

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

July 25, 2023

PERMIT TO INSTALL
166-13G

ISSUED TO
Cosma Casting Michigan, LLC

LOCATED AT
10 North Clark Road
Battle Creek, Michigan 49037

IN THE COUNTY OF
Calhoun

STATE REGISTRATION NUMBER
N8223

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: July 14, 2023	
DATE PERMIT TO INSTALL APPROVED: July 25, 2023	SIGNATURE:
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 ₂ e	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 ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	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 ₂	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 condition 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.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUENGINE	A 2180 kW (2922 hp) diesel-fueled emergency engine manufactured in 2008.	NA
EUMELTFURNACE1	Furnace ID # 3002 1.65 ton per hour (tph) aluminum melting furnace #1, with three natural gas-fired burners, and a total heat input of 4.3 MMBtu/hr. Emissions are uncontrolled and vented to atmosphere through SVMELT1.	FGFURNACES
EUMELTFURNACE2	Furnace ID # 4003 3.31 tph aluminum melting furnace #2, with four natural gas-fired burners, and a total heat input of 8.2 MMBtu/hr. Emissions are uncontrolled and vented to atmosphere through SVMELT2.	FGFURNACES
EUMELTFURNACE3	Furnace ID # 4004 3.31 tph aluminum melting furnace #3, with four natural gas-fired burners, and a total heat input of 8.2 MMBtu/hr. Emissions are uncontrolled and vented to atmosphere through SVMELT3.	FGFURNACES
EUMELTFURNACE4	Furnace ID # 4005 1.65 tph aluminum melting furnace #4, with three natural gas-fired burners, and a total heat input of 3.92 MMBtu/hr. Emissions are uncontrolled and vented to atmosphere through SVMELT4.	FGFURNACES
EUMELTFURNACE5	Furnace ID # 6006 4,000 kg/hour (4.41 tph) aluminum melting furnace #5 with a total burner firing rate of 3,200 kW (10.9 MMBtu/hr). Emissions are uncontrolled and vented to atmosphere through SVMELT5.	FGFURNACES
EUMELTFURNACE6	Furnace ID # 4007 3.31 tph aluminum melting furnace #6, with four natural gas-fired burners, and a total heat input of 8.2 MMBtu/hr. Emissions are uncontrolled and vented to atmosphere through SVMELT6.	FGFURNACES
EUDEGAS1	Station for nitrogen degassing of molten aluminum in ladles	FGDEGAS
EUDEGAS2	Station for nitrogen degassing of molten aluminum in ladles	FGDEGAS
EUDEGAS3	Station for nitrogen degassing of molten aluminum in ladles, exhausted into building	FGDEGAS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUDEGAS4	Station for nitrogen degassing of molten aluminum in ladles, exhausted into building	FGDEGAS

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.

**EUENGINE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

A 2180 kW (2922 hp) diesel-fueled emergency engine manufactured in 2008.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NMHC + NOx	6.4 g/kW-hr	Hourly	EUENGINE	SC VI.2	40 CFR 60.4202(a)(2)
2. CO	3.5 g/kW-hr	Hourly	EUENGINE	SC VI.2	40 CFR 60.4202(a)(2)
3. PM	0.20 g/kW-hr	Hourly	EUENGINE	SC VI.2	40 CFR 60.4202(a)(2)

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in EUENGINE with the maximum sulfur content of 15 ppm (0.0015 percent) by weight. **(R 336.1402(1), 40 CFR 60.4207(b), 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUENGINE for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**
2. The permittee may operate EUENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUENGINE may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211)**
3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for EUENGINE:
 - a) Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
 - b) Keep a maintenance plan and the permittee may only change those engine settings that are permitted by the manufacturer. If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and
 - c) Meet the requirements as specified in 40 CFR 89, as it applies to you. **(40 CFR 60.4211(a))**

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for EUENGINE and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EUENGINE with a non-resettable hours meter to track the operating hours. **(R 336.1225, 40 CFR 60.4209)**
2. The nameplate capacity of EUENGINE shall not exceed 2180 kW, as certified by the equipment manufacturer. **(R 336.1225, 40 CFR 60.4202, 40 CFR 89.112(a))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct an initial performance test for EUENGINE within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart IIII. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4213. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4211, 40 CFR 60.4213, 40 CFR Part 60 Subpart IIII)**

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 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 (c) & (d))**
2. The permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that EUENGINE meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII. If EUENGINE becomes uncertified then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**
3. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for EUENGINE, on a monthly and 12-month rolling time period basis, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of EUENGINE, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(40 CFR 60.4211, 40 CFR 60.4214)**
4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUENGINE, demonstrating that the fuel sulfur content meets the requirement of 40 CFR 60.4207(d). The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil. **(R 336.1402(1), 40 CFR 80.510(b))**

VII. REPORTING

1. The permittee shall submit a notification specifying whether EUENGINE will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart IIII)**

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. SVENGINE	10	15	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUENGINE. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590)**

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

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
FGFURNACES	Flexible group of six (6) aluminum melting furnaces with natural gas-fired burners.	EUMELTFURNACE1, EUMELTFURNACE2, EUMELTFURNACE3, EUMELTFURNACE4, EUMELTFURNACE5, EUMELTFURNACE6
FGDEGAS	Four degassing stations. Each station will have its own dedicated stack.	EUDEGAS1, EUDEGAS2, EUDEGAS3, EUDEGAS4

**FGFURNACES
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Flexible group of six aluminum (6) melt furnaces with natural gas-fired burners.

Emission Unit: EUMELTFURNACE1, EUMELTFURNACE2, EUMELTFURNACE3, EUMELTFURNACE4, EUMELTFURNACE5, EUMELTFURNACE6

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.140 lb/ton	Hourly during normal melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	R 336.1331
2. PM10	0.193 lb/ton	Hourly during normal melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	R 336.1205(1)(a), 40 CFR 52.21(c) & (d)
3. PM2.5	0.193 lb/ton	Hourly during normal melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	40 CFR 52.21(c) & (d)
4. PM	0.023 lb/ton	Hourly during normal melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	R 336.1301
5. PM10	0.040 lb/ton	Hourly during normal melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	R 336.1205(1)(a), 40 CFR 52.21(c) & (d)
6. PM2.5	0.040 lb/ton	Hourly during normal melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	40 CFR 52.21(c) & (d)
7. PM	0.807 lb/ton	Hourly during fluxing and melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	R 336.1331
8. PM10	0.912 lb/ton	Hourly during fluxing and melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	R 336.1205(1)(a), 40 CFR 52.21(c) & (d)
9. PM2.5	0.912 lb/ton	Hourly during fluxing and melting of A380 Alloys	EUMELTFURNACE1, EUMELTFURNACE4	SC V.1	40 CFR 52.21(c) & (d)
10. PM	0.293 lb/ton	Hourly during fluxing and melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	R 336.1301
11. PM10	0.340 lb/ton	Hourly during fluxing and melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	R 336.1205(1)(a), 40 CFR 52.21(c) & (d)
12. PM2.5	0.340 lb/ton	Hourly during fluxing and melting excluding A380 Alloys	Each Furnace in FGFURNACES	SC V.1	40 CFR 52.21(c) & (d)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Total A380 Alloy Metal Processed	7,000 tons/yr	12-month rolling time period as determined at the end of each calendar month	EUMELTFURNACE1, EUMELTFURNACE4	SC VI.3	R 336.1205(1)(a), R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d)
2. Total Alloy Metal Processed including A380	65,000 tons/yr	12-month rolling time period as determined at the end of each calendar month	FGFURNACES, including any final alloy additions to the melt while in the ladle.	SC VI.3	R 336.1205(1)(a), R 336.1225
3. Flux usage	24.0 lbs/day	Daily	EUMELTFURNACE1	SC VI.4	R 336.1205(1)(a), R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d)
	24.0 lbs/day	Daily	EUMELTFURNACE2		
	24.0 lbs/day	Daily	EUMELTFURNACE3		
	24.0 lbs/day	Daily	EUMELTFURNACE4		
	30 lbs/day	Daily	EUMELTFURNACE5		
	24 lbs/day	Daily	EUMELTFURNACE6		
4. Flux Usage	54,750 lb/yr	12-month rolling time period as determined at the end of each calendar month	FGFURNACES	SC VI.4	R 336.1205(1)(a), R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d)

5. 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)**
6. The permittee shall not melt A380 alloy in EUMELTFURNACE2, EUMELTFURNACE3, EUMELTFURNACE5, or EUMELTFURNACE6. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**
7. The permittee shall not melt A380 simultaneously in more than one furnace at a time. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**
8. The permittee shall not use flux in each furnace of FGFURNACES more than once per eight-hour shift. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**
9. The permittee shall only burn pipeline quality natural gas in the burners of FGFURNACES. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for the combined burners of each furnace shall not exceed the following heat input ratings: **(R 336.1205, R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

Furnace	Maximum Heat Input Rating
a. EUMELTFURNACE1	4.3 MMBtu/hr
b. EUMELTFURNACE2	8.2 MMBtu/hr
c. EUMELTFURNACE3	8.2 MMBtu/hr
d. EUMELTFURNACE4	3.92 MMBtu/hr
e. EUMELTFURNACE5	10.9 MMBtu/hr
f. EUMELTFURNACE6	8.2 MMBtu/hr

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 shall verify PM, PM10, and PM2.5 emission rates in the SC I table from FGFURNACES by testing at owner’s expense, in accordance with Department requirements. The testing can be performed in one representative furnace for each alloy or across multiple furnaces. The permittee shall perform additional testing upon request of the District Supervisor. Testing shall be performed using an approved EPA Method listed in:

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

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. 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) & (d))

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 by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331)
2. The permittee shall monitor, record, and keep in a satisfactory manner, the weight and description of all charge materials and flux added to each furnace in FGFURNACES 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 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331)
3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the following:
 - a) Total weight of each alloy melted in each furnace of FGFURNACES.
 - b) Total weight of all alloys melted in all furnaces combined for FGFURNACES including any final alloy additions to the melt while in the ladle.
 The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205, R 336.1225)
4. The permittee shall keep, in a satisfactory manner, a record of the amount of flux used in each furnace of FGFURNACES on a daily, monthly, and 12-month rolling basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205, R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))
5. The permittee shall keep, in a satisfactory manner, a record of all alloy formulations and make them available to the Department upon request. (R 336.1205, R 336.1225)

6. The permittee shall keep, in a satisfactory manner, a record of the maximum heat capacities of the burners for each furnace in FGFURNACES. (R 336.1205, R 336.1224, R 336.1225, 40 CFR 52.21(c) & (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:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVMELT1	31	42	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVMELT2	31	46	R 336.1225, 40 CFR 52.21(c) & (d)
3. SVMELT3	31	46	R 336.1225, 40 CFR 52.21(c) & (d)
4. SVMELT4	25	48	R 336.1225, 40 CFR 52.21(c) & (d)
5. SVMELT5	36	64	R 336.1225, 40 CFR 52.21(c) & (d)
6. SVMELT6	31	46	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

**FGDEGAS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Four degassing stations. Each station will have its own dedicated stack.

Emission Unit: EUDEGAS1, EUDEGAS2, EUDEGAS3, EUDEGAS4

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.081 lb/tapout	Hourly during fluxing and degassing of all alloys	Each degassing station in FGDEGAS	SC V.1	R 336.1331
2. PM10	0.074 lb/tapout	Hourly during fluxing and degassing of all alloys	Each degassing station in FGDEGAS	SC V.1	R 336.1205(1)(a), 40 CFR 52.21(c) & (d)
3. PM2.5	0.052 lb/tapout	Hourly during fluxing and degassing of all alloys	Each degassing station in FGDEGAS	SC V.1	40 CFR 52.21(c) & (d)
4. Hydrogen Chloride (CAS No. 7647-01-0)	0.183 lb/lb flux	Hourly during fluxing of all alloys	FGDEGAS	SC V.1	R 336.1205(3), R 336.1225

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Flux Usage	43,435 lb/yr	12-month rolling time period as determined at the end of each calendar month	FGDEGAS	SC VI.2	R 336.1205(1)(a), R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d)

1. The permittee shall only process aluminum in FGDEGAS that has been melted in FGFURNACES, which includes any final alloy additions to the melt while in the ladle. **(R 336.1205(3), R 336.1224, R 336.1225)**
2. The permittee shall not flux more than once per tapout in each degassing unit of FGDEGAS. **(R 336.1205(3), R 336.1224, R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not change the exhaust configurations or add additional stacks to FGDEGAS. **(R 336.1225, 40 CFR 52.21(c) & (d))**
2. Within 180 days of permit issuance, the permittee shall install a lid and exhaust stack on each degassing unit of DEGAS. The permittee shall notify the AQD District Supervisor upon completion of the installation of the lids. **(R 336.1225)**

V. TESTING/SAMPLING

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

1. Within 180 days of permit issuance, the permittee shall verify PM, PM10, PM2.5, and hydrogen chloride emission rates in the SC I table from FGDEGAS by testing at owner's expense, in accordance with Department requirements. The testing can be performed in one representative unit for each alloy or across multiple units. The permittee shall perform additional testing upon request of the District Supervisor. Testing shall be performed using an approved EPA Method listed in:

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

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. 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) & (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 identity of all degassing agents used in FGDEGAS 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 336.1205(3), R 336.1224, R 336.1225)**
2. The permittee shall keep, in a satisfactory manner, a record of the amount of flux used in each degassing unit of FGDEGAS on a monthly and 12-month rolling basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, 40 CFR 52.21(c) & (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 FGDEGAS. **(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. SVDEGAS1*	8	43	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVDEGAS2*	8	43	R 336.1225, 40 CFR 52.21(c) & (d)
3. SVDEGAS3*	8	43	R 336.1225, 40 CFR 52.21(c) & (d)
4. SVDEGAS4*	8	43	R 336.1225, 40 CFR 52.21(c) & (d)

*Stacks have rain caps preventing unobstructed vertical exhaust

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ 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.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9.0 tpy*	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2, SC VI.3	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy*	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2, SC VI.3	R 336.1205(3)

*Potential emissions limited by material throughput limits in FGFURNACES and SC II.1

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Natural Gas	270 MMcf/yr	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3)

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))

- The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205(3))
- The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux and HAP-containing material used in FGFACILITY, 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. **(R 336.1205(3), R 336.1225)**

3. The permittee shall keep the following information on a monthly and 12-month rolling basis for FGFACILITY:
- a) Pounds of each flux used in FGFACILITY.
 - b) Pounds of each HAP containing material used.
 - c) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month. HAP emission calculations shall include HAPs generated from fluxing, and HAPs emitted from all HAP containing materials used in FGFACILITY.
 - d) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month. For the first month following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months.
 - e) the natural gas usage in MMcf/yr for FGFACILITY.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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