

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

December 19, 2019

**PERMIT TO INSTALL**  
180-00E

**ISSUED TO**  
Mueller Industries, Inc.

**LOCATED AT**  
2199 Lapeer Avenue  
Port Huron, Michigan

**IN THE COUNTY OF**  
Saint Clair

**STATE REGISTRATION NUMBER**  
A6262

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

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>September 19, 2019</b>	
DATE PERMIT TO INSTALL APPROVED: <b>December 19, 2019</b>	SIGNATURE: <i>MaryAnn Dolcharty</i>
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## PERMIT TO INSTALL

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### COMMON ACRONYMS

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

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

### POLLUTANT / MEASUREMENT ABBREVIATIONS

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

### GENERAL CONDITIONS

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

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

**EMISSION UNIT SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

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

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Flexible Group ID</b>
EUSLUDGEDRYER	Natural Gas-Fired Dryer to dry wastewater filter cake	NA
EUCHIPDRYER	Natural Gas-Fired chip dryer with nominal capacity of 8,000 lbs/hr of metal chips using indirect natural gas heaters rated at 4 MMBTU/hr (with smoke hood to maintain the temperature of the exhaust gases as needed)	NA
EUMELTFURNACE1	#1 Electric Induction Melting Furnace	FGSYSTEMB
EUMELTFURNACE2	#2 Electric Induction Melting Furnace	
EUHOLDFURNACE1	#1 Electric Induction Holding Furnace	
EUHOLDFURNACE2	#2 Electric Induction Holding Furnace	
EUCHANFURNACE1	Channel Furnace (33 tons per hour electric induction furnace)	FGSYSTEME
EUCHIPFURNACE2	Chip Melter (33 tons per hour electric induction furnace)	
EUCASTFURNACE3	Casting Furnace (33 tons per hour electric induction furnace)	
EUASHDUMPER	Ash Dumper	
EUMELTFURNACE3S	#3 South Melting Furnace (electric induction furnace)	FGSYSTEMC
EUMELTFURNACE3N	#3 North Melting Furnace (electric induction furnace)	
EUMELTFURNACE3W	#3 West Melting Furnace (electric induction furnace)	
EUHOLDFURNACE3	#3 Holding Furnace (electric induction furnace)	
EUBILLETHEATER1	10.8 MMBtu/hr Natural Gas-Fired Billet Heater #1,	FGBILLETHEATERS
EUBILLETHEATER2	10.8 MMBtu/hr Natural Gas-Fired Billet Heater #2	
EUBILLETHEATER3	10.8 MMBtu/hr Natural Gas-Fired Billet Heater #3	

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

**EUSLUDGEDRYER  
EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Natural Gas-Fired Dryer to dry wastewater filter cake

Flexible Group ID: NA

**POLLUTION CONTROL EQUIPMENT**

Wet Scrubber

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM10	1.0 pph	Hourly	EUSLUDGEDRYE R	SC VI.1	R 336.1205(3)
2. Visible Emissions	0% opacity, except for uncombined water vapor	Daily	EUSLUDGEDRYE R	SC VI.1	R 336.1301(c)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate EUSLUDGEDRYER unless the wet scrubber is installed, maintained, and operated in a satisfactory manner. (R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1910)
2. The permittee shall equip and maintain EUSLUDGEDRYER with a flow rate indicator. (R 336.1910)

**V. TESTING/SAMPLING**

NA

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall monitor and record, in a satisfactory manner, the water flow rate of the wet scrubber at EUSLUDGEDRYER once per calendar operating day basis. (R 336.1910)

**VII. REPORTING**

NA



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

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV00007	12	42	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**EUCHIPDRYER  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Natural Gas-Fired chip dryer with nominal capacity of 8,000 lbs/hr of metal chips using indirect natural gas heaters rated at 4 MMBTU/hr (with smoke hood to maintain the temperature of the exhaust gases as needed).

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

cyclone separator, thermal oxidizer, dry lime injection, baghouse

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM10	2.4 lb/hr	Hourly	EUCHIPDRYER	SC V.1	R 336.1205(1) 40 CFR 52.21(c) & (d)
2. PM2.5	2.4 lb/hr	Hourly	EUCHIPDRYER	SC V.1	R 336.1205(1) 40 CFR 52.21(c) & (d)
3. Lead (including Lead compounds)	0.2 lb/hr	Hourly	EUCHIPDRYER	SC V.1	R 336.1205(3)
4. Lead (including Lead compounds)	147 lbs/month	3-month rolling average as determined at the end of each month	EUCHIPDRYER	SC VI.7	40 CFR 52.21(d)
5. VOC	4 lb/hr	Hourly	EUCHIPDRYER	SC V.1	R 336.1205(1) R 336.1702
6. Hydrogen chloride (HCl) CAS No. 7647-01-0	1.1 lb/hr	Hourly	EUCHIPDRYER	SC V.2	R 336.1225

**II. MATERIAL LIMIT(S)**

NA

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

1. The permittee shall only charge unpainted brass chips into EUCHIPDRYER. (R 336.1205(1), R 336.1225, R 336.1702)

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

1. The nominal throughput capacity of EUCHIPDRYER shall not exceed 8,000 lb/hr of brass chips. (R 336.1205(1))
2. The permittee shall not operate EUCHIPDRYER unless a device that measures the total weight of feed/charge of brass chips, is installed, maintained, and operated in a satisfactory manner or an acceptable alternative procedure is implemented. As an alternative to a measurement device, the owner or operator may use a

procedure acceptable to the AQD District Supervisor to determine the total weight of feed/charge or brass production to the affected source or emission unit. The device or procedure shall meet the following criteria:

- a) The accuracy of the weight measurement device shall be  $\pm 3$  percent of the weight being measured. The owner or operator may apply to the permitting agency for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standard.
- b) The owner or operator shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

**(R 336.1205, R 336.1224, R 336.1225, R 336.1702)**

- 3. The permittee shall not operate EUCHIPDRYER unless the cyclonic separator, thermal oxidizer, lime injection system, and baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory operation means operating and maintaining the air pollution control equipment in accordance with the PM/MAP required by SC IV.7 and based upon manufacturer recommendations or engineering calculations. Satisfactory operation of the thermal oxidizer includes maintaining a minimum retention time of 0.5 seconds and either a minimum combustion zone temperature of 1500°F or if the temperature is greater than 1500°F, maintaining the temperature of the thermal oxidizer at or above the temperature determined during the most recent stack test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
- 4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a temperature monitoring device to monitor and record the temperature in the combustion chamber of the thermal oxidizer to monitor and record the temperature, on a continuous basis, during operation of EUCHIPDRYER. Continuous data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
- 5. The permittee shall equip and maintain the baghouse of EUCHIPDRYER with a pressure drop indicator and bag leak detection system. **(R 336.1910)**
- 6. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the lime injection system feed rate for EUCHIPDRYER on a calendar operating day basis. **(R 336.1205, R 336.1224, R 336.1225, R 336.1910)**
- 7. Within 60 days after initial startup of EUCHIPDRYER, the permittee shall amend the PM/MAP to include a description of the appropriate operating conditions for the chip dryer, cyclonic separator, thermal oxidizer, lime injection system and baghouse system to ensure satisfactory operation as outlined in the PM/MAP as required by FGFACILITY SC III.1. **(R 336.1910)**

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

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

- 1. Within 180 days after initial startup of EUCHIPDRYER, the permittee shall verify PM10, PM2.5, lead, and VOC emission rates from EUCHIPDRYER by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the acceptable method requirements. Testing must be performed within 15% of the maximum routine operating capacity. The permittee must complete the testing once every five years, thereafter, unless an alternative testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in the Test Method Table.

<b>Pollutant</b>	<b>Test Method Reference</b>
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A
Lead (Pb)	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 EPA 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 District Office. The AQD must approve the final plan prior to testing,

including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1702, R 336.1902, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. Within 180 days after initial startup of EUCHIPDRYER, the permittee shall verify the Hydrogen chloride (HCl) emission rate from EUCHIPDRYER by testing at the owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three acceptable test runs per the acceptable method requirements. Subsequent testing shall be performed upon request of the AQD District Supervisor. Testing must be performed within 15% of the maximum routine operating capacity. The minimum operating lime injection rate will be determined as the average lime injection rate during the three acceptable test runs. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A or 40 CFR Part 63 Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1902, R 336.2001, R 336.2003, R 336.2004)**

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

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(40 CFR 52.21(d))**
2. The permittee shall monitor and record, in a satisfactory manner, the following information once per calendar operating day while processing chips in EUCHIPDRYER:
  - a) The lime injection rate of the lime injection system.
  - b) The pressure drop across the baghouse.
  - c) The temperature in the combustion chamber of the thermal oxidizer.
  - d) Weight of brass chips charged to EUCHIPDRYER (lbs/day).

All records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910)**

3. The permittee shall keep records of the hours of operation of EUCHIPDRYER. **(R 336.1205)**
4. If the bag leak detection alarm is triggered, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**
5. The permittee shall monitor the exhaust to EUCHIPDRYER to verify it is operating properly, by taking non-certified visible emission readings for the exhaust stack of EUCHIPDRYER a minimum of once per calendar operating day during routine operating conditions. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall inspect the pollution control equipment and perform any required maintenance. **(R 336.1910)**
6. The permittee shall keep records of daily visible emissions observations, control equipment inspections and maintenance conducted, malfunctions, corrective actions and repairs. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
7. The permittee shall keep in a satisfactory manner monthly and 3-month rolling time period emission calculation records of Lead (including lead compounds). If stack test results for EUCHIPDRYER exist for lead, the permittee may use those stack test results to estimate lead emissions. In the event that stack test results do not exist for lead, the permittee shall use the applicable hourly emission rate listed in the Emission Limit Table to estimate the emissions of lead from EUCHIPDRYER. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 52.21(d))**

**VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUCHIPDRYER. **(R 336.1201(7)(a))**

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

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVCHIPDRYER (chip drying process and control exhaust)	24	100	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVCHIPHEAT (indirect heater exhaust)	12	50	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**FLEXIBLE GROUP SPECIAL CONDITIONS**

**FLEXIBLE GROUP SUMMARY TABLE**

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

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGSYSTEMB	Melting Line B consisting of Casters 1, 2 and 5	EUMELTFURNACE1, EUMELTFURNACE2, EUHOLDFURNACE1, EUHOLDFURNACE2
FGSYSTEME	Melting Line E consisting of Caster 4	EUASHDUMPER, EUCHIPFURNACE2, EUCHANFURNACE1, EUCASTFURNACE3
FGSYSTEMC	Melting Line C consisting of Caster 3	EUMELTFURNACE3S, EUMELTFURNACE3N, EUMELTFURNACE3W, EUHOLDFURNACE3
FGFUGITIVES	Casting operation fugitive emissions (within FGSYSTEMB, FGSYSTEME and FGSYSTEMC)	NA
FGBILLETHEATERS	Billet Heaters	EUBILLETHEATER1, EUBILLETHEATER2, EUBILLETHEATER3

**FGSYSTEMB  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Melting Line B consisting of Casters 1, 2 and 5.

**Emission Unit:** EUMELTFURNACE1, EUMELTFURNACE2, EUHOLDFURNACE1, EUHOLDFURNACE2

**POLLUTION CONTROL EQUIPMENT**

Baghouse System B with an air flow of 75,000 ACFM

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	1.0 pph	hourly	FGSYSTEMB	SC V.1	R 336.1205(3) R 336.1331(c)
2. PM10	1.0 pph	hourly	FGSYSTEMB	SC V.1	R 336.1205(3) 40 CFR 52.21(c) & (d)
3. PM2.5	1.0 pph	hourly	FGSYSTEMB	SC V.1	R 336.1205(3) 40 CFR 52.21(c) & (d)
4. Lead (including Lead Compounds)	0.035 pph	Hourly	FGSYSTEMB	SC V.1	R 336.1205(3)
5. Lead (including Lead Compounds)	25.8 lbs/month	3-month rolling average as determined at the end of each calendar month	FGSYSTEMB	SC VI.7	R 336.1205(3) 40 CFR 52.21(d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate FGSYSTEMB unless Baghouse System B, the melting/holding furnaces hood/emissions capture systems and the associated ductwork system to the baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with the PM/MAP as required by FGFACILITY SC III.1. **(R 336.1205(3), R 336.1331, R 336.1910)**
2. The permittee shall equip and maintain each compartment (or module) of Baghouse System B of FGSYSTEMB with a pressure drop indicator. **(R 336.1910)**
3. The permittee shall not operate FGSYSTEMB unless a pressure drop between 2.0 and 12.0 inches W.G. is maintained across each operating compartment (or module) of Baghouse System B. **(R 336.1910)**

4. The permittee shall install, operate and maintain a bag leak detection system for Baghouse System B of FGSYSTEMB, upon restart of FGSYSTEMB. **(R 336.1910)**
5. Within 180 days of restart of FGSYSTEMB, the permittee shall provide a description of the appropriate operating conditions for the furnace and baghouse system to ensure satisfactory operation as outlined in the PM/MAP. This condition is satisfied if the information listed herein is submitted as part of the PM/MAP required by FGFACILITY SC III.1. **(R 336.1910)**

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

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

1. Within 180 days after restart of FGSYSTEMB, the permittee shall verify PM, PM10, PM2.5 and lead (including lead compounds) emission rates from FGSYSTEMB by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. The permittee must complete the testing once every five years, thereafter, unless an alternative testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in Test Method Table.

**Test Method Table**

<b>Pollutant</b>	<b>Test Method Reference</b>
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M or 40 CFR Part 60, Appendix A, Part 10 of the Michigan Air Pollution Control Rules
Pb	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 EPA 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 District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1910, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. During the emission limit verification test for FGSYSTEMB and within 6 months thereafter, as specified in SC V.1, the permittee shall verify the direction of air flow at each hood, using a smoke test (i.e., smoke bomb, smoke tube) as approved by the AQD District Supervisor. The permittee shall notify the AQD District Supervisor in writing at least 15 days before the test is scheduled. Verification of air flow direction includes the submittal of a complete report of the test results to the AQD District Supervisor within 60 days following the date of the test. After two consecutive tests that satisfy a demonstration that the direction of air flow at each hood is flowing into the exhaust ductwork, subsequent testing shall be completed once per calendar year. After 3 years of satisfactory tests demonstrating that the direction of the airflow at each hood is flowing into the exhaust ductwork, the permittee may submit a request for an alternate time frame for testing frequency to the AQD District Supervisor for review and approval. **(R 336.1205, R 336.1301, R 336.1910, 40 CFR 52.21(c) & (d))**

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

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

1. The permittee shall monitor and record, in a satisfactory manner, the pressure drop for each compartment (or module) of Baghouse System B for FGSYSTEMB on a daily basis, at least once per day while melting metal at FGSYSTEMB. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**



2. The permittee shall monitor the Baghouse System B to verify it is operating properly, by taking non-certified visible emission readings for the ductwork of Baghouse System B and the building housing FGSYSTEMB a minimum of once per calendar operating day during routine operating conditions. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**
3. If the bag leak detection alarm is triggered, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**
4. The permittee shall monitor and record, in a satisfactory manner, the amount of metal melted (solids and turnings) for FGSYSTEMB on a daily and monthly time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, 40 CFR 52.21(c) & (d))**
5. The permittee shall keep records of the hours of operation of FGSYSTEMB. **(R 336.1205)**
6. The permittee shall keep records of daily visible emissions observations, control equipment inspections and maintenance conducted, malfunctions, corrective actions and repairs. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
7. The permittee shall calculate and maintain in a satisfactory manner monthly and 3-month rolling time period emission calculation records of Lead (including lead compounds). If stack test results for FGSYSTEMB exist for lead, the permittee may use those stack test results to estimate lead emissions subject to the approval of the AQD. In the event that stack test results do not exist for a lead, the permittee shall use the applicable hourly emission rate listed in the Emission Limit Table to estimate the emissions of lead from FGSYSTEMB. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(d))**

**VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGSYSTEMB. **(R 336.1201(7)(a))**

**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-BHB <sup>a</sup>	66	75	R 336.1225, 40 CFR 52.21(c) & (d)
<sup>a</sup> SC IX.1 contains the date of compliance for the stack height			

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the minimum height above ground from SV-BHB upon restart of FGSYSTEMB. **(R 336.1225, 40 CFR 52.21(c) & (d))**

**FGSYSTEME  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Melting Line E consisting of Caster 4.

**Emission Unit:** EUASHDUMPER, EUCHIPFURNACE2, EUCHANFURNACE1, EUCASTFURNACE3

**POLLUTION CONTROL EQUIPMENT**

Cyclone followed by a negative pressure Baghouse System E with an airflow of 75,000 ACFM

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	1.0 pph	Hourly	FGSYSTEME	SC V.1	R 336.1205(3), R 336.1331(c)
2. PM10	1.0 pph	Hourly	FGSYSTEME	SC V.1	R 336.1205(3), 40 CFR 52.21(c) & (d)
3. PM2.5	1.0 pph	Hourly	FGSYSTEME	SC V.1	R 336.1205(3), 40 CFR 52.21(c) & (d)
4. Lead (including Lead Compounds)	0.035 pph	Hourly	FGSYSTEME	SC V.1	R 336.1205(3)
5. Lead (including Lead Compounds)	25.8 lbs/month	3-month rolling average as determined at the end of each calendar month	FGSYSTEME	SC VI.7	R 336.1205(3), 40 CFR 52.21(d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate FGSYSTEME unless Baghouse System E, the melting/holding furnaces hood/emissions capture systems and the associated ductwork system to the baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with the PM/MAP as required by FGFACILITY SC III.1. **(R 336.1205(3), R 336.1331, R 336.1910)**
2. The permittee shall equip and maintain each compartment (or module) of Baghouse System E of FGSYSTEME with pressure drop indicator. **(R 336.1910)**
3. The permittee shall not operate FGSYSTEME unless a pressure drop between 2.0 and 12.0 inches W.G. is maintained across each operating compartment (or module) of Baghouse System E. **(R 336.910)**

4. The permittee shall install, operate and maintain a bag leak detection system for Baghouse System E of FGSYSTEME. **(R 336.1910)**
5. The permittee shall provide a description of the appropriate operating conditions for the furnace and baghouse system to ensure satisfactory operation as outlined in the PM/MAP. This condition is satisfied if the information listed herein is submitted as part of the PM/MAP required by FGFACILITY SC III.1. **(R 336.1910)**

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

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

1. The permittee shall verify PM, PM10, PM2.5 and lead (including lead compounds) emission rates from FGSYSTEME by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. The permittee must complete the testing once every five years, thereafter, unless an alternative testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in Test Method Table.

**Test Method Table**

<b>Pollutant</b>	<b>Test Method Reference</b>
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M or 40 CFR Part 60, Appendix A, Part 10 of the Michigan Air Pollution Control Rules
Pb	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 EPA 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 District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1910, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. The permittee shall verify the direction of air flow at each hood, using a smoke test (i.e., smoke bomb, smoke tube) as approved by the AQD District Supervisor within 6 months of the previous test. The permittee shall notify the AQD District Supervisor in writing at least 15 days before the test is scheduled. Verification of air flow direction includes the submittal of a complete report of the test results to the AQD District Supervisor within 60 days following the date of the test. After two consecutive tests that satisfy a demonstration that the direction of air flow at each hood is flowing into the exhaust ductwork, subsequent testing shall be completed once per calendar year. After 3 years of satisfactory tests demonstrating that the direction of the airflow at each hood is flowing into the exhaust ductwork, the permittee may submit a request for an alternate time frame for testing frequency to the AQD District Supervisor for review and approval. **(R 336.1205, R 336.1301, R 336.1910, 40 CFR 52.21(c) & (d))**

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

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

1. The permittee shall monitor and record, in a satisfactory manner, the pressure drop for each compartment (or module) of Baghouse System E for FGSYSTEME on a daily basis, at least once per day while melting metal at FGSYSTEME. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor the Baghouse System E to verify it is operating properly, by taking non-certified visible emission readings for the ductwork of Baghouse System E and the building housing FGSYSTEME a minimum of once per calendar operating day during routine operating conditions. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**

3. If the bag leak detection alarm is triggered, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**
4. The permittee shall monitor and record, in a satisfactory manner, the amount of metal melted (solids and turnings) for FGSYSTEME on a daily and monthly time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, 40 CFR 52.21(c) & (d))**
5. The permittee shall keep records of the hours of operation of FGSYSTEME. **(R 336.1205)**
6. The permittee shall keep records of daily visible emissions observations, control equipment inspections and maintenance conducted, malfunctions, corrective actions and repairs. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
7. The permittee shall calculate and maintain in a satisfactory manner monthly and 3-month rolling time period emission calculation records of Lead (including lead compounds). If stack test results for FGSYSTEME exist for lead, the permittee may use those stack test results to estimate lead emissions subject to the approval of the AQD. In the event that stack test results do not exist for lead, the permittee shall use the applicable hourly emission rate listed in the Emission Limit Table to estimate the emissions of lead from FGSYSTEME. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(d))**

#### **VII. REPORTING**

NA

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

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-BHE	66	75	R 336.1225 40 CFR 52.21(c) & (d)

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

NA

**FGSYSTEMC  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Melting Line C consisting of Caster 3.

**Emission Unit:** EUMELTFURNACE3S, EUMELTFURNACE3N, EUMELTFURNACE3W, EUHOLDFURNACE3

**POLLUTION CONTROL EQUIPMENT**

Baghouse System C with an air flow of 120,000 ACFM

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	1.0 pph	Hourly	FGSYSTEMC	SC V.1	R 336.1205(3) R 336.1331(c)
2. PM10	1.0 pph	Hourly	FGSYSTEMC	SC V.1	R 336.1205(3) 40 CFR 52.21(c) & (d)
3. PM2.5	1.0 pph	Hourly	FGSYSTEMC	SC V.1	R 336.1205(3) 40 CFR 52.21(c) & (d)
4. Lead (including Lead Compounds)	0.035pph	Hourly	FGSYSTEMC	SC V.1	R 336.1205(3)
5. Lead (including Lead Compounds)	25.8 lbs/month	3-month rolling average as determined at the end of each calendar month	FGSYSTEMC	SC VI.7	R 336.1205(3) 40 CFR 52.21(d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate FGSYSTEMC unless Baghouse System C, the melting/holding furnaces hood/emissions capture systems and the associated ductwork system to the baghouse are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with the PM/MAP as required by FGFACILITY SC III.1. **(R 336.1205 (3), R 336.1331, R 336.1910)**
2. The permittee shall equip and maintain each compartment (or module) of Baghouse System C of FGSYSTEMC with pressure drop indicator. **(R 336.1910)**
3. The permittee shall not operate FGSYSTEMC unless a pressure drop between 2.0 and 12.0 inches W.G. is maintained across each operating compartment (or module) of Baghouse System C. **(R 336.910)**

4. The permittee shall install, operate and maintain a bag leak detection system for Baghouse System C of FGSYSTEMC. **(R 336.1910)**
5. The permittee shall provide a description of the appropriate operating conditions for the furnace and baghouse system to ensure satisfactory operation as outlined in the PM/MAP. This condition is satisfied if the information listed herein is submitted as part of the PM/MAP required by FGFACILITY SC III.1. **(R 336.1910)**

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

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

1. The permittee shall verify PM, PM10, PM2.5 and lead (including lead compounds) emission rates from FGSYSTEMC by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. The permittee must complete the testing once every five years, thereafter, unless an alternative testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in Test Method Table.

**Test Method Table**

<b>Pollutant</b>	<b>Test Method Reference</b>
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M or 40 CFR Part 60, Appendix A, Part 10 of the Michigan Air Pollution Control Rules
Pb	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 EPA 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 District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1224, R 336.1225, R 336.1910, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. The permittee shall verify the direction of air flow at each hood, using a smoke test (i.e., smoke bomb, smoke tube) as approved by the AQD District Supervisor within 6 months of the previous test. The permittee shall notify the AQD District Supervisor in writing at least 15 days before the test is scheduled. Verification of air flow direction includes the submittal of a complete report of the test results to the AQD District Supervisor within 60 days following the date of the test. After two consecutive tests that satisfy a demonstration that the direction of air flow at each hood is flowing into the exhaust ductwork, subsequent testing shall be completed once per calendar year. After 3 years of satisfactory tests demonstrating that the direction of the airflow at each hood is flowing into the exhaust ductwork, the permittee may submit a request for an alternate time frame for testing frequency to the AQD District Supervisor for review and approval. **(R 336.1205, R 336.1301, R 336.1910, 40 CFR 52.21(c) & (d))**

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

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

1. The permittee shall monitor and record, in a satisfactory manner, the pressure drop for each compartment (or module) of Baghouse System C for FGSYSTEMC on a daily basis, at least once per day while melting metal at FGSYSTEMC. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor the Baghouse System C to verify it is operating properly, by taking non-certified visible emission readings for the ductwork of Baghouse System C and the building housing FGSYSTEMC a minimum of once per calendar operating day during routine operating conditions. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**

3. If the bag leak detection alarm is triggered, the permittee shall inspect the baghouse and perform any required maintenance. **(R 336.1910)**
4. The permittee shall monitor and record, in a satisfactory manner, the amount of metal melted (solids and turnings) for FGSYSTEMC on a daily and monthly time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a), R 336.1225, 40 CFR 52.21(c) & (d))**
5. The permittee shall keep records of the hours of operation of FGSYSTEMC. **(R 336.1205)**
6. The permittee shall keep records of daily visible emissions observations, control equipment inspections and maintenance conducted, malfunctions, corrective actions and repairs. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
7. The permittee shall keep in a satisfactory manner monthly and 3-month rolling time period emission calculation records of Lead (including lead compounds). If stack test results for FGSYSTEMC exist for lead, the permittee may use those stack test results to estimate lead emissions subject to the approval of the AQD. In the event that stack test results do not exist for lead, the permittee shall use the applicable hourly emission rate listed in the Emission Limit Table to estimate the emissions of lead from FGSYSTEMC. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(d))**

**VII. REPORTING**

NA

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

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-BHC-01	58	75	R 336.1225 40 CFR 52.21(c) & (d)
2. SV-BHC-02	58	75	R 336.1225 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**FGFUGITIVES  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Casting operation fugitive emissions (within FGSYSTEMB, FGSYSTEME and FGSYSTEMC).

**Emission Unit:** NA

**POLLUTION CONTROL EQUIPMENT**

Baghouse System D with air flow of 150,000 ACFM

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	2.0 lb/hr	Hourly	FGFUGITIVES	SC V.1	R 336.1205(1) R 336.1331(c)
2. PM10	2.0 lb/hr	Hourly	FGFUGITIVES	SC V.1	R 336.1205(1) 40 CFR 52.21(c) & (d)
3. PM2.5	2.0 lb/hr	Hourly	FGFUGITIVES	SC V.1	R 336.1205(1) 40 CFR 52.21(c) & (d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate FGSYSTEMB, FGSYSTEMC, or FGSYSTEME unless Baghouse System D is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with the PM/MAP as required by FGFACILITY SC III.1. **(R 336.1205(1), R 336.1331, R 336.1910)**
2. The permittee shall equip and maintain each compartment (or module) of Baghouse System D of FGFUGITIVES with a pressure drop indicator. **(R 336.1910)**
3. The permittee shall install, operate and maintain a bag leak detection system for Baghouse System D of FGFUGITIVES. **(R 336.1910)**
4. The permittee shall provide a description of the appropriate operating conditions for Baghouse System D to ensure satisfactory operation as outlined in the PM/MAP. This condition is satisfied if the information listed herein is submitted as part of the PM/MAP required by FGFACILITY SC III.1. **(R 336.1910)**



**V. TESTING/SAMPLING**

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

1. Upon request of the AQD District Supervisor, the permittee may verify PM, PM10, and PM2.5 emission rates from Baghouse System D of FGFUGITIVES by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of three acceptable test runs per the applicable method requirements. Testing shall be performed using an approved EPA Method listed in Test Method Table.

**Test Method Table**

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M or 40 CFR Part 60, Appendix A, Part 10 of the Michigan Air Pollution Control Rules

An alternate method, or a modification to the approved EPA 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 District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall monitor and record, in a satisfactory manner, the pressure drop for each compartment (or module) of Baghouse System D for FGFUGITIVES on a daily basis, at least once per day while casting metal. (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))
2. The permittee shall monitor the Baghouse D for FGFUGITIVES to verify it is operating properly, by taking non-certified visible emission readings for the exhaust of Baghouse System D a minimum of once per calendar operating day during routine operating conditions. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall inspect the baghouse and perform any required maintenance. (R 336.1910)
3. If the bag leak detection alarm is triggered, the permittee shall inspect the baghouse and perform any required maintenance. (R 336.1910)
4. Permittee shall keep records of daily visible emissions observations, control equipment inspections and maintenance conducted, malfunctions, corrective actions and repairs. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1910)

**VII. REPORTING**

NA

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

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBHD	90	75	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**FGBILLETHEATERS  
FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Billet Heaters.

**Emission Unit:** EUBILLETHEATER1, EUBILLETHEATER2, EUBILLETHEATER3

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

NA

**V. TESTING/SAMPLING**

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

NA

**VI. MONITORING/RECORDKEEPING**

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

NA

**VII. REPORTING**

NA

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

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-PBH-001	32	22	R 336.1225, 40 CFR 52.21 (c) & (d)

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
2. SV-PBH-002	14	22	R 336.1225, 40 CFR 52.21 (c) & (d)
3. SV-PBH-003	14	22	R 336.1225, 40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

**FGFACILITY CONDITIONS**

**DESCRIPTION**

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. Individual HAP	9.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI. 3 & 4	R 336.1205(3)
2. Aggregate HAPs	22.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI. 3 & 4	R 336.1205(3)
3. PM10	50.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI 6	R 336.1205(1)(a) & (b)

**II. MATERIAL LIMIT(S)**

NA

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

1. The permittee shall implement and maintain a preventative maintenance/malfunction abatement plan (PM/MAP) for the chip dryer, casting operations equipment, processes, ductwork, and emission control as described in Rule 911(2). The PM/MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the equipment and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emissions limits.

If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operation changes to achieve compliance with all applicable emission limits. **(R 336.1911)**

2. The permittee shall implement and maintain a Best Management Practices Plan (BMPP) for housekeeping and prevention of fugitive particulate emissions. The BMPP shall, at a minimum, specify the following:
  - a) A detailed plan for housekeeping activities, including identification of the supervisory personnel responsible for overseeing these activities, a description of the items or conditions that shall be addressed by these activities, and the frequency at which the housekeeping activities are performed.
  - b) A detailed plan for addressing/controlling fugitive particulate emissions, including proper cleanup and future emissions prevention in case of malfunctions/inadequate and/or failure of particulate control systems.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a failure to follow the housekeeping activities/procedures causing some for fugitive particulate emissions.

If at any time the BMPP fails to address or inadequately addresses activities or corrective procedures for housekeeping and prevention of fugitive particulate emissions, the permittee shall amend the BMPP within 90 days after such an event occurs. The permittee shall also amend the BMPP within 45 days, if new equipment is installed that necessitates an update to the BMPP or upon request from the AQD District Supervisor. The permittee shall submit any amendments to the BMPP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the BMPP or amended BMPP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures and/or operational changes to achieve compliance with all applicable emission limits and permit conditions. **(R 336.1301)**

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

NA

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

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

NA

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

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205(3))**
2. The permittee shall maintain records of the amount of fuel combusted monthly at FGFACILITY. **(R 336.1205(1))**
3. The permittee shall keep records of the annual quantity and composition of each HAP-containing chemical binder or coating material used in the casting process for dressing molds. These records must be copies of purchasing records, Safety Data Sheets, or other documentation that provide information on the binder or coating materials used. **(R 336.1225)**
4. The permittee shall keep in a satisfactory manner, monthly and 12-month rolling time period emission calculation records of individual and aggregate HAPs using mass balance, tested emission rates, or an alternative method as approved by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**
5. The permittee shall maintain a log of all maintenance activities conducted according to the PM / MAP and the BMPP (pursuant to SC III.1 & 2). The permittee shall keep this log on file at the facility and make it available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1911, 40 CFR 52.21 (c) & (d))**
6. The permittee shall keep in a satisfactory manner, monthly and 12-month rolling time period emission calculation records of PM10 using mass balance, tested emission rates, or an alternative method as approved by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

**VII. REPORTING**

NA

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

NA

**IX. OTHER REQUIREMENT(S)**

NA