(40 CFR Part 63, Subpart WWWW, Table 4.8)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. In order to determine the organic HAP content of resins and gel coats, the permittee may rely on information provided by the material manufacturer, such as manufacturer's formulation data and material safety data sheets (MSDS), using the procedures specified in (a) through (c), as applicable. **(40 CFR 63.5797)**
 - a. Include in the organic HAP total each organic HAP that is present at 0.1 percent by mass or more for Occupational Safety and Health Administration-defined carcinogens, as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other organic HAP compounds. **(40 CFR 63.5797(a))**
 - b. If the organic HAP content is provided by the material supplier or manufacturer as a range, the permittee must use the upper limit of the range for determining compliance. If a separate measurement of the total organic HAP content, such as an analysis of the material by EPA Method 311 of Appendix A to 40 CFR Part 63, exceeds the upper limit of the range of the total organic HAP content provided by the material supplier or manufacturer, then the permittee must use the measured organic HAP content to determine compliance. **(40 CFR 63.5797(b))**
 - c. If the organic HAP content is provided as a single value, the permittee may use that value to determine compliance. If a separate measurement of the total organic HAP content is made and is less than 2 percentage points higher than the value for total organic HAP content provided by the material supplier or manufacturer, then the permittee still may use the provided value to demonstrate compliance. If the measured total organic HAP content exceeds the provided value by 2 percentage points or more, then the permittee must use the measured organic HAP content to determine compliance. **(40 CFR 63.5797(c))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee must monitor and collect data as specified in (a) through (d): **(40 CFR 63.5895(b))**
 - a. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times that the affected source is operating. **(40 CFR 63.5895(b)(1))**
 - b. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee must use all the data collected during all other periods in assessing the operation of the control device and associated control system. **(40 CFR 63.5895(b)(2))**
 - c. At all times, the permittee must maintain necessary parts for routine repairs of the monitoring equipment. **(40 CFR 63.5895(b)(3))**
 - d. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 63.5895(b)(4))**
2. The permittee must monitor and collect data to demonstrate continuous compliance as follows: **(40 CFR 63.5895, 40 CFR 63.5900)**
 - a. The permittee must collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if meeting any organic HAP emissions limits based on an organic HAP emissions limit in Table 3 of 40 CFR Part 63, Subpart WWWW. The permittee must collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if meeting any organic HAP content limits in Table 7 of 40 CFR Part 63, Subpart WWWW if averaging organic HAP contents. Resin use records may be based on purchase records if the permittee can reasonably estimate how the resin is applied. The organic HAP content records may be based on MSDS or on resin specifications supplied by the resin supplier. **(40 CFR 63.5895(c))**
 - b. Compliance with organic HAP emissions limits is demonstrated by maintaining an organic HAP emissions factor value less than or equal to the appropriate organic HAP emissions limit listed in Table 3 of 40 CFR

Part 63, Subpart WWWW, on a 12-month rolling average, and/or by including in each compliance report a statement that individual resins and gel coats, as applied, meet the appropriate organic HAP emissions limits, as discussed in 40 CFR 63.5895(d). **(40 CFR 63.5900(a)(2))**

- c. Compliance with organic HAP content limits in Table 7 of 40 CFR Part 63, Subpart WWWW is demonstrated by maintaining an average organic HAP content value less than or equal to the appropriate organic HAP contents listed in Table 7 of 40 CFR Part 63, Subpart WWWW, on a 12-month rolling average, and/or by including in each compliance report a statement that resins and gel coats individually meet the appropriate organic HAP content limits in Table 7 of 40 CFR Part 63, Subpart WWWW, as discussed in 40 CFR 63.5895(d). **(40 CFR 63.5900(a)(3))**
 - d. The necessary calculations must be completed within 30 days after the end of each month. The permittee may switch between the compliance options in 40 CFR 63.5810(a) through (d). When change to an option based on a 12-month rolling average, base the average on the previous 12 months of data calculated using the compliance option changing to, unless previously using an option that did not require records of resin and gel coat use. In this case, the permittee must immediately begin collecting resin and gel coat use data and demonstrate compliance 12 months after changing options. **(40 CFR 63.5810)**
3. The permittee must keep the following records: **(40 CFR 63.5915)**
 - a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart WWWW, including all documentation supporting any Initial Notification or Notification of Compliance Status. **(40 CFR 63.5915(a)(1))**
 - b. Records of performance tests, design, and performance evaluations as required in 40 CFR 63.10(b)(2). **(40 CFR 63.5915(a)(3))**
 - c. All data, assumptions, and calculations used to determine organic HAP emissions factors or average organic HAP contents for operations listed in Tables 3 and 7 of 40 CFR Part 63, Subpart WWWW. **(40 CFR 63.5915(c))**
 - d. A certified statement that the permittee is in compliance with the work practice requirements in Table 4 of 40 CFR Part 63, Subpart WWWW, as applicable. **(40 CFR 63.5915(d))**
 4. The permittee must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to 40 CFR 63.10(b)(1) and keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.5920(a) and (b))**
 5. 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 records may be kept offsite for the remaining 3 years. **(40 CFR 63.5920(c))**
 6. The permittee may keep records in hard copy or computer readable form including, but not limited to, paper, microfilm, computer floppy disk, magnetic tape, or microfiche. Any records required to be maintained and are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to the AQD or the EPA as part of an on-site compliance evaluation. **(40 CFR 63.5920(d) and (e))**

VII. REPORTING

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

4. The permittee must submit all of the notifications in Table 13 of 40 CFR Part 63, Subpart WWWW that apply by the dates specified in Table 13 of 40 CFR Part 63, Subpart WWWW. **(40 CFR 63.5905(a))**
5. The permittee must submit semiannual compliance reports. The compliance report must contain the following information: **(40 CFR 63.5910(b) and (c))**
 - a. Company name and address. **(40 CFR 63.5910(c)(1))**
 - b. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. **(40 CFR 63.5910(c)(2))**
 - c. Date of the report and beginning and ending dates of the reporting period. **(40 CFR 63.5910(c)(3))**
 - d. If there are no deviations from any organic HAP emissions limitations (emissions limit and operating limit) that apply, and there are no deviations from the requirements for work practice standards in Table 4 of 40 CFR Part 63, Subpart WWWW, a statement that there were no deviations from the organic HAP emissions limitations or work practice standards during the reporting period. **(40 CFR 63.5910(c)(5))**
 - e. For each deviation from an organic HAP emissions limitation or operating limit and for each deviation from the requirements for work practice standards that occurs at an affected source, the compliance report must contain the information in (i) through (ii). **(40 CFR 63.5910(d))**
 - i. The total operating time of each affected source during the reporting period. **(40 CFR 63.5910(d)(1))**
 - ii. Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken. **(40 CFR 63.5910(d)(2))**
6. The permittee must submit semiannual compliance reports to the EPA via CEDRI, which can be accessed through the EPA's CDX (<https://cdx.epa.gov/>). The permittee must use the appropriate electronic report template on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/cedri>). The report must be submitted by the deadline specified in 40 CFR Part 63, Subpart WWWW. **(40 CFR 63.5912(d))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and WWWW for Reinforced Plastic Composites Production. **(40 CFR Part 63, Subparts A and WWWW)**

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

APPENDICES

Appendix 1. Acronyms and Abbreviations

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

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

Appendix 2. Schedule of Compliance

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

Appendix 3. Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in FGBOOTHs.

Inspections shall be performed on a daily basis to determine the integrity of the dry filters. The inspection should determine whether the dry filters are installed and operating properly. The filters should fit snug and have no gaps or holes. The permittee shall also check for leaks and overspray that may escape the filters.

Appendix 4. Recordkeeping

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

Appendix 5. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-N0544-2019. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-N0544-2019 is being reissued as Source-Wide PTI No. MI-PTI-N0544-2024.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA	NA

Appendix 7. Emission Calculations

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

The permittee shall use Table 1 in Appendix 7 to calculate organic HAP emission factors for the record keeping requirements in FGMACTWWWW.

Table 1 to Subpart WWW of Part 63--Equations to Calculate Organic HAP Emissions Factors for Specific Open Molding and Centrifugal Casting Process Streams
 As specified in §63.5810, use the equations in the following table to calculate organic HAP emissions factors for specific open molding and centrifugal casting process streams:

If your operation type is a new or existing...	And you use...	With...
1. open molding operation	a. manual resin application	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP less than 33 percent organic HAP (19 percent for nonatomized gel coat) ²³ ₂₄ ... EF = 0.126 x %HAP x 2000 EF = ((0.286 x %HAP)-0.0529) x 2000
		ii. vapor-suppressed resin EF = 0.126 x %HAP x 2000 x (1-(0.5 x VSE factor)) EF = ((0.286 x %HAP)-0.0529) x 2000 x (1-(0.5 x VSE factor))
		iii. vacuum bagging/closed-mold curing with roll out EF = 0.126 x %HAP x 2000 x 0.8 EF = ((0.286 x %HAP)-0.0529) x 2000 x 0.8
		iv. vacuum bagging/closed-mold curing without roll-out EF = (0.126 x %HAP x 2000 x 0.5) EF = ((0.286 x %HAP)-0.0529) x 2000 x 0.5
	b. atomized mechanical resin application	i. nonvapor-suppressed resin EF = 0.169 x %HAP x 2000 EF = ((0.714 x %HAP)-0.18) x 2000
		ii. vapor-suppressed resin EF = 0.169 x %HAP x 2000 x (1-(0.45 x VSE factor)) EF = ((0.714 x %HAP)-0.18) x 2000 x (1-(0.45 x VSE factor))
		iii. vacuum bagging/closed-mold curing with roll-out EF = 0.169 x %HAP x 2000 x 0.85 EF = ((0.714 x %HAP)-0.18) x 2000 x 0.85
		iv. vacuum bagging/closed-mold curing without roll-out EF = 0.169 x %HAP x 2000 x 0.55 EF = ((0.714 x %HAP)-0.18) x 2000 x 0.55
	c. nonatomized mechanical resin application	i. nonvapor-suppressed resin EF = 0.107 x %HAP x 2000 EF = ((0.157 x %HAP)-0.0165) x 2000
		ii. vapor-suppressed resin EF = 0.107 x %HAP x 2000 x (1-(0.45 x VSE factor)) EF = ((0.157 x %HAP)-0.0165) x 2000 x (1-(0.45 x VSE factor))
		iii. closed-mold curing with roll-out EF = 0.107 x %HAP x 2000 x 0.85 EF = ((0.157 x %HAP)-0.0165) x 2000 x 0.85
		iv. vacuum bagging/closed-mold curing without roll-out EF = 0.107 x %HAP x 2000 x 0.55 EF = ((0.157 x %HAP)-0.0165) x 2000 x 0.55
	d. atomized mechanical resin application with robotic or automated spray control ⁵	nonvapor-suppressed resin EF = 0.169 x %HAP x 2000 x 0.77 EF = 0.77 x ((0.714 x %HAP)-0.18) x 2000
	e. filament application ⁶	i. nonvapor-suppressed resin EF = 0.184 x %HAP x 2000 EF = ((0.2746 x %HAP)-0.0298) x 2000
		ii. vapor-suppressed resin EF = 0.12 x %HAP x 2000 EF = ((0.2746 x %HAP)-0.0298) x 2000 x 0.65
	f. atomized spray gel coat application	nonvapor-suppressed gel coat EF = 0.445 x %HAP x 2000 EF = ((1.03646 x %HAP)-0.195) x 2000

g. nonatomized spray gel coat application	nonvapor-suppressed gel coat	$EF = 0.185 \times \%HAP \times 2000$	$EF = ((0.4506 \times \%HAP) - 0.0505) \times 2000$
h. atomized spray gel coat application using robotic or automated spray	nonvapor-suppressed gel coat	$EF = 0.445 \times \%HAP \times 2000 \times 0.73$	$EF = ((1.03646 \times \%HAP) - 0.195) \times 2000 \times 0.73$
2. centrifugal casting operations ⁷⁸	a. heated air blown through molds	$EF = 0.558 \times (\%HAP) \times 2000$	$EF = 0.558 \times (\%HAP) \times 2000$
	b. vented molds, but air vented through the molds is not heated	$EF = 0.026 \times (\%HAP) \times 2000$	$EF = 0.026 \times (\%HAP) \times 2000$

Footnotes to Table 1

- ¹ The equations in this table are intended for use in calculating emission factors to demonstrate compliance with the emission limits in subpart WWW. These equations may not be the most appropriate method to calculate emission estimates for other purposes. However, this does not preclude a facilitator from using the equations in this table to calculate emission factors for purposes other than rule compliance if these equations are the most accurate available.
- ² To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of §63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.
- ³ Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, i.e., 33 percent HAP should be input as 0.33, not 33.
- ⁴ The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.
- ⁵ This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.
- ⁶ Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.
- ⁷ These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.
- ⁸ If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

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

B. Other Reporting

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