

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

March 26, 2018

**PERMIT TO INSTALL  
147-17**

**ISSUED TO**  
City Aluminum Foundry Co.

**LOCATED AT**  
2505 Williams Drive  
Waterford Township, Michigan

**IN THE COUNTY OF**  
Oakland

**STATE REGISTRATION NUMBER**  
N6212

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. 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:

**March 24, 2018**

DATE PERMIT TO INSTALL APPROVED:

**March 26, 2018**

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

## PERMIT TO INSTALL

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**Common Abbreviations / Acronyms**

| <b>Common Acronyms</b>    |  | <b>Pollutant / Measurement Abbreviations</b> |   |
|---------------------------|--|--|---|
| 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 <sub>2</sub> e                            | Carbon Dioxide Equivalent   |
| CFR                       | Code of Federal Regulations                                | dscf   | Dry standard cubic foot   |
| COM                       | Continuous Opacity Monitoring                              | dscm   | Dry standard cubic meter  |
| Department/<br>department | Michigan Department of Environmental<br>Quality            | °F   | Degrees Fahrenheit  |
| EU                        | Emission Unit  | gr   | Grains  |
| FG                        | Flexible Group   | HAP  | Hazardous Air Pollutant   |
| GACS                      | Gallons of Applied Coating Solids                          | Hg   | Mercury   |
| GC                        | General Condition  | hr   | Hour  |
| GHGs                      | Greenhouse Gases   | HP   | Horsepower  |
| HVLP                      | High Volume Low Pressure*                                  | H <sub>2</sub> S                             | Hydrogen Sulfide  |
| ID                        | Identification   | kW   | Kilowatt  |
| IRSL                      | Initial Risk Screening Level                               | lb   | Pound   |
| ITSL                      | Initial Threshold Screening Level                          | m  | Meter   |
| LAER                      | Lowest Achievable Emission Rate                            | mg   | Milligram   |
| MACT                      | Maximum Achievable Control Technology                      | mm   | Millimeter  |
| MAERS                     | Michigan Air Emissions Reporting System                    | MM   | Million   |
| MAP                       | Malfunction Abatement Plan                                 | MW   | Megawatts   |
| MDEQ                      | Michigan Department of Environmental<br>Quality            | NMOC   | Non-methane Organic Compounds                                       |
| MSDS                      | Material Safety Data Sheet                                 | NO <sub>x</sub>                              | Oxides of Nitrogen  |
| NA                        | Not Applicable   | ng   | Nanogram  |
| NAAQS                     | National Ambient Air Quality Standards                     | PM   | Particulate Matter  |
| NESHAP                    | National Emission Standard for<br>Hazardous Air Pollutants | PM <sub>10</sub>                             | Particulate Matter equal to or less than 10<br>microns in diameter  |
| NSPS                      | New Source Performance Standards                           | PM <sub>2.5</sub>                            | Particulate Matter equal to or less than 2.5<br>microns in diameter |
| NSR                       | New Source Review  | pph  | Pounds per hour   |
| PS                        | Performance Specification                                  | ppm  | Parts per million   |
| PSD                       | Prevention of Significant Deterioration                    | ppmv   | Parts per million by volume   |
| PTE                       | Permanent Total Enclosure                                  | ppmw   | Parts per million by weight   |
| 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 <sub>2</sub>                              | 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<br>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.

### 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 Environmental Quality, 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 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 R 336.1219 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(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 R 336.1301, 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 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 R 336.1370(2). **(R 336.1370)**
  
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**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<br/>(Process Equipment &amp; Control Devices)</b>  | <b>Flexible Group ID</b> |
|--|---|--------------------------|
| EUMELTFURN1  | Dynarad electric crucible aluminum melt furnace #1. Emissions controlled by the large baghouse.   | FGMELTPOURCOOL           |
| EUMELTFURN2  | Dynarad electric crucible aluminum melt furnace #2. Emissions controlled by the large baghouse.   | FGMELTPOURCOOL           |
| EUMELTFURN3  | Dynarad electric crucible aluminum melt furnace #3. Emissions controlled by the large baghouse.   | FGMELTPOURCOOL           |
| EUMELTFURN4  | Dynarad electric crucible aluminum melt furnace #4. Emissions controlled by the large baghouse.   | FGMELTPOURCOOL           |
| EUPOURCOOL   | Pouring and cooling operations. Molten metal is poured into sand molds (which may contain cores) and cooled. Emissions are fugitive.  | FGMELTPOURCOOL           |
| EUFLOORPC  | Floor pouring and cooling. Metal poured into prefabricated 3D-printed molds on the floor. Emissions are uncontrolled.   | FGMELTPOURCOOL           |
| EUSHAKEOUT   | Parts are removed from sand molds. Emissions controlled by the mechanical baghouse.   | FGSAND                   |
| EUSAND   | Sand handling and storage system. Emissions controlled by the mechanical baghouse.  | FGSAND                   |
| EURECLAIM  | Natural gas-fired thermal sand reclaimer that heats and mulls sand from shakeout. Emissions controlled by the thermal sand reclaim (TSR) baghouse.  | NA                       |
| EUMOLD   | Reconditioned sand and new sand are mixed and inserted into a pattern to make a mold. Mold release may be sprayed onto the mold. Molds and cores are washed (coated) with a VOC-containing refractory slurry. | NA                       |
| EUMANUALSO   | Metal parts poured into the 3D-printed molds on the floor are broken out manually. Emissions are uncontrolled.  | NA                       |
| 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 336.1290. |   |                          |

**The following conditions apply to:**  
**EURECLAIM**

**DESCRIPTION:** Natural gas-fired thermal sand reclaimer that heats and mulls sand from shakeout.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** Emissions controlled by the Thermal Sand Reclaim (TSR) baghouse.

**I. EMISSION LIMITS**

| <b>Pollutant</b>     | <b>Limit</b>       | <b>Time Period / Operating Scenario</b>     | <b>Equipment</b> | <b>Testing / Monitoring Method</b> | <b>Underlying Applicable Requirements</b> |
|----------------------|--------------------|---|------------------|------------------------------------|---|
| 1. PM                | 0.32 lb/hr         | Hourly                                      | EURECLAIM        | SC V.2, VI.1                       | 40 CFR 52.21(c) and (d)                   |
| 2. PM10              | 0.32 lb/hr         | Hourly                                      | EURECLAIM        | SC V.1, VI.1                       | 40 CFR 52.21(c) and (d)                   |
| 3. PM2.5             | 0.32 lb/hr         | Hourly                                      | EURECLAIM        | SC V.1, VI.1                       | 40 CFR 52.21(c) and (d)                   |
| 4. PM                | 0.040 gr/dscf      | At least 2 hours and 1.70 dscm per test run | EURECLAIM        | SC V.2, VI.1                       | 40 CFR 60.732                             |
| 5. Visible Emissions | 10 percent opacity | 6-minute average                            | EURECLAIM        | SC V.2, VI.1                       | 40 CFR 60.732                             |

**II. MATERIAL LIMITS**

1. The permittee shall burn only pipeline quality natural gas in EURECLAIM. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) and (d))**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate EURECLAIM unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the TSR Baghouse, has been submitted within 90 days of permit issuance and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The maximum design heat input capacity for EURECLAIM shall not exceed 2.75 MMBtu per hour on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

2. The permittee shall not operate EURECLAIM unless the TSR Baghouse with a gauge which measures the pressure drop across the fabric filter collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes operating the dust collector in accordance with the manufacturer's instructions and with the MAP required in SC III.1. **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

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

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

1. Upon request from the AQD District Supervisor, the permittee may be required to verify PM10 and PM2.5 emission rates from EURECLAIM by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 51, Appendix M. 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. Verification of emission rates includes the submittal of 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 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**
2. Within 60 days after achieving the maximum production rate for EURECLAIM, but not later than 180 days after initial startup, the permittee shall verify PM emission rates and visible emissions from EURECLAIM by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using Method 5 to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm. Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions. 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 60.736)**

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

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

1. The permittee shall maintain all records specified in the MAP, including a log of part replacements, repairs, and maintenance, and all monitoring performed on the TSR Baghouse. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (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 initial startup of EURECLAIM. **(R 336.1201(7)(a))**

**VIII. STACK/VENT RESTRICTIONS**

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-TSRBH                | 26  | 60  | 40 CFR 52.21(c) and (d)                   |

**IX. OTHER REQUIREMENTS**

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and UUU, as they apply to EURECLAIM. **(40 CFR Part 60 Subparts A & UUU)**

**Footnotes:**

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

**The following conditions apply to:**  
**EUMOLD**

**DESCRIPTION:** Reconditioned sand and new sand are mixed and inserted into a pattern to make a mold. Mold release may be sprayed onto the mold. Molds and cores are washed (coated) with a VOC-containing refractory slurry.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

| <b>Material</b>       | <b>Limit</b>          | <b>Time Period / Operating Scenario</b>                                      | <b>Equipment</b> | <b>Testing / Monitoring Method</b> | <b>Underlying Applicable Requirements</b>   |
|-----------------------|-----------------------|--|------------------|------------------------------------|---|
| 1. Mold Release Spray | 385 gallons per year  | 12-month rolling time period as determined at the end of each calendar month | EUMOLD           | SC VI.2                            | R 336.1224,<br>R 336.1225,<br>R 336.1702(a) |
| 2. Mold Wash          | 1095 gallons per year | 12-month rolling time period as determined at the end of each calendar month | EUMOLD           | SC VI.2                            | R 336.1224,<br>R 336.1225,<br>R 336.1702(a) |

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 maintain a current listing from the manufacturer of the chemical composition of each type of Mold Release Spray and Mold Wash that is used in EUMOLD, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1224, R 336.1225)**

2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the gallons of Mold Release Spray and gallons of Mold Wash used. The permittee shall keep the records on file at the facility, for at least five years, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702(a))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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

**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   |
|-------------------|--|--|
| FGMELTPOURCOOL    | Four (4) electric crucible melt furnaces controlled by the Large Baghouse. Flexible group includes the pouring and cooling operations. Molten metal from the crucible furnaces is poured into sand molds (which may contain cores) and cooled in the main pouring and cooling operation. A limited amount of metal from the crucible furnaces is poured into prefabricated 3D-printed sand molds on the floor. Emissions from both pouring and cooling processes are uncontrolled. | EUMELTFURN1,<br>EUMELTFURN2,<br>EUMELTFURN3,<br>EUMELTFURN4,<br>EUPOURCOOL,<br>EUFLOORPC |
| FGSAND            | Shakeout operations and sand handling and storage system. Emissions controlled by the mechanical baghouse.   | EUSHAKEOUT,<br>EUSAND  |
| FGNESHAP6Z        | The affected source is the collection of all melting operations located at an aluminum, copper, or other nonferrous foundry, that is (or is part of) an area source of hazardous air pollutant (HAP) emissions. The affected source is an existing small foundry as defined by 40 CFR Part 63 Subpart ZZZZZZ.  | NA   |
| FGFACILITYMELT    | All melting and holding furnace operations source-wide including equipment covered by other permits, grand-fathered equipment, and exempt equipment.   | NA   |

**The following conditions apply to:**  
**FGMELTPOURCOOL**

**DESCRIPTION:** Four (4) electric crucible melt furnaces controlled by the Large Baghouse. Flexible group includes the pouring and cooling operations. Molten metal from the crucible furnaces is poured into sand molds (which may contain cores) and cooled in the main pouring and cooling operation. A limited amount of metal from the crucible furnaces is poured into prefabricated 3D-printed sand molds on the floor. Emissions from both pouring and cooling processes are uncontrolled.

**Emission Units:** EUMELTFURN1, EUMELTFURN2, EUMELTFURN3, EUMELTFURN4, EUPOURCOOL, EUFLOORPC

**POLLUTION CONTROL EQUIPMENT:** furnaces are controlled by the Large Baghouse

**I. EMISSION LIMITS**

| Pollutant | Limit                  | Time Period/<br>Operating<br>Scenario       | Equipment                         | Testing /<br>Monitoring<br>Method | Underlying<br>Applicable<br>Requirements |
|-----------|------------------------|---|-----------------------------------|-----------------------------------|--|
| 1. PM     | 0.582 lb/ton<br>charge | Average of three<br>furnace batch<br>cycles | Each furnace in<br>FGMELTPOURCOOL | SC V.1,<br>VI.4                   | 40 CFR 52.21(c)<br>and (d)               |
| 2. PM10   | 0.582 lb/ton<br>charge | Average of three<br>furnace batch<br>cycles | Each furnace in<br>FGMELTPOURCOOL | SC V.1,<br>VI.4                   | 40 CFR 52.21(c)<br>and (d)               |
| 3. PM2.5  | 0.582 lb/ton<br>charge | Average of three<br>furnace batch<br>cycles | Each furnace in<br>FGMELTPOURCOOL | SC V.1,<br>VI.4                   | 40 CFR 52.21(c)<br>and (d)               |

**II. MATERIAL LIMITS**

| Material  | Limit                   | Time Period /<br>Operating<br>Scenario | Equipment                         | Testing /<br>Monitoring<br>Method | Underlying<br>Applicable<br>Requirements |
|---|-------------------------|--|-----------------------------------|-----------------------------------|--|
| 1. Aluminum<br>feed/charge<br>to furnaces         | 12,000 lbs<br>per day   | Calendar Day                           | All furnaces in<br>FGMELTPOURCOOL | SC VI.1,<br>SC VI.2               | 40 CFR 52.21(c) and<br>(d)               |
| 2. Chlorinated<br>or fluorinated<br>flux material | 100 lb/day <sup>1</sup> | Calendar Day                           | All furnaces in<br>FGMELTPOURCOOL | SC VI.1,<br>SC VI.3               | R 336.1225                               |

- The permittee shall melt only clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63 Subpart RRR. This condition is necessary to avoid requirements of 40 CFR Part 63 Subpart RRR, National Emission Standards for Secondary Aluminum Production. **(R 336.1224, R 336.1225, 40 CFR Part 63 Subpart RRR)**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate FGMELTPOURCOOL unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the Large baghouse, has been submitted within 90 days of permit issuance and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate FGMELTPOURCOOL unless the Large Baghouse with a gauge which measures the pressure drop across the fabric filter collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes operating the dust collector in accordance with the manufacturer's instructions and with the MAP required in SC III.1. **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

**V. TESTING/SAMPLING**

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

1. Upon request from the AQD District Supervisor, the permittee may be required to verify PM, PM10, and PM2.5 emission rates from any furnace or furnaces in FGMELTPOURCOOL by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed below.

| 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  |

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. 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, 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 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (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 weight and description of all charge materials and fluxing materials or agents added to FGMELTPOURCOOL on a daily basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) and (d))**
2. The permittee shall keep, in a satisfactory manner, daily records of the total weight of charge materials melted in FGMELTPOURCOOL. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, 40 CFR 52.21(c) and (d))**

3. The permittee shall keep, in a satisfactory manner, daily records of the total weight of each chlorinated and fluorinated fluxing material added to FGMELTPOURCOOL. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>1</sup> **(R 336.1225)**
4. The permittee shall maintain all records specified in the MAP, including a log of part replacements, repairs, and maintenance, and all monitoring performed on the Large Baghouse. **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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-LGBH                 | 44  | 42  | R 336.1225,<br>40 CFR 52.21(c) and (d)    |

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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

**The following conditions apply to:**  
**FGSAND**

**DESCRIPTION:** Shakeout operations and sand handling and storage system. Emissions controlled by the mechanical baghouse.

**Emission Units:** EUSHAKEOUT, EUSAND

**POLLUTION CONTROL EQUIPMENT:** Mechanical Baghouse

**I. EMISSION LIMITS**

| <b>Pollutant</b> | <b>Limit</b> | <b>Time Period/<br/>Operating<br/>Scenario</b> | <b>Equipment</b> | <b>Testing /<br/>Monitoring<br/>Method</b> | <b>Underlying<br/>Applicable<br/>Requirements</b> |
|------------------|--------------|--|------------------|--|---|
| 1. PM            | 0.57 lb/hr   | Hourly   | FGSAND           | SC V.1,<br>VI.1                            | 40 CFR 52.21(c) and<br>(d)                        |
| 2. PM10          | 0.46 lb/hr   | Hourly   | FGSAND           | SC V.1,<br>VI.1                            | 40 CFR 52.21(c) and<br>(d)                        |
| 3. PM2.5         | 0.42 lb/hr   | Hourly   | FGSAND           | SC V.1,<br>VI.1                            | 40 CFR 52.21(c) and<br>(d)                        |

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate FGSAND unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of the Mechanical Baghouse, has been submitted within 90 days of permit issuance and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate FGSAND unless the Mechanical Baghouse with a gauge which measures the pressure drop across the fabric filter collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes operating the dust collector in accordance with the manufacturer's instructions and with the MAP required in SC III.1. **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

**V. TESTING/SAMPLING**

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

1. Upon request from the AQD District Supervisor, the permittee may be required to verify PM, PM10, and PM2.5, emission rates from any furnace or furnaces in FGSAND by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed below.

| 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  |

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. 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, 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 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall maintain all records specified in the MAP, including a log of part replacements, repairs, and maintenance, and all monitoring performed on the Mechanical Baghouse. **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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-MECHBH    | 47   | 60                                 | 40 CFR 52.21(c) and (d)            |

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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

**The following conditions apply to:**  
**FGNESHAP6Z**

**DESCRIPTION:** The affected source is the collection of all melting operations located at an aluminum, copper, or other nonferrous foundry, that is (or is part of) an area source of hazardous air pollutant (HAP) emissions. The affected source is an existing small foundry as defined by 40 CFR Part 63 Subpart ZZZZZZ.

**Emission Units:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

1. The permittee shall purchase only metal scrap that has been depleted (to the extent practicable) of aluminum foundry HAP and other nonferrous foundry HAP in the materials charged to the melting furnace, except metal scrap that is purchased specifically for its HAP metal content for use in alloying or to meet specifications for the casting. *Aluminum foundry HAP* means any compound of the following metals: beryllium, cadmium, lead, manganese, or nickel, or any of these metals in the elemental form. This requirement does not apply to material that is not scrap (e.g., ingots, alloys, sows) or to materials that are not purchased (e.g., internal scrap, customer returns). **(40 CFR 63.11550(a)(2), 40 CFR 63.11556)**
2. The permittee shall melt less than 6,000 tons of metal(s) per calendar year. This condition is necessary to avoid requirements of 40 CFR Part 63.11550(b). **(40 CFR Part 63, Subpart ZZZZZZ)**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall cover or enclose each melting furnace that is equipped with a cover or enclosure during the melting operation to the extent practicable, except when access is needed; including, but not limited to charging, alloy addition, and tapping. **(40 CFR 63.11550(a)(1))**
2. The permittee shall prepare and operate pursuant to a written management practices plan. The management practices plan must include the required management practices in SC II.1 and SC III.1 and may include any other management practices that are implemented at the facility to minimize emissions from melting furnaces. **(40 CFR 63.11550(a)(3))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**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 perform monthly inspections and record results to ensure compliance with SC II.1 and SC III.1. **(40 CFR 63.11553(c)(2))**
2. The permittee shall keep the following records to document conformance with the management practices plan required by SC III.2:
  - a. For melting furnaces equipped with a cover or enclosure, records must identify each melting furnace equipped with a cover or enclosure and document that the procedures in the management practices plan were followed during monthly inspections. These records may be in the form of a checklist.
  - b. Records documenting that the permittee purchased only metal scrap that has been depleted of HAP metals (to the extent practicable) charged to the melting furnace. If you purchase scrap metal specifically for the HAP metal content for use in alloying or to meet specifications for the casting, you must keep records to document that the HAP metal is included in the material specifications for the cast metal product.  
**(40 CFR 63.11552(a), 40 CFR 63.11553(c)(2))**
3. The permittee shall keep a copy of each notification that was submitted to comply with 40 CFR 63 Subpart ZZZZZZ, and all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted. **(40 CFR 63.11553(c)(1))**
4. The permittee shall maintain records to document that the facility melts less than 6,000 tpy total of copper, other nonferrous metal, and all associated alloys (excluding aluminum) in each calendar year. Records shall be kept on file for a period of at least five years and made available to the Department upon request. **(40 CFR 63.11553(c)(4))**

## **VII. REPORTING**

1. The permittee shall submit and keep a copy of an Initial Notification and a Notification Of Compliance Status to the Administrator as specified in 40 CFR Part 63 Subpart ZZZZZZ. **((40 CFR 63.11553(a), (b))**
2. If a deviation occurs during a semiannual reporting period, you must submit a compliance report to your permitting authority according to the requirements below.
  - a. Each reporting period covers the semiannual period from January 1 through June 30 or from July 1 through December 31. Your compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - b. A compliance report must include all of the information below.
    - i. Company name and address.
    - ii. Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy and completeness of the content of the report.
    - iii. Date of the report and beginning and ending dates of the reporting period.
    - iv. Identification of the affected source, the pollutant being monitored, applicable requirement, description of deviation, and corrective action taken.  
**(40 CFR 63.11553(e))**

## **VIII. STACK/VENT RESTRICTIONS**

NA

## **IX. OTHER REQUIREMENTS**

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 ZZZZZZ for Aluminum, Copper, and Other Nonferrous Foundries by the initial compliance date. **(40 CFR Part 63 Subparts A and ZZZZZZ)**

**The following conditions apply Source-Wide to:**  
**FGFACILITYMELT**

**DESCRIPTION:** All melting and holding furnace operations source-wide including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

**Emission Units:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

| <b>Material</b>  | <b>Limit</b>                | <b>Time Period / Operating Scenario</b> | <b>Equipment</b> | <b>Testing / Monitoring Method</b> | <b>Underlying Applicable Requirements</b> |
|--|-----------------------------|---|------------------|------------------------------------|---|
| 1. Hexachloroethane content in flux or degassing agents  | 10% by weight <sup>1</sup>  | Instantaneous                           | FGFACILITYMELT   | SC VI.1                            | R 336.1224,<br>R 336.1225                 |
| 2. Flux and degassing agents containing hexachloroethane | 900 lb / month <sup>1</sup> | Calendar Month                          | FGFACILITYMELT   | SC VI.2                            | R 336.1224,<br>R 336.1225                 |

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 maintain a current listing from the manufacturer of the chemical composition of each fluxing material and degassing agent used in FGFACILITYMELT, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1224, R 336.1225)**

2. The permittee shall keep, in a satisfactory manner, monthly records of the total weight of each flux and degassing agent containing hexachloroethane that is added to each furnace in FGFACILITYMELT. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>1</sup>  
**(R 336.1225)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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