

From: [Dan Plant](#)
To: [Grinstern, Eric \(EGLE\); EGLE-ROP](#)
Cc: [Ann Schrader](#)
Subject: N5866 2024 ROP Renewal Application
Date: Monday, March 25, 2024 3:59:30 PM
Attachments: [image001.png](#)
[Cover Letter.docx](#)
[Signed Application Form.pdf](#)
[N5866 2024 Renewal Mark-Up1.docx](#)
[2024 FG MACT-EEEEEE Update.docx](#)
[WI-EN-003 RDI Air Pollution Control Plan.docx](#)
[WI-EN-004 RDI Air Pollution Control Plan Supporting Information.docx](#)
[Shot Reclaimer Exemption Memo.pdf](#)

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Mr. Grinstern,

Please accept this as RDI's application for renewal of its ROP. I followed the EQP 6000 form and supporting info as well as the renewal guidance webinar posted on EGLE's website, so this should contain everything required. I've attached separate documents rather than a large PDF to ease with navigation.

No major changes have been requested other than updating the MACT flexible group language to reflect EPA's 2020 RTR updates.

Hard copy is going out today as well.

Thank you and let me know if you need anything else.

Dan Plant
Director of Environmental Engineering



FAITH. FAMILY. SPIRIT. GRIT. VISION. RIGOR.

with **ENVIRON**

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March 25th, 2024

Mr. Eric Grinstern
Michigan EGLE
State Office Building, 5th Floor
350 Ottawa Avenue NW, Unit 10
Grand Rapids, MI 49503-2341
616-356-0266

Subject: 2024 ROP Renewal
Facility ID N5866

Dear Mr. Grinstern,

Please accept this as Ravenna Ductile Iron's application for renewal of its Renewable Operating Permit. I have included all documents required as listed in EGLE's Renewal Application Form (AQP 6000). You will find the following attachments:

- AQP 6000
- Existing ROP Mark-up
- FG-MACT EEEEE as updated according to the 2020 EPA Residual Risk and Technology Review
- AI-001: CAM Plan information. Operating information/requirements are included in the facility's Air Pollution Control Plan, while background information is included in the Supporting Information attachment.
- AI-002: PTI exemption information for a piece of equipment intended to increase reuse of viable shot blast media, having de minimis emissions per Rule 291.

If any additional information is helpful, please let me know.

Thank you,

Dan Plant

Ravenna Ductile Iron

3800 Adams Road • Ravenna, MI 49451

Telephone: 231.853.0300 • Fax: 231.853.0305 • www.metal-technologies.com



RENEWABLE OPERATING PERMIT RENEWAL APPLICATION FORM

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Refer to instructions for additional information to complete the Renewable Operating Permit Renewal Application Form.

GENERAL INSTRUCTIONS

This application form should be submitted as part of an administratively complete application package for renewal of a Renewable Operating Permit (ROP). This application form consists of nine parts. Parts A – H must be completed for all applications and must also be completed for each section of a sectioned ROP. Answer all questions in all parts of the form unless directed otherwise. Detailed instructions for this application form can be found at <http://michigan.gov/air> (select the Permits Tab, "Renewable Operating Permits (ROP)/Title V", then "ROP Forms & Templates").

PART A: GENERAL INFORMATION

Enter information about the source, owner, contact person and the responsible official.

SOURCE INFORMATION

SRN N5866	SIC Code 3321	NAICS Code 331511	Existing ROP Number MI-ROP-N5866-2019	Section Number (if applicable)
Source Name Ravenna Casting Center LLC				
Street Address 3800 Adams Road				
City Ravenna	State MI	ZIP Code 49451	County Muskegon	
Section/Town/Range (if address not available)				
Source Description Ravenna Casting Center LLC (also known as Ravenna Ductile Iron, "RDI") is an iron foundry located in Ravenna, Michigan. The foundry's primary products are castings for small engines and automotive components.				
<input type="checkbox"/> Check here if any of the above information is different than what appears in the existing ROP. Identify any changes on the marked-up copy of your existing ROP.				

OWNER INFORMATION

Owner Name Metal Technologies of Indiana LLC				Section Number (if applicable)
Mailing address (<input type="checkbox"/> check if same as source address) 1401 S Grandstaff Dr				
City Auburn	State IN	ZIP Code 46706	County DeKalb	Country USA

Check here if any information in this ROP renewal application is confidential. Confidential information should be identified on an Additional Information (AI-001) Form.

SRN: N5866

Section Number (if applicable):

PART A: GENERAL INFORMATION (continued)

At least one contact and responsible official must be identified. Additional contacts and responsible officials may be included if necessary.

CONTACT INFORMATION

Contact 1 Name Dan Plant		Title Director of Environmental Engineering		
Company Name & Mailing address (<input type="checkbox"/> check if same as source address) Metal Technologies, 1401 S Grandstaff Dr				
City Auburn	State IN	ZIP Code 46706	County DeKalb	Country USA
Phone number 260-920-2137		E-mail address dplant@metal-technologies.com		

Contact 2 Name (optional) Ann Schrader		Title EHS Engineer		
Company Name & Mailing address (<input checked="" type="checkbox"/> check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name Larry Mullins		Title Plant Manager		
Company Name & Mailing address (<input checked="" type="checkbox"/> check if same as source address)				
City	State	ZIP Code	County	Country
Phone number 231-853-0301		E-mail address lmullins@metal-technologies.com		

Responsible Official 2 Name (optional)		Title		
Company Name & Mailing address (<input type="checkbox"/> check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

Check here if an AI-001 Form is attached to provide more information for Part A. Enter AI-001 Form ID:

PART B: APPLICATION SUBMITTAL and CERTIFICATION by Responsible Official

Identify the items that are included as part of your administratively complete application in the checklist below. For your application to be complete, it must include information necessary to evaluate the source and to determine all applicable requirements. Answer the compliance statements as they pertain to all the applicable requirements to which the source is subject. The source's Responsible Official must sign and date this form.

Listing of ROP Application Contents. Check the box for the items included with your application.

<input checked="" type="checkbox"/> Completed ROP Renewal Application Form (and any AI-001 Forms) (required)	<input type="checkbox"/> Compliance Plan/Schedule of Compliance
<input checked="" type="checkbox"/> Mark-up copy of existing ROP using official version from the AQD website (required)	<input type="checkbox"/> Stack information
<input type="checkbox"/> Copies of all Permit(s) to Install (PTIs) that have not been incorporated into existing ROP (required)	<input type="checkbox"/> Acid Rain Permit Initial/Renewal Application
<input type="checkbox"/> Criteria Pollutant/Hazardous Air Pollutant (HAP) Potential to Emit Calculations	<input type="checkbox"/> Cross-State Air Pollution Rule (CSAPR) Information
<input type="checkbox"/> MAERS Forms (to report emissions not previously submitted)	<input type="checkbox"/> Confidential Information
<input type="checkbox"/> Copies of all Consent Order/Consent Judgments that have not been incorporated into existing ROP	<input checked="" type="checkbox"/> Paper copy of all documentation provided (required)
<input checked="" type="checkbox"/> Compliance Assurance Monitoring (CAM) Plan	<input checked="" type="checkbox"/> Electronic documents provided (optional)
<input type="checkbox"/> Other Plans (e.g., Malfunction Abatement, Fugitive Dust, Operation and Maintenance, etc.)	<input type="checkbox"/> Other, explain:

Compliance Statement

This source is in compliance with **all** of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP. Yes No

This source will continue to be in compliance with all of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP. Yes No

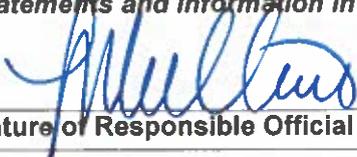
This source will meet in a timely manner applicable requirements that become effective during the permit term. Yes No

The method(s) used to determine compliance for each applicable requirement is/are the method(s) specified in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and all other applicable requirements not currently contained in the existing ROP.

If any of the above are checked No, identify the emission unit(s) or flexible group(s) affected and the specific condition number(s) or applicable requirement for which the source is or will be out of compliance at the time of issuance of the ROP renewal on an AI-001 Form. Provide a compliance plan and schedule of compliance on an AI-001 Form.

Name and Title of the Responsible Official (Print or Type)

As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.


Signature of Responsible Official


Date

PART C: SOURCE REQUIREMENT INFORMATION

Answer the questions below for specific requirements or programs to which the source may be subject.

C1.	Actual emissions and associated data from all emission units with applicable requirements (including those identified in the existing ROP, Permits to Install and other equipment that have not yet been incorporated into the ROP) are required to be reported in MAERS. Are there any emissions and associated data that have not been reported in MAERS for the most recent emissions reporting year? If Yes , identify the emission unit(s) that was/were not reported in MAERS on an AI-001 Form. Applicable MAERS form(s) for unreported emission units must be included with this application.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C3.	Is this source subject to the federal Chemical Accident Prevention Provisions? (Section 112(r) of the Clean Air Act Amendments, 40 CFR Part 68) If Yes , a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
C4.	Has this stationary source added or modified equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NO _x , PM ₁₀ , PM _{2.5} , SO ₂ , VOC, lead) emissions? If Yes , include potential emission calculations (or the PTI and/or ROP revision application numbers, or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. If No , criteria pollutant potential emission calculations do not need to be included.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C5.	Has this stationary source added or modified equipment since the last ROP renewal that changes the PTE for hazardous air pollutants (HAPs) regulated by Section 112 of the federal Clean Air Act? If Yes , include potential emission calculations (or the PTI and/or ROP revision application numbers or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. Fugitive emissions must be included in HAP emission calculations. If No , HAP potential emission calculations do not need to be included.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If Yes , identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C7.	Are any emission units subject to the federal Acid Rain Program? If Yes , identify the specific emission unit(s) subject to the federal Acid Rain Program on an AI-001 Form. Is an Acid Rain Permit Renewal Application included with this application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If Yes , identify the specific emission unit(s) subject to CAM on an AI-001 Form. If a CAM plan has not been previously submitted to EGLE, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/>
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes , then a copy must be submitted as part of the ROP renewal application.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes , then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/>	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: AI-001	

PART F: PERMIT TO INSTALL (PTI) INFORMATION

Review all emission units and applicable requirements at the source and answer the following questions as they pertain to **all** emission units with PTIs. Any PTI(s) identified below must be attached to the application.

F1. Has the source obtained any PTIs where the applicable requirements from the PTI have not been incorporated into the existing ROP? If Yes, complete the following table. Yes No
 If No, go to Part G.

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (Include Process Equipment, Control Devices and Monitoring Devices)	Date Emission Unit was Installed/ Modified/ Reconstructed

F2. Do any of the PTIs listed above change, add, or delete terms/conditions to **established emission units** in the existing ROP? If Yes, identify the emission unit(s) or flexible group(s) affected in the comments area below or on an AI-001 Form and identify all changes, additions, and deletions in a mark-up of the existing ROP. Yes No

F3. Do any of the PTIs listed above identify **new emission units** that need to be incorporated into the ROP? If Yes, submit the PTIs as part of the ROP renewal application on an AI-001 Form, and include the new emission unit(s) or flexible group(s) in the mark-up of the existing ROP. Yes No

F4. Are there any stacks with applicable requirements for emission unit(s) identified in the PTIs listed above that were not reported in MAERS for the most recent emissions reporting year? If Yes, identify the stack(s) that were not reported on the applicable MAERS form(s). Yes No

F5. Are there any proposed administrative changes to any of the emission unit names, descriptions or control devices in the PTIs listed above for any emission units not already incorporated into the ROP? If Yes, describe the changes on an AI-001 Form. Yes No

Comments:

Check here if an AI-001 Form is attached to provide more information for Part F. Enter AI-001 Form ID: **AI-**

PART G: EMISSION UNITS MEETING THE CRITERIA OF RULES 281(2)(h), 285(2)(r)(iv), 287(2)(c), OR 290

Review all emission units and applicable requirements at the source and answer the following questions.

G1. Does the source have any new and/or existing emission units which do not already appear in the existing ROP and which meet the criteria of Rules 281(2)(h), 285(2)(r)(iv), 287(2)(c), or 290.
 If Yes, identify the emission units in the table below. If No, go to Part H. Yes No
Note: If several emission units were installed under the same rule above, provide a description of each and an installation/modification/reconstruction date for each.

Origin of Applicable Requirements	Emission Unit Description – <i>Provide Emission Unit ID and a description of Process Equipment, Control Devices and Monitoring Devices</i>	Date Emission Unit was Installed/ Modified/ Reconstructed
<input type="checkbox"/> Rule 281(2)(h) or 285(2)(r)(iv) cleaning operation		
<input type="checkbox"/> Rule 287(2)(c) surface coating line		
<input type="checkbox"/> Rule 290 process with limited emissions		

Comments:

Check here if an AI-001 Form is attached to provide more information for Part G. Enter AI-001 Form ID: **AI-**

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

Complete this part of the application form for all proposed additions, changes or deletions to the existing ROP. This includes state or federal regulations that the source is subject to and that must be incorporated into the ROP or other proposed changes to the existing ROP. **Do not include additions or changes that have already been identified in Parts F or G of this application form.** If additional space is needed copy and complete an additional Part H.

Complete a separate Part H for each emission unit with proposed additions and/or changes.

H1. Are there changes that need to be incorporated into the ROP that have not been identified in Parts F and G? If <u>Yes</u> , answer the questions below.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
H2. Are there any proposed administrative changes to any of the existing emission unit names, descriptions or control devices in the ROP? If <u>Yes</u> , describe the changes in questions H8 – H16 below and in the affected Emission Unit Table(s) in the mark-up of the ROP.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
H3. Does the source propose to add a new emission unit or flexible group to the ROP not previously identified in Parts F or G? If <u>Yes</u> , identify and describe the emission unit name, process description, control device(s), monitoring device(s) and applicable requirements in questions H8 – H16 below and in a new Emission Unit Table in the mark-up of the ROP. See instructions on how to incorporate a new emission unit/flexible group into the ROP.	<input type="checkbox"/> Yes <input type="checkbox"/> No
H4. Does the source propose to add new state or federal regulations to the existing ROP? If <u>Yes</u> , on an AI-001 Form, identify each emission unit/flexible group that the new regulation applies to and identify <u>each</u> state or federal regulation that should be added. Also, describe the new requirements in questions H8 – H16 below and add the specific requirements to existing emission units/flexible groups in the mark-up of the ROP, create a new Emission Unit/Flexible Group Table, or add an AQD template table for the specific state or federal requirement.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H5. Has a Consent Order/Consent Judgment (CO/CJ) been issued where the requirements were not incorporated into the existing ROP? If <u>Yes</u> , list the CO/CJ number(s) below and add or change the conditions and underlying applicable requirements in the appropriate Emission Unit/Flexible Group Tables in the mark-up of the ROP.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H6. Does the source propose to add, change and/or delete source-wide requirements? If <u>Yes</u> , identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H7. Are you proposing to streamline any requirements? If <u>Yes</u> , identify the streamlined and subsumed requirements and the EU ID, and provide a justification for streamlining the applicable requirement below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)

<p>H8. Does the source propose to add, change and/or delete emission limit requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H9. Does the source propose to add, change and/or delete material limit requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H10. Does the source propose to add, change and/or delete process/operational restriction requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H11. Does the source propose to add, change and/or delete design/equipment parameter requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H12. Does the source propose to add, change and/or delete testing/sampling requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H13. Does the source propose to add, change and/or delete monitoring/recordkeeping requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>H14. Does the source propose to add, change and/or delete reporting requirements? If <u>Yes</u>, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below. CEDRI reporting required per 40 CFR 63 subp. EEEEE updates.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)

H15. Does the source propose to add, change and/or delete **stack/vent restrictions**? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below. Yes No

H16. Does the source propose to add, change and/or delete any **other** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below. Yes No

Requests to update:

EU-CLEAN description for clarity (does not impact EU Table description)

FG-MACT EEEEE according to recent revisions.

Appendix 3 verbiage to increase clarity for operators.

H17. Does the source propose to add terms and conditions for an alternative operating scenario or intra-facility trading of emissions? If Yes, identify the proposed conditions in a mark-up of the corresponding section of the ROP and provide a justification below. Yes No

Check here if an AI-001 Form is attached to provide more information for Part H. Enter AI-001 Form ID: **AI-**



RENEWABLE OPERATING PERMIT APPLICATION

AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: N5866

Section Number (if applicable):

1. Additional Information ID
AI-001

Additional Information

2. Is This Information Confidential?

Yes No

C8. CAM Units

- EU-CLEAN
- EU-MELTING
- EU-POURING
- EU-COOLING
- EU-SHAKEOUT
- EU-SANDSYSTEM

See attached [WI-EN-003 RDI Air Pollution Control Plan.docx](#) and [WI-EN-004 RDI Air Pollution Control Plan Supporting Information.docx](#)



RENEWABLE OPERATING PERMIT APPLICATION

AI-002: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: N5866

Section Number (if applicable):

1. Additional Information ID
AI-002

Additional Information

2. Is This Information Confidential?

Yes No

D1. PTI Exemption

Shot Reclaimer Exemption Memo.pdf

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

EFFECTIVE DATE: October 1, 2019

ISSUED TO

Metal Technologies – Ravenna Casting Center LLC

State Registration Number (SRN): N5866

LOCATED AT

3800 Adams Road, Ravenna, Muskegon County, Michigan 49451

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N5866-2019

Expiration Date: October 1, 2024

Administratively Complete ROP Renewal Application
Due Between April 1, 2023 and April 1, 2024

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N5866-2019

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

Michigan Department of Environment, Great Lakes, and Energy

Heidi Hollenbach, Grand Rapids District Supervisor

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ROP No: MI-ROP-N5866-2019
Expiration Date: October 1, 2024
PTI No: MI-PTI-N5866-2019

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))**

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

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
- 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).
 - 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.
 - 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.

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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))**
- 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.
 - 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))**
- The applicable requirements are included and are specifically identified in the ROP.
 - 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:
- 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))**
 - 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))**
 - The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

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- 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)(ii), 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))**

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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))**

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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).

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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.

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C. EMISSION UNIT SPECIAL CONDITIONS

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

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-CLEAN	Cast cleaning operations. Baghouse control of emissions (West Blast Baghouse).	08-15-1995/ 04-04-2000	FG-CAMUNITS
EU-PREHEATER	One 13.2 MMBTU/hr natural gas-fired pre-heater. Baghouse control of emissions (East and West Melt Baghouses). (PTI No. 17-15)	08-15-1995/ 10-29-2012	FG-MELTING FG-MACT EEEEE
EU-MELTING	Three (3) 9-ton/hr electric induction furnaces. Baghouse control of emissions. (East and West Melt Baghouses). (PTI No. 17-15)	08-15-1995/ 04-04-2000	FG-MELTING FG-CAMUNITS FG-MACT EEEEE
EU-INOCULATION	Inoculation of gray iron. Baghouse control of emissions (Inoculation Baghouse). (PTI No. 17-15)	08-15-1995/ 04-04-2000	FG-MELTING
EU-POURING	Two (2) pouring stations. Baghouse control of emissions (East and West Sand Baghouses). (PTI No. 17-15)	08-15-1995/ 09-11-2000	FG-SAND FG-CAMUNITS FG-MACT EEEEE
EU-COOLING	Two (2) mold cooling lines. Baghouse control of emissions (East and West Sand Baghouses). (PTI No. 17-15)	08-15-1995/ 04-04-2000	FG-SAND FG-CAMUNITS
EU-SHAKEOUT	Two (2) sonic shakeout systems. Baghouse control of emissions (East and West Sand Baghouses). (PTI No. 17-15)	08-15-1995/ 04-04-2000	FG-SAND FG-CAMUNITS
EU-SANDSYSTEM	Sand handling system. Baghouse control of emissions (East and West Sand Baghouses). (PTI No. 17-15)	08-15-1995/ 04-04-2000	FG-SAND FG-CAMUNITS

**EU-CLEAN
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Cast cleaning operations including three (3) shotblasters, one (1) ~~tumblersample blast machine~~, sixteen (16) stand grinders and miscellaneous inspection/cleaning stations. This emission unit is subject to CAM for particulate emissions.

Commented [DP1]: More accurate description

Flexible Group ID: FG-CAMUNITS

POLLUTION CONTROL EQUIPMENT

West Blast Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate	0.01 lb. per 1,000 lbs. exhaust gases on a dry gas basis ²	Hourly	EU-CLEAN	SC V.1 FG-CAMUNITS	R336.1331(1)(c)
2. Particulate	2.2 lbs. per hour ²	Hourly	EU-CLEAN	SC V.1 & VI.2 FG-CAMUNITS	R336.1331(1)(c)
3. Particulate	9.6 tpy ²	12-month rolling time period as determined at the end of each calendar month	EU-CLEAN	SC V.1 & VI.2 FG-CAMUNITS	R336.1331(1)(c)
4. Opacity	5% ²	6-minute average	EU-CLEAN	SC III.1 & III.2 FG-CAMUNITS	R336.1301(1)(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall not operate the emission unit unless the baghouse is installed and operating properly.² (R 336.1910)
- The permittee shall not operate the emission unit unless the malfunction/preventative maintenance plan is implemented and maintained.² (R 336.1910)

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall equip and maintain the baghouse with instrumentation to continuously measure the pressure drop across each fabric filter collector.² (R 336.1910)

V. TESTING/SAMPLING

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

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1. The permittee shall verify particulate matter emission rates from EU-CLEAN by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in 40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the appropriate AQD 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 the appropriate AQD District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall verify the particulate matter emission rates from EU-CLEAN, at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a monthly record of the hours of operation for the emission unit. **(R 336.1213(3))**
2. The permittee shall calculate and maintain records of particulate emissions in pounds per hour and tons per year based on a 12-month rolling time period on a monthly basis. **(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))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**
5. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. **(R 336.12001(3))**
6. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4))**
7. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.2001(5))**

See Appendix 8

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VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-CLEAN-03	60 ¹	65 ¹	R 336.1901

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

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

D. FLEXIBLE GROUP SPECIAL CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-MELTING	Flexible group consists of metal processing operations that have combined emission limits, including pre-heater, induction melting furnaces, and inoculation operations. EU-PREHEATER and EU-MELTING are controlled by the East Melt Baghouse and West Melt Baghouse. EU-INOCULATION is controlled by the Inoculation Baghouse.	EU-PREHEATER EU-MELTING EU-INOCULATION
FG-SAND	Sand system, shakeout and cooling operations controlled by East and West Sand Baghouses. Pouring, cooling, shakeout, and sand system operations controlled by East and West Sand Baghouses.	EU-POURING EU-COOLING EU-SHAKEOUT EU-SANDSYSTEM
FG-CAMUNITS	This flexible group consists of emission units that use a control device to achieve compliance with a federally enforceable emission limitation or standard for particulate matter and are subject to CAM because precontrolled emissions are greater than 100 tons.	EU-CLEAN EU-MELTING EU-POURING EU-COOLING EU-SHAKEOUT EU-SANDSYSTEM
FG-MACT EEEEE	Foundry processes subject to 40 CFR Part 63, Subpart EEEEE.	EU-PREHEATER EU-MELTING EU-POURING
FG-RULE287(c)	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.	NA
FG-RULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.	NA
FG-COLDCLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	NA

**FG-MELTING
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Flexible group consists of metal processing operations that have combined emission limits, including pre-heater, induction melting furnaces, and inoculation operations.

Emission Units: EU-PREHEATER, EU-MELTING, EU-INOCULATION

POLLUTION CONTROL EQUIPMENT

EU-PREHEATER and EU-MELTING are controlled by the East Melt Baghouse and West Melt Baghouse. EU-INOCULATION is controlled by the Inoculation Baghouse.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter	0.01 pounds per 1,000 pounds of exhaust gases, as calculated on a dry gas basis ²	Hourly	FG-MELTING	SC V.1 FG-CAMUNITS	R 336.1331(1)(c)
2. Particulate Matter	2.5 pounds per hour ²	Hourly	FG-MELTING	SC V.1 & VI.4 FG-CAMUNITS	R 336.1331(1)(c)
3. Particulate Matter	10.95 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC V.1 & VI.4 FG-CAMUNITS	R 336.1331(1)(c)
4. Carbon Monoxide	15.1 pounds per hour ²	Hourly	FG-MELTING	SC V.1 & VI.4	R 336.1205(1)
5. Carbon Monoxide	42.8 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC V.1 & VI.4	R 336.1205(1)
6. VOC	4.4 pounds per hour ²	Hourly	FG-MELTING	SC V.1 & VI.4	R 336.1205(1)
7. VOC	10.8 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC V.1, VI.4	R 336.1205(1)
8. Nitrogen Oxides	3.1 pounds per hour ²	Hourly	FG-MELTING	SC V.1 & VI.4	R 336.1205(1)
9. Nitrogen Oxides	13.2 tons per year ²	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC V.1 & VI.4	R 336.1205(1)
10. Lead	0.07 pound per hour ¹	Hourly	FG-MELTING	SC V.1 & VI.4	R 336.1225
11. Lead	0.16 ton per year ¹	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC V.1 & VI.4	R 336.1225
12. Total Chromium	0.000876 pound per hour ²	Hourly	FG-MELTING	SC V.1 & VI.4	R 336.1225
13. Opacity	5% ²	6-minute average	FG-MELTING	SC III.1 & III.2	R 336.1301(1)(c)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Furnace charge material	27 tons per hour ²	Monthly average	EU-MELTING	SC VI.3	R 336.1205(1) R 336.1225
2. Furnace charge material	132,000 tons per year ²	12-month rolling time period as determined at the end of each calendar month	EU-MELTING	SC VI.3	R 336.1205(1) R 336.1225

3. The permittee shall not use EU-MELTING for the production of stainless steel products.² **(R 336.1224, R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG-MELTING unless an updated malfunction/preventative maintenance plan as described in Rule 911(2), has been submitted within 45 days of permit issuance, and is implemented and maintained. If at any time the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the plan within 45 days after such an event occurs. The permittee shall also amend the plan within 45 days, if new equipment is installed, or upon request from the AQD District Supervisor. The permittee shall submit the plan and any amendments to the plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the plan or amended plan shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits² **(R 336.1225, R 336.1331, R 336.1910, R 336.1911)**
2. The permittee shall not operate any emission unit in FG-MELTING unless the corresponding baghouses are installed and operating properly.² **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify PM, NOx, CO, VOC, Lead and total chromium emission rates from FG-MELTING by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
NOx	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the appropriate AQD 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 the

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appropriate AQD District Office within 60 days following the last date of the test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)

2. The permittee shall verify the PM, NOx, CO, VOC, Lead and total chromium emission rates from FG-MELTING, at a minimum, every five years from the date of the last test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the AQD District Supervisor not less than 30 days of the time and place before performance tests are conducted. (R 336.1213(3))

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. All required records shall be completed in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.² (R 336.1201)
2. The permittee shall maintain a monthly record of the hours of operation for each emission unit in FG-MELTING.² (R 336.1205(1), R 336.1331(1)(c), R 336.1225)
3. The permittee shall maintain a monthly record of material charge rates to the furnaces.² (R 336.1205(1), R 336.1225)
4. The permittee shall calculate and maintain the following records of emissions for all pollutants listed in SC I.1 through SC I.12:
 - a. Average pounds per hour on a monthly basis, and
 - b. Tons per month and tons per 12-month rolling time period.

The permittee shall keep all records on file at a location approved by the AQD District Supervisor and make them available to the Department upon request.² (R 336.1205(1), R 336.1331(1)(c), R 336.1225)

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and the appropriate AQD District Office, in a format approved by the AQD. (R 336.1213(3)(c), R 336.2001(5))
5. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. (R 336.12001(3))
6. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. (R 336.2001(4))

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7. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test.
(R 336.2001(5))

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-MELT-01	60 ¹	70 ¹	R 336.1225
2. SV-INOCULATION-04	52 ¹	70 ¹	R 336.1225

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

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

**FG-SAND
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Pouring, cooling, shakeout, and sand system operations.

Emission Units: EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM

POLLUTION CONTROL EQUIPMENT

East Sand Baghouse
 West Sand Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter	0.01 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis ²	Hourly	FG-SAND	SC V.1 & VI.2	R 336.1331(1)(c)
2. Particulate Matter	6.0 pounds per hour ²	Hourly	FG-SAND	SC V.1, VI.3 & VI.4 FG-CAMUNITS	R 336.1331(1)(c)
3. Particulate Matter	26.3 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	FG-SAND	SC V.1, VI.3 & VI.4 FG-CAMUNITS	R 336.1331(1)(c)
4. Carbon Monoxide	98.5 pounds per hour ²	Hourly	FG-SAND	SC V.1, VI.3 & VI.4	40 CFR 52.21(d)
5. Carbon Monoxide	270 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	FG-SAND	SC V.1 & VI.3	40 CFR 52.21(d)
6. VOC	4.0 pounds per hour ²	Hourly	FG-SAND	SC V.1 or V.2, VI.3 & VI.4	R 336.1702(a)
7. VOC	12.0 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	FG-SAND	SC V.1 or V.2 & VI. 3	R 336.1702(a)
8. Total Chromium	0.00168 pounds per hour ²	Hourly	FG-SAND	SC V.1, VI.3 & VI.4	R 336.1225
9. Opacity	5% Opacity ²	6-minute average	FG-SAND	SC III.1 & III.2 FG-CAMUNITS	R 336.1301(1)(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Sand	600,000 tons per year ²	Based on a 12-month rolling time period as determined at the end of each calendar month	FG-SAND	SC V1.3	R 336.1205(1)

2. The permittee shall not use FG-SAND for the production of stainless steel products.² (**R 336.1224, R 336.1225**)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG-SAND unless an updated malfunction/preventative maintenance plan as described in Rule 911(2), has been submitted within 45 days of permit issuance, and is implemented and maintained. If at any time the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the plan within 45 days after such an event occurs. The permittee shall also amend the plan within 45 days, if new equipment is installed, or upon request from the AQD District Supervisor. The permittee shall submit the plan and any amendments to the plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the plan or amended plan shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.² (**R 336.1225, R 336.1331, R 336.1910, R 336.1911**)

2. The permittee shall not operate FG-SAND unless the baghouses are installed and operating properly.² (**R 336.1910**)

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall verify PM, CO, VOC, and total chromium emission rates from FG-SAND by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
CO	40 CFR Part 60, Appendix A
VOC	40 CFR Part 60, Appendix A
Metals	40 CFR Part 60, Appendix A; 40 CFR Part 61, Appendix B; 40 CFR Part 63, Appendix A

An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the appropriate AQD 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 the appropriate AQD District Office within 60 days following the last date of the test. (**R 336.1213(3), R 336.2001, R 336.2003, R 336.2004**)

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2. As an alternative to the requirements of SC V.1 stack testing, the permittee may forego stack testing of VOC and instead demonstrate compliance with SC I.6 and 1.7 using emission factors for VOC developed as part of the Casting Emission Reduction Program (CERP), as long as those emission factors continue to be representative of the materials that are in use at the plant.² **(R 336.1702(a))**
3. The permittee shall verify the PM, CO, VOC, and total chromium emission rates from FG-SAND, at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
4. The permittee shall notify the AQD Technical Programs Unit Supervisor and the AQD District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. All required records shall be completed in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.² **(R 336.1201)**
2. The permittee shall maintain a monthly record of the hours of operation for FG-SAND.² **(R 336.1331(1)(c), R 336.1225, R 336.1702(a), 40 CFR 52.21(d))**
3. The permittee shall calculate and maintain the following records of emissions for PM, CO, VOC, and total chromium:
 - a. Average pounds per hour on a monthly basis, and
 - b. Tons per month and tons per 12-month rolling time period.The permittee shall keep all records on file at a location approved by the AQD District Supervisor and make them available to the Department upon request.² **(R 336.1331(1)(c), R 336.1225, R 336.1702(a), 40 CFR 52.21(d))**
4. The permittee shall maintain a monthly record and 12-month rolling average record of the amount of sand used in molding operations.² **(R 336.1205(1))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**
5. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. **(R 336.12001(3))**

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6. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4))**
7. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-SAND-02	84 ¹	126.25 ¹	R 336.1225

IX. OTHER REQUIREMENT(S)

1. The permittee shall report any product formulation changes and/or compositional changes in any agent (binding agent, mold release, mold coating agents) and shall receive written approval from the AQD for any product prior to its use in production. This condition does not apply to testing of products for possible use in production provided that the duration of the testing does not exceed five days in any month for any product.¹ **(R 336.1225)**

Footnotes:

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

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

**FG-CAMUNITS
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

This flexible group consists of emission units that use a control device to achieve compliance with a federally enforceable emission limitation or standard for particulate matter and are subject to 40 CFR Part 64 CAM because pre-controlled emissions are greater than 100 tons.

Emission Units: EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM

POLLUTION CONTROL EQUIPMENT

EU-CLEAN – West Blast Baghouse.

EU-MELTING – East and West Melt Baghouses.

EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM – East and West Sand Baghouses

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. If visible emissions are observed, the permittee shall initiate corrective action, beginning with an evaluation of the occurrence to determine the action necessary to correct the situation. **(40 CFR 64.7(d), 40 CFR 64.6(c))**
2. The permittee shall operate the West Blast Baghouse (EU-CLEAN), East and West Melt Baghouse (EU-MELTING) and East and West Sand Baghouse (EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM) in accordance with the differential pressure drop ranges contained within the Operation and Maintenance Plan (O&M Plan). If an excursion occurs outside of these ranges, the permittee shall initiate corrective action. **(40 CFR 64.7(d), 40 CFR 64.6(c))**
3. For EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, and EU-SANDSYSTEM, the permittee shall install, operate and maintain bag leak detection systems on each of the baghouse outlets that is equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the O&M Plan. **(40 CFR 64.7(d), 40 CFR 64.6(c))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall, at all times, maintain the monitoring and differential pressure gauge for EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, and EU-SANDSYSTEM. A bag leak detection system shall be maintained for EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, and EU-SANDSYSTEM, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. **(40 CFR 64.7(d))**

V. TESTING/SAMPLING

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

1. The permittee shall verify opacity from CAM-affected emission units, EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 51,

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Appendix M; 40 CFR Part 60, Appendix A and B. An alternate method, or a modification to the approved USEPA Method, may be specified in an AQD-approved Test Protocol. 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 appropriate AQD District Office within 30 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall verify opacity, through certified visible emissions observations, from EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM, at a minimum, semiannually. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004, CFR 64.6(c)(i),(ii))**
3. The permittee shall notify the AQD District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. Pressure drop across the West Blast Baghouse (EU-CLEAN), East and West Melt Baghouse (EU-MELTING) and East and West Sand Baghouse (EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM) shall be measured with a differential pressure gauge continuously and shall be recorded once daily when the process is in operation. The gauges shall be calibrated according to manufacturer's recommendations. **(40 CFR 64.6(c)(1), R 336.1213(3))**
2. The permittee shall perform (non-certified) visual inspections for opacity, on a production day basis when the emission units are in operation, as an indicator of proper operation of the dust collector. The indicator is the presence of visible emissions. The visible emission checks shall be documented and recorded in accordance with Appendix 3. If visible emissions are observed, the permittee shall conduct an opacity reading using USEPA Reference Method 9. An excursion is an opacity reading of greater than 5%. **(40 CFR 64.7(d), 40 CFR 64.6(c)(1) (i and ii)), R 336.1213(3))**
3. The permittee shall monitor and record the relative particulate matter loadings from each baghouse controlling emissions from EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM on a continuous basis with a bag leak detection system. **(40 CFR 64.7(d), 40 CFR 64.6(c))**
4. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
5. The permittee shall initiate the preventive maintenance plan if the pressure drop deviates from the ranges established in the O&M Plan for the West Blast Baghouse (EU-CLEAN) based on the daily readings. These are excursions. **(40 CFR 64.6(c)(2), 40 CFR 64.7(d))**
6. The permittee shall initiate the preventive maintenance plan if the alarm on the bag leak detection system sounds in response to an increase in relative particulate loadings over the alarm set point established in the operation and maintenance plan. These are excursions. **(40 CFR 64.6(c)(2), 40 CFR 64.7(d))**

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7. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**
8. The permittee shall, at all times, maintain the monitoring system, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. **(40CFR 64.7(b))**
9. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**
5. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the first anticipated test date covered by the permit. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. The test protocol shall also provide the anticipated five (5) year test schedule. At least 30 days prior to each anticipated test date, the permittee shall notify the District Supervisor by email of the planned test date. **(R 336.12001(3), (R 336.2001(4))**
6. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.2001(5))**
7. Each semiannual report of monitoring deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
8. Each semiannual report of monitoring deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

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VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the ROP and CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**
3. The permittee shall submit a revised CAM Plan within 180 days of the issuance of the ROP. **(40 CFR 64.6(e)(2))**

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).

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FG-MACT EEEEE
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

~~The affected source is a new or existing iron and steel foundry, that is (or is part of) a major source of hazardous air pollutant (HAP) emissions. An existing affected source is a source that commences construction or reconstruction before December 23, 2002. A new affected source is a source that commences construction or reconstruction on or after December 23, 2002. The regulations cover emissions from metal melting furnaces, scrap preheaters, new pouring areas, pouring stations, new~~

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~~automated conveyor and new pallet cooling lines, new automated shakeout lines, mold and core making lines, and fugitive emissions from foundry operations.~~

~~Emission Units: EU-PREHEATER, EU-MELTING, EU-POURING~~

~~**POLLUTION CONTROL EQUIPMENT**~~

~~EU-PREHEATER: East Melt Baghouse and West Melt Baghouse
 EU-MELTING: East Melt Baghouse and West Melt Baghouse
 EU-POURING: East Sand Baghouse and West Sand Baghouse~~

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

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Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Opacity (fugitive)	20% 6-min average, except for one 6-min average per hour that does not exceed 27%	6-minute average	Each Building or Structure Housing any Iron or Steel Foundry Emission Source at FG-MACT EEEEE	SC III.1, III.4, V.1, & VI.1 – VI.9	40 CFR 63.7690(a)(7)
2. PM --OR-- -Total Metal HAP	0.005-gr/dscf --OR-- 0.0004-gr/dscf	Hourly	Existing Electric Induction Melting	SC III.6, V.2, V.3, VI.1, & VI.6	40 CFR 63.7690(a)(1)(i) or (ii)
3. PM --OR-- -Total Metal HAP	0.005-gr/dscf --OR-- 0.0004-gr/dscf	Hourly	Existing Scrap-Preheater	SC III.6, V.2, V.3, VI.1, VI.2, VI.6, & VI.7	40 CFR 63.7690(a)(1)(i) or (ii)
4. Volatile Organic HAP (VOHAP)	20 ppmv	Hourly	Existing Scrap-Preheater	SC III.6, V.2, V.3, VI.1, VI.2, & VI.7	40 CFR 63.7690(a)(9)
5. PM --OR-- -Total Metal HAP	0.010-gr/dscf --OR-- 0.0008-gr/dscf	Hourly	Existing Pouring Station	SC III.1, V.2, V.3, & VI.6	40 CFR 63.7690(a)(5)(i) or (ii)

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~~II. MATERIAL LIMIT(S)~~

~~1. As an alternative to meeting the VOHAP limit in 40 CFR 63.7690(a)(9) for a new or existing scrap preheater, the permittee shall charge only material to the scrap preheater that is subject to and in compliance with the scrap certification requirement of 40 CFR 63.7700(b), (40 CFR 63.7700(e)(2) and (f))~~

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

~~1. The permittee shall maintain an approved operation and maintenance (O&M) plan for each capture and control system and control device for an emission unit subject to an emission limit as described in 40 CFR 63.7710. The plan shall include, but is not limited to, the following:~~

- ~~a. Monthly inspections of the equipment that is important to the performance of the total capture system. (40 CFR 63.7710(b)(1))~~
 - ~~b. Operating limits for each capture system for an emission unit subject to a limit for VOHAP or TEA. (40 CFR 63.7710(b)(2))~~
 - ~~c. Preventative maintenance plan for each control device, including a schedule. (40 CFR 63.7710(b)(3))~~
 - ~~d. A site-specific monitoring plan for each bag leak detection system. (40 CFR 63.7710(b)(4))~~
 - ~~e. Corrective action plan for each baghouse. (40 CFR 63.7710(b)(5))~~
 - ~~f. Procedures for igniting gases from mold vents. (40 CFR 63.7710(b)(6))~~
- ~~The permittee shall maintain and implement the approved O&M plans at all times. (40 CFR 63.7710, 40 CFR 63.7745)~~

~~2. For each capture system, wet scrubber, acid wet scrubber, or combustion device, the permittee shall establish site-specific operating limits in the O&M plans according to the procedures specified in 40 CFR 63.7733. (40 CFR 63.7733)~~

~~3. The permittee shall comply with the emission limits, work practice standards, and operation and maintenance requirements at all times, except during periods of startup, shutdown, or malfunction. (40 CFR 63.7720(a))~~

~~4. The permittee shall develop and implement a written Startup, Shutdown and Malfunction Plan (SSMP) in accordance with 40 CFR 63.6(e)(3). This plan must address the startup, shutdown and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The SSMP must also specify what constitutes a shutdown of a cupola and how to determine that operating conditions are normal following startup of a cupola. The permittee shall operate in accordance with the SSMP when applicable. (40 CFR 63.7720(c), 40 CFR 63.6(e)(3))~~

~~5. For each segregated scrap storage area, bin or pile, the permittee shall prepare and operate at all times according to a written certification that the facility purchases and uses only charge material that does not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics or organic liquids. (40 CFR 63.7700(a), 40 CFR 63.7700(b))~~

~~AND/OR~~

~~For each segregated scrap storage area, bin or pile, the permittee shall prepare and operate according to a written plan for the selection and inspection of iron and steel scrap as specified in 40 CFR 63.7700(c). (40 CFR 63.7700(a), 40 CFR 63.7700(c))~~

~~6. As an alternative to meeting the VOHAP limit in 40 CFR 63.7690(a)(9) for an existing preheater, the permittee shall install, operate and maintain a gas-fired preheater where the flame directly contacts the~~

~~scrap charged, or only charge material that is subject to and in compliance with the scrap certification requirement in 40 CFR 7700(b). (40 CFR 63.7700(e)(1), 40 CFR 7744(c))~~

~~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)(iii))~~

- ~~1. The permittee shall conduct a performance test to demonstrate compliance with the opacity limit in 40 CFR 63.7690(a)(7), following the test methods and procedures in 40 CFR 63.7732(d). Compliance testing shall be conducted no less frequently than every 6 months. (40 CFR 63.7730(a), 40 CFR 63.7731(b))~~
- ~~2. The permittee shall conduct performance testing to demonstrate compliance with applicable PM, Total Metal HAP, TEA and VOHAP emission rates from FG-MACT EEEEE according to the requirements in 40 CFR 63.7(e)(1), following the test methods and procedures in 40 CFR 63.7732(b), (c), (e), (f), (g) and (h). No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (40 CFR 63.7730(a), R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)~~
- ~~3. The permittee shall conduct subsequent compliance testing to demonstrate compliance with all applicable emission limits, no less frequently than every 5 years. This requirement does not apply if a CEMS is used to demonstrate continuous compliance. (40 CFR 63.7731(a))~~

~~VI. MONITORING/RECORDKEEPING~~

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

- ~~1. The permittee shall operate each CPMS according to the requirements of 40 CFR 63.7741(f)(1) through (3). (40 CFR 63.7741(f))~~
- ~~2. During the period between the compliance date specified for the foundry and the date when operating limits have been established during the performance test, the permittee shall maintain a log detailing the operation and maintenance of the process and control equipment. (40 CFR 63.7720(b))~~
- ~~3. The permittee shall monitor the relative change in PM loading using a bag leak detection system for any baghouse used to meet PM or Total Metal HAP emission limits. (40 CFR 63.7740(b))~~
- ~~4. If using the alternative to meeting the VOHAP limit in 40 CFR 63.7690(a)(9) for a new or existing scrap preheater, the permittee shall keep records to document that the preheater charges only material that is subject to and in compliance with the scrap certification requirements. (40 CFR 63.7744(c) and (d))~~
- ~~5. The permittee shall keep records of the chemical composition of the catalyst binder formulation applied in each furan warm box mold or core making line as specified in 40 CFR 63.7744(b). (40 CFR 63.7744)~~
- ~~6. For each baghouse that is applied to meet any PM or Total Metal HAP emission limit, the permittee shall install, operate, and maintain a bag leak detection system according to the requirements in 40 CFR~~

~~63.7741(b) and conduct inspections according to the requirements specified in 40 CFR 63.7740(b)(1) through (8). (40 CFR 63.7740(b), 40 CFR 63.7741(b))~~

- ~~7. If a control device other than a baghouse, wet scrubber, wet acid scrubber, or combustion device is used, the permittee shall prepare and submit a monitoring plan containing the information in 40 CFR 63.7690(c)(1) through (5). (40 CFR 63.7690(c))~~
- ~~8. For each emission unit in FG-MACT EEEEE, the permittee shall demonstrate initial compliance with the work practice standards and the operation and maintenance requirements as specified in 40 CFR 63.7735 and 40 CFR 63.7736. (40 CFR 63.7735, 40 CFR 63.7736)~~
- ~~9. The permittee shall monitor and collect data to demonstrate continuous compliance in accordance with 40 CFR 63.7742. (40 CFR 63.7742)~~
- ~~10. The permittee shall demonstrate continuous compliance with all applicable emission limitations in accordance with 40 CFR 63.7743. (40 CFR 63.7743)~~
- ~~11. The permittee shall maintain records that document continuous compliance with the requirements of 40 CFR 63.7700(b) or (c) as specified in 40 CFR 63.7744(a). (40 CFR 63.7744)~~

VII. REPORTING

- ~~1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))~~
- ~~2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))~~
- ~~3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))~~
- ~~4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and the appropriate AQD District Office, in a format approved by the AQD. (R 336.1213(3)(c), R 336.2001(5))~~
- ~~5. The permittee shall report each instance in which each emission limitation, each work practice standard, and each operation and maintenance requirement was not met, in accordance with the requirements of 40 CFR 63.7751. (40 CFR 63.7746, 40 CFR 63.7751)~~
- ~~6. The permittee shall submit applicable notifications specified in 40 CFR 63.6(h)(4) and (5), 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), 40 CFR 63.8(f)(4) through (6), and 40 CFR 63.9(b) through (h) for an initial notification, a notification of intent to conduct a performance test, and a notification of compliance status as specified in 40 CFR 63.7750. (40 CFR 63.7750)~~
- ~~7. The permittee shall submit all semiannual compliance reports and semiannual reports of monitoring and deviations from any emissions limitation or operation and maintenance requirement as required by 40 CFR 63.7751(a), (b), and (d). (40 CFR 63.7751 (a), (b), and (d))~~
- ~~8. If a startup, shutdown, or malfunction occurs during the semiannual reporting period, that is not consistent with the SSMP, the permittee shall submit an immediate SSM report according to the requirements of 40 CFR 63.10(d)(5)(ii). (40 CFR 63.10(d)(5)(ii), 40 CFR 63.7751(e))~~
- ~~9. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test~~

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~~date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. (R 336.12004(3))~~

~~40. The permittee shall notify the AQD Technical Programs Unit Supervisor and the AQD District Supervisor no less than 7 days prior to the anticipated test date. (R 336.2004(4))~~

~~41. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. (R 336.2004(5))~~

See Appendix 8

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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, Subpart A and Subpart EEEEE for Iron and Steel Foundries by the compliance date. (40 CFR Part 63, Subparts A and EEEEE)~~

Footnotes:

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

**FG-RULE287(2)(c)
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

Emission Units installed on or after December 20, 2016: NA

Emission Units installed prior to December 20, 2016: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Underlying Applicable Requirement
1. Coatings	200 Gallons/month (minus water as applied)	Calendar month	Each emission unit	R 336.1287(2)(c)(i)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Any exhaust system installed on or after December 20, 2016, that serves only coating spray equipment shall be equipped with a dry filter control or water wash control which is installed, maintained, and operated in accordance with the manufacturer's specifications, or the permittee develops a plan which provides to the extent practicable for the maintenance and operation of the equipment in a manner consistent with good air pollution control practices for minimizing emissions. All emission units installed before December 20, 2016, with an exhaust system that serves only coating spray equipment must have a properly installed and operated particulate control system. (R 336.1213(2), R 336.1287(2)(c)(ii), R 336.1910)

V. TESTING/SAMPLING

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

NA

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VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the EGLE, AQD Rule 287(2)(c), Permit to Install Exemption Record form (EQP 3562) or in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**
 - a. Volume of coating used, as applied, minus water, in gallons. **(R 336.1287(2)(c)(iii))**
 - b. Documentation of any filter replacements or maintenance of water wash control for exhaust systems serving coating spray equipment or other documentation included in a plan developed by the owner or operator of the equipment. **(R 336.1213(3))**

VII. REPORTING

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-RULE290
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

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

Emission Units installed on or after December 20, 2016: (EU-RULE290 and any future emission unit that meets the requirements of this flexible group.)

Emission Units installed prior to December 20, 2016: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

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- a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(2)(a)(iii)(A))**
- b. The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in Rule 303. **(R 336.1290(2)(a)(iii)(B))**
- c. The initial threshold screening level for each particulate toxic air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(2)(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

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

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

See Appendix 4

VII. REPORTING

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

**FG-COLDCLEANERS
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

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

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

IV. DESIGN/EQUIPMENT PARAMETER(S)

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

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

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

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

VII. REPORTING

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

See Appendix 8

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VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

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

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

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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 FG-CAMUNITS.

The permittee shall record the following information during non-certified visual observations for opacity.

1. Visible emissions results shall be recorded on days of operation as "observed" or "not observed".
2. If visible emissions are observed, the maintenance supervisor shall be notified immediately.
3. If visible emissions are observed, Method 9 readings shall be taken.
3. A determination of needed repairs and/or maintenance shall be made within 24 hours and recorded.
4. Repair and/or maintenance operations shall be performed within 48 hours of discovery.
5. Routine maintenance shall be performed according to the manufacturer's recommendations.

Commented [DP3]: The observed/not observed language causes confusion among readers.

Appendix 4. Recordkeeping

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

Appendix 5. Testing Procedures

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

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-N5866-2014⁹. 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-N5866-~~2014b~~-2019 is being reissued as Source-Wide PTI No. MI-PTI-N5866-2019~~2024~~

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
17-15	201500078/ August 7, 2015	Incorporate Permit to Install (PTI) No. 17-15. When the equipment was originally permitted in 1998, the permit application proposed that the pouring emission unit EU-POURING would exhaust with the melting process as part of the flexible group FG-MELTING. However, when the equipment was constructed, the exhaust	FG-MELTING FG-SAND

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Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
		<p>system for EU-POURING was connected to the control equipment for cooling, shakeout, and sand handling, which makes up the FG-SAND flexible group. This PTI application was submitted to modify the permit, so that it will reflect the actual equipment configuration.</p> <p>The PTI application also proposed a few other changes be made to the permit to reflect some equipment modifications that were performed. These activities did not go through new source review, because they were considered exempt. A new baghouse was added for EU-INOCULATION, which used to vent to the East and West Melt dust collectors. The description for EU-INOCULATION and FG-MELT in the permit will be updated to reflect this change. Also, a baghouse was added in the Desprue area to ventilate dusty air from the in-plant environment.</p>	
17-15A	201500188/ March 8, 2016	<p>Incorporate Permit to Install (PTI) No. 17-15A. The PTI was issued to in order to allow the removal of several TAC emission limits in the existing permit and in order to increase the sand throughput.</p>	<p>FG-MELTING FG-SAND FG-CAMUNITS FG-MACT-EEEE</p>

Appendix 7. Emission Calculations

There are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use the 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.

**FG-MACT EEEEE
FLEXIBLE UNIT CONDITIONS**

DESCRIPTION

The affected source is an existing iron and steel foundry, that is (or is part of) a major source of hazardous air pollutant (HAP) emissions. An existing affected source is a source that commences construction or reconstruction before December 23, 2002. The regulations cover emissions from metal melting furnaces, scrap preheaters, new pouring areas, pouring stations, new automated conveyor and new pallet cooling lines, new automated shakeout lines, mold and core making lines, and fugitive emissions from foundry operations.

Emission Units: EU-PREHEATER, EU-MELTING, EU-POURING

POLLUTION CONTROL EQUIPMENT

EU-PREHEATER: East Melt Baghouse and West Melt Baghouse
 EU-MELTING: East Melt Baghouse and West Melt Baghouse
 EU-POURING: East Sand Baghouse and West Sand Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fugitive Emissions	20% opacity (6-min average), except for one 6-min average per hour that does not exceed 27% opacity	6-minute average	Each Building or Structure Housing any Iron or Steel Foundry Emission Source at FG-MACT EEEEE	SC V.1	40 CFR 63.7690(a)(7)
2. PM ---OR--- Total Metal HAP	0.005 gr/dscf ---OR--- 0.0004 gr/dscf	Hourly	Existing Electric Induction Melting	SC V.2, SC V.3	40 CFR 63.7690(a)(1)(i) or (ii)
3. PM ---OR--- Total Metal HAP	0.005 gr/dscf ---OR--- 0.0004 gr/dscf	Hourly	Existing Scrap Preheater	SC V.2, SC V.3	40 CFR 63.7690(a)(1)(i) or (ii)
4. Volatile Organic HAP (VOHAP)	20 ppmv	Hourly	New or Existing Scrap Preheater	SC V.2, SC V.3, SC VI.2	40 CFR 63.7690(a)(9)
5. PM ---OR--- Total Metal HAP	0.010 gr/dscf ---OR--- 0.0008 gr/dscf	Hourly	Existing Pouring Station	SC V.2, SC V.3	40 CFR 63.7690(a)(5)(i) or (ii)

II. MATERIAL LIMIT(S)

1. As an alternative to meeting the VOHAP limit in 40 CFR 63.7690(a)(9) for an new or existing scrap preheater, the permittee shall charge only material to the scrap preheater that is subject to and in compliance with the scrap certification requirement of 40 CFR 63.7700(b). **(40 CFR 63.7700(e)(2) and (f))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. By April 23, 2007 for an existing affected source, the permittee shall submit to the AQD District Supervisor, for review and approval, an Operation and Maintenance (O&M) plan for each capture and control system and control device for an emission unit subject to an emission limit as described in 40 CFR 63.7710. The plan shall include, but is not limited to, the following:
 - a. Monthly inspections of the equipment that is important to the performance of the total capture system. **(40 CFR 63.7710(b)(1))**
 - b. Operating limits for each capture system for an emission unit subject to a limit for VOHAP or TEA. **(40 CFR 63.7710(b)(2))**
 - c. Preventative maintenance plan for each control device, including a schedule. **(40 CFR 63.7710(b)(3))**
 - d. A site-specific monitoring plan for each bag leak detection system. **(40 CFR 63.7710(b)(4))**
 - e. Corrective action plan for each baghouse. **(40 CFR 63.7710(b)(5))**
 - f. Procedures for igniting gases from mold vents. **(40 CFR 63.7710(b)(6))**

The permittee shall maintain and implement the approved O&M plans at all times. **(40 CFR 63.7710, 40 CFR 63.7745)**

2. For each capture system, wet scrubber, acid wet scrubber, or combustion device, the permittee shall establish site-specific operating limits in the O&M plans according to the procedures specified in 40 CFR 63.7733. **(40 CFR 63.7733)**
3. The permittee shall comply with the emission limits, work practice standards, and operation and maintenance requirements at all times. **(40 CFR 63.7720(a))**
4. For each segregated scrap storage area, bin or pile, the permittee shall prepare and operate at all times according to a written certification that the facility purchases and uses only charge material that does not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics or organic liquids. **(40 CFR 63.7700(a), 40 CFR 63.7700(b))**

AND/OR

For each segregated scrap storage area, bin or pile, the permittee shall prepare and operate according to a written plan for the selection and inspection of iron and steel scrap as specified in 40 CFR 63.7700(c). **(40 CFR 63.7700(a), 40 CFR 63.7700(c))**

5. As an alternative to meeting the VOHAP limit in 40 CFR 63.7690(a)(9) for an existing preheater, the permittee shall install, operate and maintain a gas-fired preheater where the flame directly contacts the scrap charged. **(40 CFR 63.7700(e)(1), 40 CFR 63.7744(c))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate an emission source subject to an emission limit or standard for VOHAP or TEA unless the associated capture and control system is installed, operated and maintained in accordance with the approved Operation and Maintenance (O&M) plan. **(40 CFR 63.7690(b), 40 CFR 63.7710)**
2. The permittee shall operate each CPMS according to the requirements of 40 CFR 63.7741(f)(1) through (3). **(40 CFR 63.7741(f))**
3. During the period between the compliance date specified for the foundry and the date when operating limits have been established during the performance test, the permittee shall maintain a log detailing the operation and maintenance of the process and control equipment. **(40 CFR 63.7720(b))**

4. The permittee shall monitor the relative change in PM loading using a bag leak detection system for any baghouse used to meet PM or Total Metal HAP emission limits. **(40 CFR 63.7740(b))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii), 40 CFR 63.7753)**

1. No later than October 19, 2007 for existing affected source, the permittee shall conduct a performance test to demonstrate compliance with the opacity limit in 40 CFR 63.7690(a)(7), following the test methods and procedures in 40 CFR 63.7732(d). Subsequent compliance testing shall be conducted no less frequently than every 6 months. **(40 CFR 63.7730(a), 40 CFR 63.7731(b))**
2. No later than October 19, 2007 for existing affected source, the permittee shall conduct performance testing to demonstrate compliance with applicable PM, Total Metal HAP, TEA and VOHAP emission rates from FG-MACT EEEEE according to the requirements in 40 CFR 63.7(e)(1), following the test methods and procedures in 40 CFR 63.7732(a), (b), (c), (e), (f), (g) and (h). No less than 60 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. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.7730(a))**
3. The permittee shall conduct subsequent compliance testing to demonstrate compliance with all applicable emission limits, no less frequently than every 5 years and each time the permittee elects to change an operating limit. This requirement does not apply if a CEMS is used to demonstrate continuous compliance. **(40 CFR 63.7731(a))**

See Appendix 5

VI. MONITORING/RECORDKEEPING

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

1. If using the alternative to meet the VOHAP limit in 40 CFR 63.7690(a)(9) for a new or existing scrap preheater, the permittee shall keep records to document that the preheater charges only material that is subject to and in compliance with the scrap certification requirements. **(40 CFR 63.7744(c) and (d))**
2. For each baghouse that is applied to meet any PM or Total Metal HAP emission limit, the permittee shall install, operate, and maintain a bag leak detection system according to the requirements in 40 CFR 63.7741(b) and conduct inspections according to the requirements specified in 40 CFR 63.7740(b)(1) through (8). **(40 CFR 63.7740(b), 40 CFR 63.7741(b))**
3. For each emission unit in FG-MACT EEEEE, the permittee shall demonstrate initial compliance with the work practice standards and the operation and maintenance requirements as specified in 40 CFR 63.7735 and 40 CFR 63.7736. **(40 CFR 63.7735, 40 CFR 63.7736)**
4. The permittee shall monitor and collect data to demonstrate continuous compliance in accordance with 40 CFR 63.7742. **(40 CFR 63.7742)**
5. The permittee shall demonstrate continuous compliance with all applicable emission limitations in accordance with 40 CFR 63.7743. **(40 CFR 63.7743)**
6. The permittee shall maintain records that document continuous compliance with the requirements of 40 CFR 63.7700(b) or (c) as specified in 40 CFR 63.7744(a). **(40 CFR 63.7744)**

See Appendices 3 and 4

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall report each instance in which each emission limitation, each work practice standard, and each operation and maintenance requirement was not met, in accordance with the requirements of 40 CFR 63.7751. **(40 CFR 63.7746, 40 CFR 63.7751)**
5. The permittee shall submit applicable notifications specified in 40 CFR 63.6(h)(4) and (5), 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), 40 CFR 63.8(f)(4) through (6), and 40 CFR 63.9(b) through (h) for an initial notification, a notification of intent to conduct a performance test, and a notification of compliance status as specified in 40 CFR 63.7750. **(40 CFR 63.7750)**
6. The permittee shall submit all semiannual compliance reports and semiannual reports of monitoring and deviations from any emissions limitation or operation and maintenance requirement as required by 40 CFR 63.7751(a), (b), and (d). **(40 CFR 63.7751 (a), (b), and (d))**
7. The permittee must submit the reports according to the procedures listed below:
 - a. The permittee must submit all compliance reports required per 40 CFR 63.7751(e) electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the USEPA's Central Data Exchange (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>). **(40 CFR 63.7551(e))**
 - b. Within 60 days after the date of completing each performance test, submit the results of the performance tests required by 40 CFR Part 63, Subpart EEEEE by using CEDRI. Performance test data must be submitted in the file format generated through use of the USEPA's Electronic Reporting Tool (ERT) (see <https://www.epa.gov/technical-air-pollution-resources>). For any performance test conducted using test methods that are not listed on the ERT Web site, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the USEPA's ERT website. Submit the ERT generated package or alternative file to the USEPA via CEDRI. **(40 CFR 63.7551(f)(1) and (2))**
8. The permittee must report the results of performance tests within 60 days after the completion of the performance tests. The reports for all subsequent performance tests must include all applicable information required in 40 CFR 63.7730(a). The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5), 40 CFR 63.7730(a))**

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 EEEEE for Iron and Steel Foundries by the compliance date. **(40 CFR Part 63, Subparts A and EEEEE)**

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).

Permit Determination

Facility: RDI
Project: Shot Reclaimer
Project Manager: RDI
Environmental Manager: Dan Plant
Date: 2/23/2018
Permit Required?: No
Justification: see below

Rule 278 Test: Pass. See flow diagram and spreadsheet.

Exemption? Rule 291 de minimis. See flow diagram and spreadsheet.

Magnetic separator to reclaim good shot blast media that gets through the blast machines. Uses available collection capacity from Blast DC.

Rule 278 Test						
Shot Reclaimer PTE Calculations						
SCC	Throughput/yr	Pollutant	EF	PTE, tons	R 336.1119 Significance Level, tons	Passes Rule 278 Test (NSR)?
30502503	3285	PM-filt	2.90E-02	4.76E-02	25	Yes
	3285	PM10	6.40E-03	0.010512	15	Yes
	3285	PM2.5	6.40E-03	0.010512	10	Yes

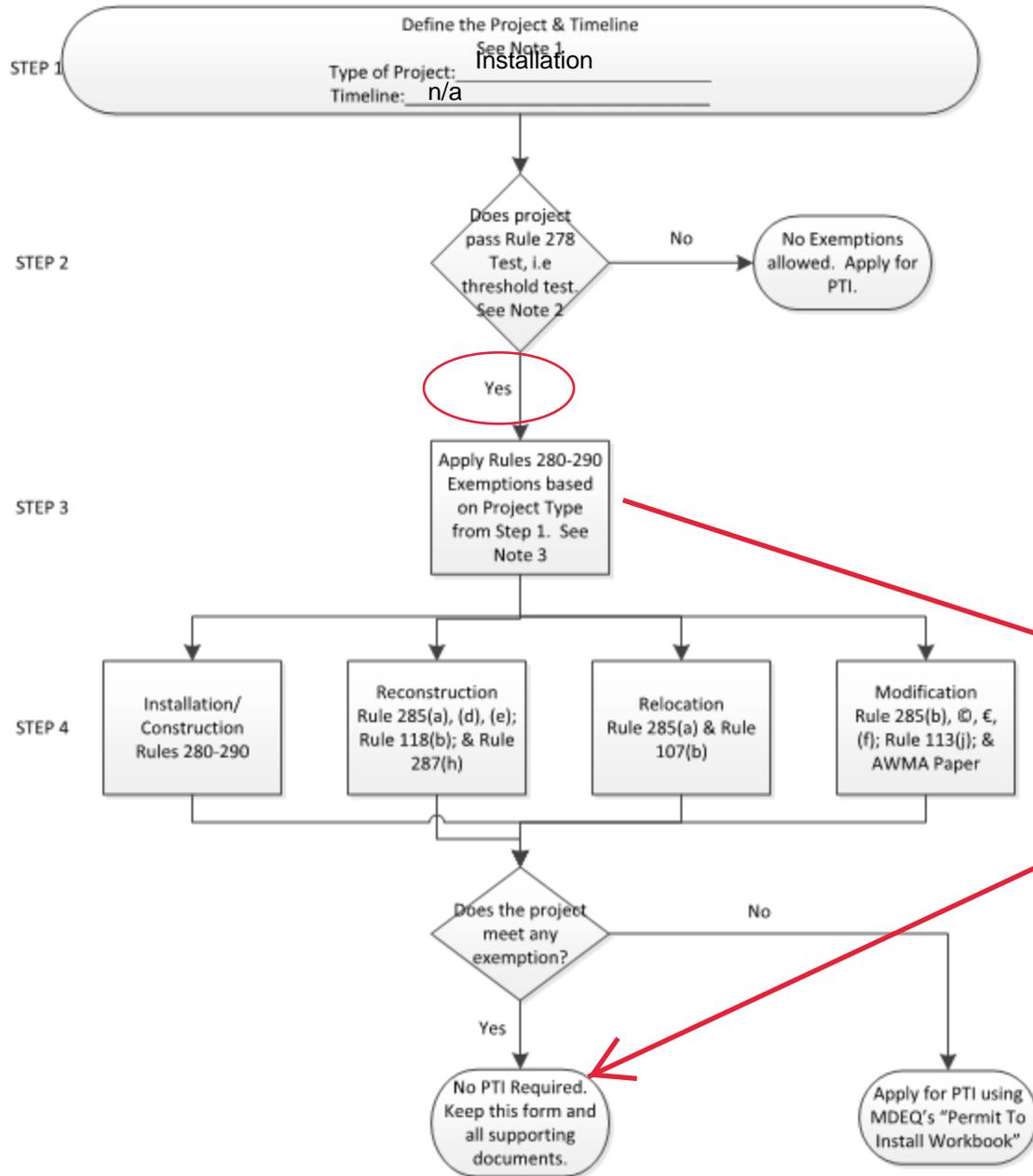
Rule 291 Test					
Shot Reclaimer	Column1	Column2	Column3	Column4	Column5
SCC	Throughput/yr	Pollutant	EF	PTE, tons	De Minimis Thresholds
30502503	3285	PM-filt	2.90E-02	0.0476325	10
	3285	PM10	6.40E-03	0.010512	5
	3285	PM2.5	6.40E-03	0.010512	3

Facility: RDI
 Project: Shot Reclaimer
 Person making this determination: D Plant
 Date: 2/23/18

Metal Technologies, Inc.

MICHIGAN PERMIT-TO-INSTALL FLOW DIAGRAM

V. 111114



- The term "Guidebook" used here refers to MDEQ's "Permit To Install - Determining Applicability Guidebook", published 2005.
- Note 1: Refer to pgs. 3-4 to 3-6 in Guidebook.
- Note 2: Refer to Appendix B in the Guidebook.
- Note 3: Refer to pgs. 3-9 to 3-18 in Guidebook.

Rule 291
de minimis

Yes

Does the project meet any exemption?

No PTI Required. Keep this form and all supporting documents.

Apply for PTI using MDEQ's "Permit To Install Workbook"

RDI Air Pollution Control Plan

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1. General

- 1.1. Various air pollution regulations require operating, maintenance, and malfunction plans to be developed, implemented, and maintained. This Work Instruction satisfies the regulatory plan requirements applicable to RDI.
- 1.2. Any malfunction or deviation, excursion, exceedance, etc. from operating parameters stated in this plan or permit must be responded to in the manner prescribed by this plan.
 - 1.2.1. Regardless of what steps are taken to respond to malfunctions, deviations, excursions, exceedances, etc., emphasis shall be on eliminating increased levels of pollution and restoring operation of the emission unit and pollution control device to normal as soon as possible.
- 1.3. Additional information can be found in the facility's air permit.
- 1.4. This Air Pollution Control Plan shall be reviewed annually (and upon revisions) by the Plant Manager, Maintenance Manager, Manufacturing Manager, Facility Environmental Representative, and Director of Environmental Engineering. This review shall be completed using SharePoint's Controlled Documents routing feature.
- 1.5. All revisions shall remain available indefinitely.

2. National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (40 CFR 63.7680 to 63.7765), also known as "MACT"

- 2.1. Purpose: Maximum Achievable Control Technology ("MACT") standards have been developed as required by the 1990 Clean Air Act Amendments. The purpose of the MACT standards is to reduce Hazardous Air Pollutant ("HAP") emissions in the US. The standards include emissions limits (contained in facility's air permit) as well as operation and maintenance requirements as listed herein.
- 2.2. Applies to:
 - 2.2.1. Scrap & Charge Handling, Iron Charging, Preheater, Melting, Pouring, Fugitive Emissions
- 2.3. Scrap Certification & Selection Plan (40 CFR 63.7700)
 - 2.3.1. MTI foundries purchase and use only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, mercury switches, plastics or free organic liquids. Any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed and/or cleaned to the extent practicable such that the materials do not include lead components, mercury switches, chlorinated plastics, or free organic liquids can be included in this certification. The raw material specifications, which specify these requirements, are located in the MTI Operating System SharePoint Library as controlled documents. Adherence to this practice satisfies 63.7700(a-b), and therefore RDI is not subject to 63.7700(c).
 - 2.3.2. Of particular interest to MTI foundries is the use of "oily turnings" that have been processed and/or cleaned to the extent practicable as noted above. In order to comply with this standard, MTI purchases only turnings which conform to the raw materials specifications noted above. Use of internally-processed borings (i.e. wet borings that are dried by our internal dryer process) is permitted as long as the processed borings meet the same raw material specifications (noted above) as the purchased dry borings.
- 2.4. Operating & Maintenance (O&M) Plan (40 CFR 63.7710)
 - 2.4.1. Emission units, air pollution control equipment, and monitoring equipment must always be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions.

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- 2.4.2. At a minimum, equipment must be operated, monitored, and inspected according to the following requirements (see Appendices A & B to see how requirements are met). Any abnormal observations, readings, etc. require repair as soon as practicable.
 - 2.4.2.1. Daily record of differential pressures;
 - 2.4.2.2. Weekly confirmation of dust removal from hoppers
 - 2.4.2.3. Daily compressed air checks
 - 2.4.2.4. Periodic monitoring of cleaning cycles
 - 2.4.2.5. Monthly check of bag cleaning mechanisms for proper function through visual inspection or equivalent means
 - 2.4.2.6. Monthly inspections of equipment important to the total capture system (pressure sensors, dampers, damper switches)
 - 2.4.2.7. Monthly visual inspection of integrity of equipment (e.g., displaced hoods, restricted/dented/pierced ducts, fans, etc.)
 - 2.4.2.8. Mold vent gases must self-ignite >75% of the time or additional ignition procedures must be implemented.
- 2.5. Site-Specific Bag Leak Detection Monitoring Plan (40 CFR 63.7710(b)(4))
 - 2.5.1. Purpose: Bag leak detection systems (Broken Bag Detectors, "BBDs") require each sensor/monitor to be installed, maintained, operated, and monitored per a site-specific plan due to the unique characteristics of each pollutant stream.
 - 2.5.2. Installation
 - 2.5.2.1. The bag leak detection system is installed according to the procedures outlined in the Auburn Systems, LLC (now FilterSense) Instruction Manual.
 - 2.5.3. Initial & Periodic Adjustment & Maintenance
 - 2.5.3.1. Monitoring and alarm settings are set according to MTI's "Broken Bag Detector Alarm Setting Protocol" (maintained on RDI's Environmental SharePoint Library) by the corporate environmental department.
 - 2.5.3.1.1. This document includes monitoring data, equipment information, and the rationale for alarm setpoints.
 - 2.5.3.1.2. Each BBD has a unique protocol document. All are saved on RDI's Environmental SharePoint Library.
 - 2.5.3.2. No adjustments may be made without state notification, except quarterly seasonal adjustments:
 - 2.5.3.2.1. If seasonal changes in temperature, humidity, etc. give cause for changing the alarm setpoint, the "Broken Bag Detector Alarm Setting Protocol" must be used and maintained as a record.
 - 2.5.4. New BBDs use a technology that does not require all of the QA procedures that are listed in the EPA BBD Guidance Document EPA-454/R-98-015, therefore they are not completed. For example, drift checks and electronics zero checks are not needed per manufacturer's guidance due to the digital nature of the units. The manufacturer's guidance is maintained on RDI's SharePoint site.
 - 2.5.5. BBDs are maintained through:
 - 2.5.5.1. Monthly visual inspection, cleaning, and response tests
 - 2.5.5.2. Annual inspection and zero check
 - 2.5.6. Required BBD spare parts inventory
 - 2.5.6.1. 1 full spare unit including sensor probe and monitor (if equipped)

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- 2.5.6.2. Sufficient communications cable and hardware to replace in the event of malfunction, damage, etc.
- 2.5.7. Alarm response
 - 2.5.7.1. When an alarm is triggered, the following must be documented in the Bag Leak Detection Alarm Log or equivalent.
 - 2.5.7.1.1. time the alarm sounds
 - 2.5.7.1.2. equipment involved
 - 2.5.7.1.3. description of event
 - 2.5.7.1.4. time investigation of cause commences (WITHIN 1 HOUR)
 - 2.5.7.1.5. time corrective action is initiated to correct the cause (WITHIN 24 HOURS)
 - 2.5.7.1.6. time corrective action completed (AS SOON AS POSSIBLE)
 - 2.5.8. Possible corrective actions (not exhaustive):
 - 2.5.8.1. *If the CA taken does not match on of the following options, Corporate Environmental must be notified in order to determine if it is a reportable incident.*
 - 2.5.8.2. Inspecting the baghouse
 - 2.5.8.3. Checking for visible emissions
 - 2.5.8.4. Sealing off defective filter media or eliminating the pulsing of that row
 - 2.5.8.5. Replacing defective filter media
 - 2.5.8.6. Sealing off a defective compartment
 - 2.5.8.7. Cleaning or repairing the BBD system
 - 2.5.8.8. Making process changes
 - 2.5.8.9. Shutting down the process
 - 2.5.9. Alarms with no known cause:
 - 2.5.9.1. When an alarm is triggered, then goes off on its own (so called “phantom” or “false” alarms), a WO shall be created to visually inspect the interior of the baghouse for signs of dust in the clean side.
 - 2.5.9.2. The purpose of this inspection is to confirm that there no underlying problems with the baghouse.
 - 2.5.9.3. This WO must be completed during the next shutdown of the process.
 - 2.5.9.4. If dust or other abnormality is found during the inspection, it must be logged and remedied according to the APCP.
 - 2.5.10. Data monitoring and storage
 - 2.5.10.1. The bag leak detector output is stored electronically. The output is continuously monitored by the alarm mechanism, and a data point is stored at least every 10 seconds.
 - 2.5.10.2. Data from periods of malfunction, adjustment, or calibration shall not be used for monitoring and compliance verification.
- 2.6. Start-up and shutdown
 - 2.6.1. Start-up procedure:
 - 2.6.1.1. Start pollution control equipment prior to beginning production
 - 2.6.1.2. Ensure all appropriate operating parameters are within specified ranges, such as differential pressure and BBD signal
 - 2.6.1.3. Begin production and ensure parameters remain within limits
 - 2.6.1.4. Immediately notify Maintenance Manager of any abnormal conditions
 - 2.6.2. Shutdown procedure:
 - 2.6.2.1. Wait until production has ceased

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2.6.2.2. Shut down pollution control equipment

3. Compliance Assurance Monitoring (CAM) Plan (40 CFR 64)

- 3.1. Purpose: CAM is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act (CAA) for large emission units that rely on pollution control equipment to achieve compliance. CAM accomplishes this by establishing monitoring requirements for emission units and their associated air pollution control equipment to ensure continuous, proper operation.
- 3.2. Applies to: Furnaces, Pouring, Cooling, Shakeout, Blast Machines, Sand System, West Blast (Seneca) baghouse, East & West Melt baghouses, and East & West Sand baghouses
- 3.3. CAM operating/monitoring requirements are listed in Appendix A.
- 3.4. Upon detecting any excursions from the requirements in Appendix A, RDI will follow the alarm response steps noted in 2.5.7 and 2.5.8 of this Plan (including records kept) and restore operation of the emission unit and pollution control system to its normal or usual manner of operation as expeditiously as practicable.
- 3.5. CAM Plans are required to contain background, monitoring approach, performance criteria, and justification information for each emission unit/control device subject to CAM.
 - 3.5.1. RDI maintains this information in its Environmental SharePoint Library.

4. Risk Management Plan (RMP) (40 CFR 68)

- 4.1. Purpose: Federal provisions for the prevention of chemical accidents.
- 4.2. Not applicable – RDI does not maintain quantities of any substances listed in 40 CFR 68 above their threshold quantities.

5. Air Pollution Control Equipment Preventive Maintenance Plan (PMP)

- 5.1. RDI maintains a PMP for inspecting, maintaining, and repairing all emission control devices.
- 5.2. The PMP is developed and administered using the Odyssey PM program. The program includes:
 - 5.2.1. Identification of individuals responsible for inspecting, maintaining, and repairing emission control devices;
 - 5.2.2. Description of the items or conditions that will be inspected and the inspection schedule; and
 - 5.2.3. Identification and quantification of necessary replacement parts that must be maintained in inventory for quick replacement.
 - 5.2.4. Appendix B lists the emission control devices included in the PMP as well as their associated PM tasks.

6. Spare Parts Inventory

- 6.1. An inventory of spare parts shall be kept on site for each fabric filter collector.
 - 6.1.1. Required spares:
 - 6.1.1.1. Broken bag detector components to restore operation in the event of a failure
 - 6.1.1.2. Differential pressure gauge and tubing
 - 6.1.1.3. Fabric filter bags
 - 6.1.1.4. Filter bag cages
 - 6.1.1.5. Pulse timer board
 - 6.1.2. Recommended spares:
 - 6.1.2.1. Pulse valves
 - 6.1.2.2. Blower motors & drive belts
 - 6.1.2.3. Auger chains, bushings & bearings
 - 6.1.2.4. Rotary air locks

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6.1.2.5. Electrical/communications components

7. Associated documents/resources

- 7.1. Environmental SharePoint Site
- 7.2. Environmental SharePoint Library
- 7.3. WI-EN-004 RDI Air Pollution Control Plan Supporting Information
- 7.4. RDI Title V Air Permit MI-ROP-N5866-2019

Revision Date	Description of Changes
3/1/2021	Updated format to comply with new ISO 14001 EMS

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Appendix A: Monitored Parameters

Control Equipment	Emission Unit	Regulation	Parameter	Frequency	Range	Control
East & West Melt Baghouses	EU-PREHEATER & EU-MELTING	NESHAPS; CAM; state	1) Broken Bag Detectors 2) Differential Pressure 3) Visible Emissions 4) Compressed Air Supply	1) Continuous, recorded at least every 10 seconds 2) Continuous, recorded daily 3) Daily 4) Continuous	1) per BBD plan 2) East Melt: 1-10"; West Melt: 2-10" 3) Observed/Not Observed 4) >85 psi	1) automatic 2) SOP – 1 st Shift Dust Collector Reading 3) SOP – 1 st Shift Dust Collector Reading 3) PM 38999 4) automatic*
Inoculation Baghouse	EU-INOCULATION	State	1) Differential Pressure 2) Visible Emissions	1) Continuous, recorded daily 2) Daily	1) 1-8" 2) Observed/Not Observed	1) SOP – 1 st Shift Dust Collector Reading 2) SOP – 1 st Shift Dust Collector Reading
East & West Sand Baghouses	EU-POURING; EU-COOLING; EU-SHAKEOUT; & EU-SANDSYSTEM	NESHAPS; CAM; state	1) Broken Bag Detectors 2) Differential Pressure 3) Visible Emissions 4) Compressed Air Supply	1) Continuous, recorded at least every 10 seconds 2) Continuous, recorded daily 3) Daily 4) Continuous	1) per BBD plan 2) East Sand: 2-10"; West Sand: 2-10" 3) Observed/Not Observed 4) >85 psi	1) automatic 2) SOP – 1 st Shift Dust Collector Reading 3) SOP – 1 st Shift Dust Collector Reading 3) PM 38999 4) automatic*
West Blast (Seneca) Baghouse	EU-CLEAN	CAM; state	1) Differential Pressure 2) Visible Emissions	1) Continuous, recorded daily 2) Daily	1) 2-10" 2) Observed/Not Observed	1) SOP – 1 st Shift Dust Collector Reading 2) SOP – 1 st Shift Dust Collector Reading
Desprue Baghouses	n/a	Exempt	1) Differential Pressure 2) Visible Emissions	1) Continuous, recorded daily 2) Daily	1) 2-10" 2) Observed/Not Observed	1) SOP – 1 st Shift Dust Collector Reading

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						2) SOP – 1 st Shift Dust Collector Reading
Fugitives	FG-MACT EEEEE	NESHAPS	Method 9 Opacity	6 months	<20% 6-min ave (one 6-min ave/hr up to 27%)	Environmental Task List
N/A	FG-RULE287(c)	state	Rust Inhibitor Usage	Monthly	<200 gal/mo	Rolling Totals Tracker

*Compressed air is monitored plant-wide through the use of alarms which notify plant personnel when the pressure falls out of range. 40 CFR 63.7740(c)(3) requires daily check of air supply for pulse-jet baghouses. RDI utilizes the alarms to ensure the continuous plant-wide supply of compressed air.

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Appendix B: Compliance Matrix

Equipment	Regulation	Requirement	Min Frequency	Control**
Duct Work	I	Duct Airflow Testing and Review	Annual	8105
Each Dust Collector	MS	Differential Pressure Readings	Daily	SOP
Each Stack	MS	Visible Emissions Readings	Daily	SOP
Sand System DCs	MS	Mechanical & Visual Inspections	Weekly	2118
Melt System DCs	MS	Mechanical & Visual Inspections	Weekly	2152
West Blast DC	MS	Mechanical & Visual Inspections	Weekly	2155
East Desprue DC	I/Exempt	Mechanical & Visual Inspections	Weekly	2182
West Desprue DC	I/Exempt	Mechanical & Visual Inspections	Weekly	2183
Inoculation DC	S	Mechanical & Visual Inspections	Weekly	2184
Ventilation System Dampers	MS	Mechanical & Visual Inspections	Monthly	4008, 4140
Sand System DCs	MS	Mechanical & Visual Inspections	Monthly	4118
Melt System DCs	MS	Mechanical & Visual Inspections	Monthly	3151
West Blast DC	MS	Mechanical & Visual Inspections	Monthly	2854
East Desprue DC	I/Exempt	Mechanical & Visual Inspections	Monthly	3182
West Desprue DC	I/Exempt	Mechanical & Visual Inspections	Monthly	3183
Inoculation DC	S	Mechanical & Visual Inspections	Monthly	3184
Sand System DC	MS	BLDS Clean & Test	Monthly	4116
Melt System DC	MS	BLDS Clean & Test	Monthly	4152
Inoculation System DC	I	BLDS Clean & Test	Monthly	4162
E Desprue System DC	I	BLDS Clean & Test	Monthly	4164
W Desprue System DC	I	BLDS Clean & Test	Monthly	4166
W Blast DC	I	BLDS Clean & Test	Monthly	4160
All DCs	I	Gauge Checks	Monthly	4189
Cell DC	I/Exempt	Mechanical & Visual Inspection	Quarterly	5225
All Broken Bag Detectors	IM	BBD System Zero Check	Annual	8106
Differential Pressure Gauges	MCS	Calibration or Replacement	Semiannual	4117

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All DC's	M	Confirm dust removal systems operating	Weekly	SOP – Bag Disposal For DC Form
n/a	M	Method 9 Opacity Readings	Semiannual	ETL
n/a	S	Rolling Air Emissions and Totals	Monthly	ETL
n/a	MCS	Deviation/Certification Reports	Semiannual	ETL
n/a	MS	Compliance Certification	Annual	ETL
n/a	S	MAERS report	Annual	ETL
n/a	S	MAERS Fee Pmt	Annual	Invoice
n/a	I	APCP Review/Update	Annual	ETL
n/a	MCS	Malfunction report	As needed	n/a
n/a	IM	BBD Alarm Response	As needed	n/a

*I=Internal requirement; M=MACT O&M requirement; C=CAM Plan requirement; S=State and Permit requirements

**PM number; ETL=Environmental Task List

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1. General

- 1.1. The following contains information required to be maintained by one or more regulations. This information is maintained separately from the Air Pollution Control Plan as it contains foundational information that is required to be maintained, yet is not necessarily required for the day-to-day operations of the facility.
- 1.2. Contains specifics related to the development of the Compliance Assurance Monitoring (CAM) Plan (contained in RDI's Air Pollution Control Plan).
- 1.3. Additional information can be found in the facility's air permit and Air Pollution Control Plan.

2. Compliance Assurance Monitoring Plan

2.1. Plan for Pollutant-Specific Emission Units ("PSEU") Utilizing a Baghouse to Control **Particulate Matter** Emissions

2.1.1. Background

2.1.1.1. Emissions Units:

2.1.1.1.1. Descriptions (Identification): EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT, EU-SANDSYSTEM, & EU-CLEAN

2.1.1.2. Applicable Regulation, Emission Limits, and Monitoring Requirements

2.1.1.2.1. Regulations: 40 CFR 64; R 336.1213(3), R 336.2001, R 336.2003, R 336.2004

2.1.1.2.2. Emissions Limits:

Emission Unit	APCE	Limits			
		Lbs/1000lbs exhaust gas, dry	Lbs/Hr	T/Yr	% Opacity
EU-MELTING (limits include preheater & inoculation as well)	East & West Melt Baghouses	.01	2.5	10.95	5
EU-POURING	East & West Sand Baghouses	.01	6.0	26.3	5
EU-COOLING					
EU-SHAKEOUT					
EU-SANDSYSTEM					
EU-CLEAN	West Blast Baghouse	.01	2.2	9.6	5

2.1.1.2.3. Monitoring Requirements:

2.1.1.2.3.1. Differential Pressure, Visible Emissions Readings

2.1.1.3. Control Technologies:

2.1.1.3.1. Fabric Filters:

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APCE	Type	Nominal Volume
East/West Melt	Pulse Jet	70,000 cfm
East/West Sand	Pulse Jet	141,000 cfm
West Blast	Pulse Jet	70,000 cfm

2.1.2. Monitoring Approach

2.1.2.1. Indicators, Measurement Approach, and Allowable Ranges:

Emission Unit	APCE	Indicator	Method	Range
EU-MELTING	East & West Melt Baghouses	Diff Pressure	DP Gauge	East: 1-10" water West: 2-10" water
		Visible Emissions	Reading	Normal / Abnormal
		Particulate	BBD	See BBD Plan
EU-POURING EU-COOLING EU-SHAKEOUT EU-SANDSYSTEM	East & West Sand Baghouses	Diff Pressure	DP Gauge	East: 2-10" water West: 2-10" water
		Visible Emissions	Reading	Normal / Abnormal
		Particulate	BBD	See BBD Plan
EU-CLEAN	West Blast Baghouse	Diff Pressure	DP Gauge	2-10" water
		Visible Emissions	Reading	Normal / Abnormal

2.1.2.2. Data Representativeness:

2.1.2.2.1. Measurements are taken at the source:

2.1.2.2.1.1. Differential Pressures – one port in the clean side and one port in the dirty side of the baghouse. Each gauge has a minimum sensitivity of +/- 20% of full scale.

2.1.2.2.1.2. BLDS – probes located in the downcomer or stack of the baghouse. The BLDS is certified by the manufacturer to be capable of detecting emissions of PM at a concentration of .10 mg/m³ or less.

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- 2.1.2.3. Verification of Operational Status:
 - 2.1.2.3.1. Differential pressure is measured continuously and recorded once per day to verify systems are operating as designed.
 - 2.1.2.3.2. Particulate loading is measured continuously and recorded at least every 10 seconds to verify systems are operating as designed.
- 2.1.2.4. QA/QC Practices and Criteria:
 - 2.1.2.4.1. Pressure gauges are checked/calibrated at least semiannually. If they cannot be reset to operate within the above sensitivity requirements, they are replaced.
 - 2.1.2.4.2. BLDS is cleaned and tested monthly and a zero check is performed annually.
- 2.1.2.5. Monitoring Frequency
 - 2.1.2.5.1. Differential pressure is measured continuously and recorded once per day to verify systems are operating as designed.
 - 2.1.2.5.2. Particulate loading is measured continuously and recorded at least every 10 seconds to verify systems are operating as designed.
 - 2.1.2.5.3. Data is maintained in the facility's datalogging system and Preventive Maintenance records.
- 2.1.3. Monitoring Approach Justification
 - 2.1.3.1. Foundry processes subject to CAM at the facility primarily emit particulate matter ("PM") as the primary pollutant. This includes PM, PM10, and PM2.5.
 - 2.1.3.2. RDI utilizes baghouses as the primary means of controlling the amount of PM emitted.
 - 2.1.3.3. Baghouses are generally recognized as the most appropriate method of controlling PM emissions by industry and regulators alike. For example, EPA has set (and retained through the 2018 RTR) an emission limit of .005 gr/dscf for existing electric induction furnaces (40 CFR 63.7690(a)(1)(i)). Well designed and maintained baghouses routinely achieve levels down to .003 gr/dscf and below. Also, baghouses have been determined as Best Available Control Technology (BACT) during many Prevention of Significant Deterioration (PSD) determinations, further verifying their appropriateness for PM control.
 - 2.1.3.4. Pressure drop, visible emissions, and particulate loading were chosen as the appropriate indicators during the facility's initial and/or subsequent air permitting actions. An increase in any of these indicators can indicate a control system that is not operating properly, typically due to blockages, improper pulse frequency, or plugged filters. A decrease in the differential

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pressure indicator can indicate that the system has lost some resistance to air flow, possibly due to holes in the equipment or filters. The parameters also serve to verify sufficient airflow through the system, ensuring enough volume is present to collect emissions.

2.1.3.5. The indicator levels have been verified during performance testing as being protective of emission limits.

3. Associated documents/resources

- 3.1. Environmental SharePoint Site
- 3.2. Environmental SharePoint Library
- 3.3. WI-EN-003 RDI Air Pollution Control Plan
- 3.4. RDI Air Permit MI-ROP-N5866-2019

Revision Date	Description of Changes
3/4/2021	Document Creation

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