

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

September 12, 2017

PERMIT TO INSTALL
175-12C

ISSUED TO
Port City Die Cast

LOCATED AT
2121 Latimer Drive
Muskegon, Michigan

IN THE COUNTY OF
Muskegon

STATE REGISTRATION NUMBER
B7175

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:

August 9, 2017

DATE PERMIT TO INSTALL APPROVED:

September 12, 2017

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental 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 ₂ 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 Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM ₁₀	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM _{2.5}	Particulate Matter equal to or less than 2.5 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 ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

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

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.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU-REVERB	Natural gas fired aluminum melting furnace. Holding capacity: 45,000 pounds. Melt Rate: 5,000 pounds per hour. Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux] 6 burners, 10 MMBtu/hr total heat input rate. Additional equipment includes: Enclosed launder system with argon gas blanket to prevent oxidation; Associated enclosed holding furnaces and diecasting machines	2016	NA
EU-REVERB2	Natural gas fired aluminum melting furnace. Holding capacity: 11,000 pounds. Melt Rate: 1,250 pounds per hour. Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux] 2 burners, 2.5 MMBtu/hr total heat input rate. Additional equipment includes: Enclosed launder system with argon gas blanket to prevent oxidation; Associated enclosed holding furnace and diecasting machine	2016	NA
EU-REVERB3	Natural gas fired aluminum melting furnace. Holding capacity: 11,000 pounds. Melt Rate: 1,250 pounds per hour. Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux] 2 burners, 2.5 MMBtu/hr total heat input rate. Additional equipment includes: Enclosed launder system with argon gas blanket to prevent oxidation; Associated enclosed holding furnace and diecasting machine	2017	
EU-REVERB4	Natural gas fired aluminum melting furnace. Holding capacity: 40,000 pounds. Melt Rate: 3,500 pounds per hour. Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux] 6 burners, 7 MMBtu/hr total heat input rate. Additional equipment includes: Enclosed launder system with argon gas blanket to prevent oxidation; Associated enclosed holding furnace and diecasting machine	2017	

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: EU-REVERB

DESCRIPTION: Natural gas fired aluminum melting furnace. Holding capacity: 45,000 pounds.

Melt Rate: 5,000 pounds per hour.

Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux]

6 burners, 10 MMBtu/hr total heat input rate.

Additional equipment includes:

Enclosed launder system with argon gas blanket to prevent oxidation;

Associated enclosed holding furnaces and diecasting machines

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VE	10% opacity	6-minute average	EU-REVERB	GC 13	R 336.1301
2. PM	0.010 gr/dscf	instantaneous	EU-REVERB Fluxing**	SC V.1	R 336.1331(c), R 336.1225
3. PM10	2.04 pph	hourly	EU-REVERB Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
4. PM2.5	2.04 pph	hourly	EU-REVERB Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
5. PM	0.010 gr/dscf	instantaneous	EU-REVERB Melting**	SC V.1	R 336.1331(c), R 336.1225
6. PM10	0.92 pph	hourly	EU-REVERB Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
7. PM2.5	0.92 pph	hourly	EU-REVERB Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)

** Operating Scenario Definitions:
 Melting includes all furnace operations when fluxing is not occurring. This includes charging, holding, melting, and tapping operations.
 Fluxing: Molten aluminum bath is in the process of chemical purification via the addition of HCl or HF flux media that reacts with impurities and floats them to the surface for removal.

II. MATERIAL LIMITS

1. The permittee shall melt in EU-REVERB only clean charge 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)**
2. The permittee shall not use more than 160 lbs of cleaning and cover flux per day in EU-REVERB. **(R 336.1224, R 336.1225, 40 CFR 52.21 (c) & (d))**
3. The permittee shall only burn natural gas in EU-REVERB. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall limit flux addition events as follows:
 - a) The permittee shall not add flux to the main bath of EU-REVERB more than three times per day.
 - b) The permittee shall not add flux to the charge well/scrap well bath of EU-REVERB more than 6 times per day.**(R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

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 shall verify PM, PM10, and PM2.5-emission rates from EUREVERB by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the Test Method Table.

Reference 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

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 336.2001, 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 and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702)**
2. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the types of material charged in EU-REVERB. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR Part 63 Subpart RRR)**
3. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the daily cleaning and cover flux usage rates in EU-REVERB. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. ¹ **(R 336.1205, R 336.1225)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used in EU-REVERB, 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 336.1224, R 336.1225)**

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 (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-REVERB	39	60	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SV-REVFLUE	24	35	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-REVERB2

DESCRIPTION: Natural gas fired aluminum melting furnace. Holding capacity: 11,000 pounds.

Melt Rate: 1,250 pounds per hour.

Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux]

2 burners, 2.5 MMBtu/hr total heat input rate.

Additional equipment includes:

Enclosed launder system with argon gas blanket to prevent oxidation;

Associated enclosed holding furnace and diecasting machine

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VE	10% opacity	6-minute average	EU-REVERB2	GC 13	R 336.1301
2. PM	0.010 gr/dscf	instantaneous	EU-REVERB2 Fluxing**	SC V.1	R 336.1331(c), R 336.1225
3. PM10	0.51 pph	hourly	EU-REVERB2 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
4. PM2.5	0.51 pph	hourly	EU-REVERB2 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
5. PM	0.010 gr/dscf	instantaneous	EU-REVERB2 Melting**	SC V.1	R 336.1331(c), R 336.1225
6. PM10	0.23 pph	hourly	EU-REVERB2 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
7. PM2.5	0.23 pph	hourly	EU-REVERB2 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)

** Operating Scenario Definitions:

Melting includes all furnace operations when fluxing is not occurring. This includes charging, holding, melting, and tapping operations.

Fluxing: Molten aluminum bath is in the process of chemical purification via the addition of HCl or HF flux media that reacts with impurities and floats them to the surface for removal.

II. MATERIAL LIMITS

1. The permittee shall melt in EU-REVERB2 only clean charge 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)**
2. The permittee shall not use more than 82 lbs of cleaning and cover flux per day in EU-REVERB2. **(R 336.1224, R 336.1225, 40 CFR 52.21 (c) & (d))**
3. The permittee shall only burn natural gas in EU-REVERB2. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall limit flux addition events as follows:
 - a) The permittee shall not add flux to the main bath of EU-REVERB2 more than three times per day.
 - b) The permittee shall not add flux to the charge well/scrap well bath of EU-REVERB2 more than 6 times per day.
- (R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

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 shall verify PM, PM10, and PM2.5-emission rates from EUREVERB2 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the Test Method Table.

Reference 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

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 336.2001, 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 and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702)**
2. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the types of material charged in EU-REVERB2. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR Part 63 Subpart RRR)**
3. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the daily cleaning and cover flux usage rates in EU-REVERB2. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. ¹ **(R 336.1205, R 336.1225)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used in EU-REVERB2, 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 336.1224, R 336.1225)**

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 (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-REVERB2	27	60	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SV-REVFLUE2	24	35	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-REVERB3

DESCRIPTION: Natural gas fired aluminum melting furnace. Holding capacity: 11,000 pounds.

Melt Rate: 1,250 pounds per hour.

Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux]

2 burners, 2.5 MMBtu/hr total heat input rate.

Additional equipment includes:

Enclosed launder system with argon gas blanket to prevent oxidation;

Associated enclosed holding furnaces and diecasting machines

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VE	10% opacity	6-minute average	EU-REVERB3	GC 13	R 336.1301
2. PM	0.010 gr/dscf	instantaneous	EU-REVERB3 Fluxing**	SC V.1	R 336.1331(c), R 336.1225
3. PM10	0.51 pph	hourly	EU-REVERB3 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
4. PM2.5	0.51 pph	hourly	EU-REVERB3 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
5. PM	0.010 gr/dscf	instantaneous	EU-REVERB3 Melting**	SC V.1	R 336.1331(c), R 336.1225
6. PM10	0.23 pph	hourly	EU-REVERB3 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
7. PM2.5	0.23 pph	hourly	EU-REVERB3 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)

** Operating Scenario Definitions:
 Melting includes all furnace operations when fluxing is not occurring. This includes charging, holding, melting, and tapping operations.
 Fluxing: Molten aluminum bath is in the process of chemical purification via the addition of HCl or HF flux media that reacts with impurities and floats them to the surface for removal.

II. MATERIAL LIMITS

- The permittee shall melt in EU-REVERB3 only clean charge 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)**
- The permittee shall not use more than 82 lbs of cleaning and cover flux per day in EU-REVERB3. **(R 336.1224, R 336.1225, 40 CFR 52.21 (c) & (d))**
- The permittee shall only burn natural gas in EU-REVERB3. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall limit flux addition events as follows:
 - a) The permittee shall not add flux to the main bath of EU-REVERB3 more than three times per day.
 - b) The permittee shall not add flux to the charge well/scrap well bath of EU-REVERB3 more than 6 times per day.
- (R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

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 shall verify PM, PM10, and PM2.5-emission rates from EUREVERB3 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the Test Method Table.

Reference 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

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 336.2001, 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 and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702)**
2. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the types of material charged in EU-REVERB3. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR Part 63 Subpart RRR)**
3. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the daily cleaning and cover flux usage rates in EU-REVERB3. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. ¹ **(R 336.1205, R 336.1225)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used in EU-REVERB3, 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 336.1224, R 336.1225)**

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 (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-REVERB3	27	60	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SV-REVFLUE3	24	35	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-REVERB4

DESCRIPTION: Natural gas fired aluminum melting furnace. Holding capacity: 40,000 pounds.

Melt Rate: 3,500 pounds per hour.

Clean charge plus fluxing [fluoride salt fluxes used for cleaning and as cover flux]

2 burners, 7.0 MMBtu/hr total heat input rate.

Additional equipment includes:

Enclosed launder system with argon gas blanket to prevent oxidation;

Associated enclosed holding furnaces and diecasting machines

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VE	10% opacity	6-minute average	EU-REVERB4	GC 13	R 336.1301
2. PM	0.010 gr/dscf	instantaneous	EU-REVERB4 Fluxing**	SC V.1	R 336.1331(c), R 336.1225
3. PM10	1.43 pph	hourly	EU-REVERB4 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
4. PM2.5	1.43 pph	hourly	EU-REVERB4 Fluxing**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
5. PM	0.010 gr/dscf	instantaneous	EU-REVERB4 Melting**	SC V.1	R 336.1331(c), R 336.1225
6. PM10	0.65 pph	hourly	EU-REVERB4 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)
7. PM2.5	0.65 pph	hourly	EU-REVERB4 Melting**	SC V.1	R 336.1225, 40 CFR 52.21(c) & (d)

** Operating Scenario Definitions:
 Melting includes all furnace operations when fluxing is not occurring. This includes charging, holding, melting, and tapping operations.
 Fluxing: Molten aluminum bath is in the process of chemical purification via the addition of HCl or HF flux media that reacts with impurities and floats them to the surface for removal.

II. MATERIAL LIMITS

- The permittee shall melt in EU-REVERB4 only clean charge 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)**
- The permittee shall not use more than 130 lbs of cleaning and cover flux per day in EU-REVERB4. **(R 336.1224, R 336.1225, 40 CFR 52.21 (c) & (d))**
- The permittee shall only burn natural gas in EU-REVERB4. **(R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall limit flux addition events as follows:
 - a) The permittee shall not add flux to the main bath of EU-REVERB4 more than three times per day.
 - b) The permittee shall not add flux to the charge well/scrap well bath of EU-REVERB4 more than 6 times per day.
- (R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

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 shall verify PM, PM10, and PM2.5-emission rates from EUREVERB4 by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the Test Method Table.

Reference 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

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 336.2001, 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 and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702)**
2. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the types of material charged in EU-REVERB4. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR Part 63 Subpart RRR)**
3. The permittee shall keep on a daily basis, in a satisfactory manner, a log of the daily cleaning and cover flux usage rates in EU-REVERB4. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. ¹ **(R 336.1205, R 336.1225)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each flux material used in EU-REVERB4, 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 336.1224, R 336.1225)**

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	Exhaust Diameter* (inches)	Minimum Height Above Ground (feet)	Minimum exhaust gas velocity (feet/second)	Underlying Applicable Requirements
1. SV-REVERB4	27 (minimum)	60	71.26	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SV-REVFLUE4	24 (minimum)	35	8.04	R 336.1225, 40 CFR 52.21 (c) & (d)
* The listed stack diameters represent dimensions associated with minimum flow rates and maximum emission rates. Any increase in the stack diameters would be in conjunction with an increase in flowrate for the same emissions rate, thus resulting in similar or more favorable dispersion characteristics meeting the minimum exhaust gas velocity. Flue gas is calculated at 50% excess air.				

IX. OTHER REQUIREMENTS

NA

Footnotes:

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