

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

March 27, 2019

**PERMIT TO INSTALL
12-14E**

ISSUED TO
Barber Steel Foundry Corporation

LOCATED AT
2625 West Winston Road
Rothbury, Michigan

IN THE COUNTY OF
Oceana

STATE REGISTRATION NUMBER
B1961

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 7, 2019	
DATE PERMIT TO INSTALL APPROVED: March 27, 2019	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	Michigan Department of Environmental Quality
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
MDEQ	Michigan Department of Environmental Quality
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 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 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 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 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
EUCHRGHANDLG	Incoming scrap metal, which is delivered by trucks, and internal scrap run-around are sent to the charge yard. The charge yard is an area with a roof and partially enclosed walls and concrete flooring.	FGMACTZZZZZ
EUINDUCFURNEIF6	6 Ton Capacity Electric Induction Furnace (EIF6) to melt steel scrap. The design melt rate of Furnace #6 is 6 tons/hour. The maximum furnace steel charging and melting rate 15,000 tons per year. The furnace melting emissions will be collected by an articulating close capture lid that incorporates a side draft system and is ducted to a 12,500 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).	FGMACTZZZZZ
EUPOURING	Metal pouring operations. A hoist brings transfer ladles of molten metal to the staged molds. The ladles will be the "bottom-pour" type. The pouring and molding emissions will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL FGMACTZZZZZ
EUCOOLING	Poured mold-cooling operations. The molds will be cooled on the pour floor until they can be moved to shakeout. EUCOOLING includes the transfer of the castings in molds to the shakeout machine. Emissions from the cooling of the castings will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL FGMACTZZZZZ
EUSHAKEOUT	Shakeout machine operation. Molds and castings are sent to the shakeout machine to separate the sand from the metal parts. Castings are removed from the flask and mold in the shakeout area and are placed into the shakeout machine. Castings will be transferred from the grate of the shakeout machine to the finishing department via fork truck. Metal throughput is 14,700 tons per year. The shakeout machine is vented to the Shakeout fabric filter collector C-1 followed by stack (SV-C-1) and Shakeout fabric filter dust collector C-2 (baghouse) followed by stack (SV-C-2). Emissions from the shakeout area will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUSANDHANDLING	<p>Sand handling: The collected sand from the shakeout machine will be transported to the reclaim silo.</p> <p>Emissions from sand handling will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.</p>	FGPOURCOOL FGMACTZZZZZ
EUMOLDSANDSILOS	<p>Sand from the 460 ton capacity reclaim silo is put through a cooler classifier which will cool and screen the sand and then deposit it in the 700 ton capacity molding sand silo.</p> <p>Emissions from the cooler classifier, the reclaim silo and molding sand silo will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.</p>	FGPOURCOOL FGMACTZZZZZ
EUMOLDMAKING	<p>The mold making operations will consist of one mold machine to support the casting process. The molding sand will be transported from the molding sand silo to the molding sand reclaim silo D-2. There will also be a molding sand new silo D-1.</p> <p>The sand will be transported to the molding machine day tank, preheated by infrared heaters as it travels from the day tank into the molding machine. The mold mixer has an operation rate of 2000 lbs of sand per minute. An air set phenolic urethane no-bake resin will be used in the mold machine. The molds will be coated with a water based mold wash prior to mold assembly.</p> <p>Emissions from the day tank, heaters and molding machine are fugitive in the plant environment and will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.</p>	FGPOURCOOL FGMACTZZZZZ
EUNEWMOLDSAND	The 100 ton molding sand new silo D-1 will be controlled by a bin vent collector D-1 followed by vent (SV-D-1).	FGMOLDSILOS FGMACTZZZZZ
EUMOLDSNDRECLAIM	The 50 ton molding sand reclaim silo D-2 will be controlled by a bin vent collector D-2 followed by vent (SV-D-2).	FGMOLDSILOS FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUCOREMAKING	<p>The core making operations will consist of three core machines to support the casting process. The core sand will be transported from the core sand silo to the core sand new reclaim silo E-2. There will also be a core sand new silo E-1.</p> <p>The sand will be transported to the core machine day tank, preheated by infrared heaters as it travels from the day tank into the core machines. The group of core mixers has an operation rate of 950 lbs of sand per minute total. An air set phenolic urethane no-bake resin will be used in the core machines. The cores will be coated with a water based core wash prior to mold assembly.</p> <p>Emissions from the day tank, heaters and core machines are fugitive in the plant environment and will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.</p>	FGMACTZZZZZ
EUNEWCORESAND	The 35 ton core sand new silo E-1 will be controlled by two bin vent collectors (E-1A and E-1B) followed by vents (SV-E-1A and SV-E-1B).	FGCORESILOS FGMACTZZZZZ
EUCORESNDRECLAIM	The 25 ton core sand reclaim silo E-2 will be controlled by two bin vent collectors (E-2A and E-2B) followed by vents (SV-E-2A and SV-E-2B).	FGCORESILOS FGMACTZZZZZ
EUFINISHING	<p>The finishing process includes cutting off gates and risers, grinding, welding, and arc air cutting.</p> <p>Metal throughput is 13,500 tons per year.</p> <p>Emissions will be fugitive into the plant environment.</p>	FGMACTZZZZZ
EUSHOTBLAST	Enclosed process for the removal of excess material from castings. Emissions from table shot-blast unit will be controlled by a 31,000 scfm fabric filter dust collector F (baghouse) followed by a stack (SV-F).	FGMACTZZZZZ
EUHEATTREAT	One (1) heat treat oven rated at 10.2 MMBtu/hr using natural gas in the heat treat room.	FGNATGASUNITS FGMACTZZZZZ
EUPREHEATER	Three (3) ladle and furnace preheaters rated at 1.5 MMBtu/hr each in the pouring area. Emissions from the pouring area will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL FGMACTZZZZZ
EUINFRARED	Nine (9) infrared heaters rated at 0.10 MMBtu/hr each using natural gas in the grinding room. Six (6) infrared heaters rated at 0.06 MMBtu/hr each using natural gas in the engineering/ maintenance area.	FGNATGASUNITS FGMACTZZZZZ
EUINFRARED15	<p>Six (6) infrared heaters rated at 0.10 MMBtu/hr each in the molding area. Three (3) infrared heaters rated at 0.075 MMBtu/hr each using natural gas in the core room area. Three (3) infrared heaters rated at 0.10 MMBtu/hr each using natural gas in the furnace area.</p> <p>Emissions from the infrared heaters will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.</p>	FGPOURCOOL FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUMOLDDRYER	Two (2) mold dryers rated at 1.0 MMBtu/hr using natural gas each in the molding area. Emissions from the mold dryers will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL FGMACTZZZZZ
EUAIRMAKEUP	Molding area: One (1) air make up unit rated at 5.2 MMBtu/hr using natural gas. Grinding room: Two (2) air make up units each rated at 5.2 MMBtu/hr using natural gas. Paint room: One (1) air make up unit rated at 3.3 MMBtu/hr using natural gas. Paint mix room: One (1) air make up unit rated at 2.4 MMBtu/hr using natural gas. Drill room: One (1) air make up unit rated at 1.4 MMBtu/hr using natural gas. Melt area: One (1) air make up unit rated at 5.2 MMBtu/hr using natural gas.	FGNATGASUNITS
EUHEATER	Weld shop: Three infrared heaters each rated at 0.10 MMBtu/hr using natural gas. Pattern shop: Four infrared heaters each rated at 0.175 MMBtu/hr using natural gas. Pattern shop office: One infrared heater rated at 0.075 MMBtu/hr using natural gas. Emissions from the infrared heaters will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.	FGPOURCOOL
EUBOILER	There is (1) hot water heater unit rated at 0.03 MMBtu/hr using natural gas in the pattern shop office with a vent.	FGNATGASUNITS
EUPAINTING1	A miscellaneous metal parts coating process consisting of one of two paint spray booths. The booth is equipped with dry filters to control particulate overspray. The booth is equipped with one exhaust stack (SV-PB1).	FGPAINTING
EUPAINTING2	A miscellaneous metal parts coating process consisting of one of two paint spray booths. The booth is equipped with dry filters to control particulate overspray. The booth is equipped with one exhaust stack (SV-PB2).	FGPAINTING
EUFUGITIVES	Fugitive dust emissions from vehicle traffic.	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 336.1291.

EUCHRGHANDLG EMISSION UNIT CONDITIONS

DESCRIPTION

Incoming scrap metal, which is delivered by trucks, and internal scrap run-around are sent to the charge yard. The charge yard is an area with a roof and partially enclosed walls and concrete flooring.

Flexible Group ID: FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT

Fugitive emissions are reduced by the design of the charge yard which is an area with a roof and partially enclosed walls and concrete flooring.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Fugitive emissions from the charge yard of EUCHRGHANDLG shall be reduced by the design of the charge yard which is an area with a roof, partially enclosed walls, and a partially concrete floor. **(R 336.1201(3))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

**EUINDUCFURNEIF6
 EMISSION UNIT CONDITIONS**

DESCRIPTION

6 Ton Capacity Electric Induction Furnace (EIF6) to melt steel scrap. The design melt rate of Furnace #6 is 6 tons/hour. The maximum furnace steel charging and melting rate 15,000 tons per year.

Flexible Group ID: FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT

The furnace melting emissions will be collected by an articulating close capture lid that incorporates a side draft system and is ducted to a 12,500 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.011 lb/1,000 lb exhaust gas	Hourly	EUINDUCFURNEIF6	SC V.1	R 336.1331(1)(c)
2. PM	0.36 pph	Hourly	EUINDUCFURNEIF6	SC V.1	R 336.1331(1)(c)
3. PM	0.72 tpy	12-month rolling time period as determined at the end of each calendar month	EUINDUCFURNEIF6	SC VI.5	R 336.1205(1)(a) & (3), R 336.1331(1)(c)
4. PM10	0.25 pph	Hourly	EUINDUCFURNEIF6	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. PM2.5	0.25 pph	Hourly	EUINDUCFURNEIF6	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
6. Total Inorganic HAPs	0.01 pph	Hourly	EUINDUCFURNEIF6	SC V.1	R 336.1205(1)(a) & (3), R 336.1225
7. Visible Emissions	20% opacity	6-minute average	EUINDUCFURNEIF6	SC VI.1	R 336.1301(1)(a)

II. MATERIAL LIMIT(S)

1. The permittee shall only melt in the furnaces of EUINDUCFURNEIF6 clean No. 1 busheling scrap metal charge or a comparable scrap material meeting the requirements of 40 CFR 63.10885, and customer returns, or internal scrap run-around that will be clean and non-painted. **(R 336.1224, R 336.1225, R 336.1331)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not process more than 6 tons per hour and 15,000 tons per year of metal charged and melted in EUINDUCFURNEIF6, based on an hourly basis using a calendar day average; monthly and 12-month rolling time period as determined at the end of each calendar month, respectively. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUINDUCFURNEIF6 unless the baghouse is installed, maintained, and operated in accordance with the American Conference of Governmental Industrial Hygienists standards or equivalent. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 63.10895(b))**
2. The permittee shall install, operate, and maintain a bag leak detection system for the baghouse. The bag leak detection system shall meet the requirements of 40 CFR 63.10897(d)(1)(i) through (vii). **(40 CFR 63.10897(d)(1), R 336.1910)**
3. The permittee shall not discharge uncontrolled visible emissions from EUINDUCFURNEIF6 directly into the atmosphere through building access doors. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
4. The permittee shall not operate any portion of EUINDUCFURNEIF6 unless the pivoting hood is installed, maintained and operated in a satisfactory manner. When the furnace is operating, the corresponding hood shall be in the open position only during furnace charging and in the closed position during melting and tapping. The permittee shall also not operate any portion of EUINDUCFURNEIF6 unless the control system meets acceptable engineering standards. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

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

1. The permittee shall test PM, PM10, and PM2.5 emission rates from the EUINDUCFURNEIF6 baghouse stack, at owner's expense, in accordance with Department requirements, once every five years starting with the issuance of PTI 12-14E. Each stack test shall verify PM, PM10, and PM2.5 emission rates from the EUINDUCFURNEIF6 baghouse stack, by testing at owner's expense; in accordance with Department requirements. The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. No less than 60 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. The permittee shall verify emission rates by submitting a complete report of the test results to the AQD within 60 days following the last date of the test. Testing conducted prior to permit issuance may be accepted with approval from the AQD. **(R 336.1205(1)(a) & (3), R 336.1301, R 336.1331(1)(c), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**
2. The permittee shall verify only total inorganic HAPs of arsenic, cadmium, chromium, lead, manganese and nickel emission rates from the EUINDUCFURNEIF6 baghouse stack, by testing at owner's expense, in accordance with Department requirements once every five years starting with the issuance of PTI 12-14E. Each stack test shall verify arsenic, cadmium, chromium, lead, manganese and nickel emission rates from the EUINDUCFURNEIF6 baghouse stack, by testing at owner's expense; in accordance with Department requirements. The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. No less than 60 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. The permittee shall verify emission rates by submitting a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205(1)(a) & (3), R 336.1301, R 336.1331(1)(c), 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/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**

2. Verification of visible emissions from the EUINDUCFURNEIF6 baghouse stack SV-B shall be performed and documented once daily by non-certified visible emissions readings. If visible emissions are present, the following information must be recorded: **(R 336.1301(1)(c))**
 - a) Color of the emissions.
 - b) The cause of the emissions.
 - c) Duration of emission incident.
 - d) Corrective actions taken.
3. The permittee shall monitor and record, in a satisfactory manner, the negative pressure using a magnehelic gauge at the inlet side of the baghouse for EUINDUCFURNEIF6 on a daily basis during operation of the electric induction furnace (EIF6) to verify that the pivoting hood capture velocity as designed is achieved in practice. The permittee shall also conduct an initial and annual inspection and verification that negative pressure in the duct from each hood to the baghouse conforms with the ACGIH minimum requirements. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall monitor and record, in a satisfactory manner, the metal melted for EUINDUCFURNEIF6 on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d), 40 CFR Part 63 Subpart ZZZZZ)**
5. The permittee shall calculate monthly and 12-month rolling time period PM emission calculations for EUINDUCFURNEIF6 baghouse stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
6. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

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. SV-B	44	47.75	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and Subpart ZZZZZ for Iron and Steel Foundries by the initial compliance date. **(40 CFR Part 63 Subparts A & ZZZZZ)**

**EUFINISHING
 EMISSION UNIT CONDITIONS**

DESCRIPTION

The finishing process includes cutting off gates and risers, grinding, welding, and arc air cutting. Metal throughput is 13,500 tons per year.

Flexible Group ID: FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT

Include a description of control equipment if applicable. Use NA if no control equipment used.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.09 tpy	12-month rolling time period as determined at the end of each calendar month	EUFINISHING	SC VI.3	R 336.1331(1)(c)
2. PM10	0.09 tpy	12-month rolling time period as determined at the end of each calendar month	EUFINISHING	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)
3. PM2.5	0.09 tpy	12-month rolling time period as determined at the end of each calendar month	EUFINISHING	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Finished	13,500 tons/year	12-month rolling time period as determined at the end of each calendar month	EUFINISHING	SC VI.2	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor and record, in a satisfactory manner, the metal finished for EUFINISHING on a 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**
3. The permittee shall calculate monthly and 12-month rolling time period PM, PM10, and PM2.5 emissions for the EUFINISHING. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1331(1)(c), 40 CFR 52.21(c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from EUFINISHING shall be directly discharged into the building and not to the ambient air. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**

IX. OTHER REQUIREMENT(S)

NA

**EUSHOTBLAST
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Enclosed process for the removal of excess material from castings.

Flexible Group ID: FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT

Emissions from table shot-blast unit will be controlled by a 31,000 scfm fabric filter dust collector F (baghouse) followed by a stack (SV-F).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Hourly	EUSHOTBLAST	SC VI.5	R 336.1331(1)(c)
2. PM	0.07 pph	Hourly	EUSHOTBLAST	SC VI.5	R 336.1331(1)(c)
3. PM10	0.05 pph	Hourly	EUSHOTBLAST	SC VI.5	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
4. PM2.5	0.05 pph	Hourly	EUSHOTBLAST	SC VI.5	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. Aggregate HAPs	0.0007 lb/ton metal finished	Hourly	EUSHOTBLAST	SC VI.5	R 336.1205(1)(a) & (3), R 336.1225
6. Visible Emissions	20% Opacity	6-minute average	EUSHOTBLAST	SC VI.3	R 336.1301(1)(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Processed	13,500 tons/year	12-month rolling time period as determined at the end of each calendar month	EUSHOTBLAST	SC VI.4	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUSHOTBLAST unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. (R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1331, R 336.1910)

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor and record, in a satisfactory manner, the pressure drop across the baghouse for EUSHOTBLAST on a once per operating shift basis. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
3. Verification of visible emissions from EUSHOTBLAST stack SV-F shall be performed and documented once daily by non-certified visible emissions readings. If visible emissions are present, the following information must be recorded:
 - a) Color of the emissions.
 - b) The cause of the emissions.
 - c) Duration of emission incident.
 - d) Corrective actions taken.**(R 336.1301(1)(c))**
4. The permittee shall monitor and record, in a satisfactory manner, the metal processed for EUSHOTBLAST on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**
5. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(1)(c))**

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. SV-F	24	35	40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

EUSHAKEOUT EMISSION UNIT CONDITIONS

DESCRIPTION

Shakeout machine operation. Molds and castings are sent to the shakeout machine to separate the sand from the metal parts. Castings are removed from the flask and mold in the shakeout area and are placed into the shakeout machine. Castings will be transferred from the grate of the shakeout machine to the finishing department via fork truck. Metal throughput is 14,700 tons per year

Flexible Group ID: FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT

The shakeout machine is vented to the Shakeout fabric filter collector C-1 followed by stack (SV-C-1) and Shakeout fabric filter dust collector C-2 (baghouse) followed by stack (SV-C-2). Emissions from the shakeout area will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.067 lb/1,000 lb exhaust gas	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1331(1)(c)
2. PM	0.74 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1331(1)(c)
3. PM10	0.74 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
4. PM2.5	0.74 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. CO	12.01 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21 (d)
6. CO	15.01 tpy	12-month rolling time period as determined at the end of each calendar month	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC VI.4	R 336.1205(3)
7. VOCs	29.66 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), R 336.1702
8. VOCs	37.08 tpy	12-month rolling time period as determined at the end of each calendar month	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC VI.4	R 336.1205(1)(a) & (3), R 336.1702
9. Benzene	0.91 pph ¹	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1225
10. Cresols	1.37 pph ¹	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1225

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
11. Naphthalene	0.29 pph ¹	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1225
12. Phenol	5.96 pph ¹	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1225
13. Individual HAPs	5.96 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), R 336.1225
14. Individual HAPs	7.45 tpy	12-month rolling time period as determined at the end of each calendar month	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC VI.4	R 336.1205(1)(a) & (3), R 336.1225
15. Aggregate HAPs	8.53 pph	Hourly	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC V.1	R 336.1205(1)(a) & (3), R 336.1225
16. Aggregate HAPs	10.66 tpy	12-month rolling time period as determined at the end of each calendar month	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC VI.4	R 336.1205(1)(a) & (3), R 336.1225
17. Visible Emissions	20% Opacity	6-minute average	EUSHAKEOUT SV-C-1 and SV-C-2 combined	SC VI.2	R 336.1301(1)(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Processed	5.88 tons/hour	Based on an hourly basis using a calendar day average	EUSHAKEOUT	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
2. Metal Processed	14,700 tons/year	12-month rolling time period as determined at the end of each calendar month	EUSHAKEOUT	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUSHAKEOUT unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall not operate EUSHAKEOUT unless a bag leak detection system for the baghouse is installed, maintained and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

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

1. Within 180 days after permit issuance, the permittee shall test visible emissions, PM, PM10, PM2.5, CO, VOC, benzene, cresols, naphthalene, phenol, other individual HAPs, and aggregate HAPs emission rates from EUSHAKEOUT baghouse stacks SV-C-1 and SV-C-2 by testing at owner's expense, in accordance with Department requirements. The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. The permittee shall verify emission rates by submitting a complete report of the test results to the AQD within 60 days following the last date of the test. Testing conducted prior to permit issuance may be accepted with approval from the AQD. **(R 336.1205(1)(a) & (3), R 336.1702)**

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/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. Verification of visible emissions from EUSHAKEOUT stacks SV-C-1 and SV-C-2 shall be performed and documented once daily by non-certified visible emissions readings. If visible emissions are present, the following information must be recorded:
 - a) Color of the emissions.
 - b) The cause of the emissions.
 - c) Duration of emission incident.
 - d) Corrective actions taken.**(R 336.1301(1)(c))**
3. The permittee shall monitor and record, in a satisfactory manner, the metal processed in EUSHAKEOUT on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**
4. The permittee shall calculate monthly and 12-month rolling time period CO, VOC, individual HAPs and aggregate HAPs emission calculations for the EUSHAKEOUT baghouse stacks SV-C-1 and SV-C-2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
5. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

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. SV-C-1	48	50	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-C-2	48	50	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

**FGPOURCOOL
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

This flexible group consists of metal pouring, poured mold-cooling, mold making and core making operations. Fugitive emissions from shakeout, melting, and infrared heaters in the melt area and core room are included in this flexible group. Emissions from sand handling and mold sand silo operations will be vented to the same control device. All emissions will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.

Emission Unit: EUPOURING, EUCOOLING, EUMOLDMAKING, EUCOREMAKING, EUINFRARED15, EUMOLDDRYER, EUSHAKEOUT, EUSANDHANDLING, EUMOLDSANDSILOS, EUHEATER, EUPREHEATER

POLLUTION CONTROL EQUIPMENT

All emissions will be collected and vented to the PCS fabric filter collector H, followed by stacks SV-H1 and SV-H2.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	6.0 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1331(1)(c)
2. PM10	6.0 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
3. PM2.5	6.0 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
4. CO	48.83 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21 (d)
5. CO	70.46 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.6	R 336.1205(1)(a) & (3)
6. NO _x	3.64 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
7. NO _x	15.82 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.6	R 336.1205(1)(a) & (3)
8. VOCs	14.14 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), R 336.1702
9. VOCs	17.98 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.6	R 336.1205(1)(a) & (3), R 336.1702
10. Benzene	1.08 pph ¹	Hourly	FGPOURCOOL	SC V.1	R 336.1225
11. Cresols	0.61 pph ¹	Hourly	FGPOURCOOL	SC V.1	R 336.1225
12. Naphthalene	0.07 pph ¹	Hourly	FGPOURCOOL	SC V.1	R 336.1225
13. Phenol	1.0 pph ¹	Hourly	FGPOURCOOL	SC V.1	R 336.1225
14. Individual HAPs	1.08 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), R 336.1225

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
15. Individual HAPs	1.35 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.6	R 336.1205(1)(a) & (3)
16. Aggregate HAPs	2.76 pph	Hourly	FGPOURCOOL	SC V.1	R 336.1205(1)(a) & (3), R 336.1225
17. Aggregate HAPs	3.45 tpy	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.6	R 336.1205(1)(a) & (3)
18. Visible Emissions	20% Opacity	6-minute average	FGPOURCOOL	SC VI.8	R 336.1301(1)(c)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Poured	5.88 tons/hour	Based on an hourly basis using a calendar day average	FGPOURCOOL	SC VI.2	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
2. Metal Poured	14,700 tons/year	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.2	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
3. Sand Processed	29.40 tons/hour	Based on an hourly basis using a calendar day average	FGPOURCOOL	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
4. Sand Processed	54.616 tons/year	12-month rolling time period as determined at the end of each calendar month	FGPOURCOOL	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
5. Resin Binder/Catalyst Processed (@ 1.0% resin/catalyst in sand)	588 lb/hr of binder/catalyst	Based on an hourly basis using a calendar day average	FGPOURCOOL	SC VI.4	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
6. Resin Binder/Catalyst Processed (@ 1.0% resin/catalyst in sand)	546.2 tons/year of binder/catalyst	12-month rolling time period as determined at the end of each calendar month	EUMOLDMAKING and EUCOREMAKING of FGPOURCOOL	SC VI.4	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)
7. Natural Gas	74.7 MMCF per year	12-month rolling time period basis as determined at the end of each calendar month	EUINFRARED15, EUMOLDDRYER, EUHEATER, and EUPREHEATER	SC VI.5	R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The maximum heat input of each of the six (6) infrared heaters of EUINFRARED15 in the mold making area shall not exceed 0.10 MMBtu/hr. **(R 336.1205(1)(a) & (3))**
2. The maximum heat input of each of the two (2) mold dryers [or molding ovens] of EUMOLDDRYER shall not exceed 1.0 MMBtu/hr. **(R 336.1205(1)(a) & (3))**
3. The maximum heat input of each of the three (3) unit heaters of EUINFRARED15 in the core room area shall not exceed 0.75 MMBtu/hr. **(R 336.1205(1)(a) & (3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee shall not operate FGPOURCOOL unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3)), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee shall not operate FGPOURCOOL unless a bag leak detection system for the baghouse is installed, maintained and operated in a satisfactory manner. **(R 336.1205(1)(a) & (3)), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
3. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee shall not operate FGPOURCOOL unless a device to monitor and record the pressure drop across the baghouse is installed, maintained and operated in a satisfactory manner. **(R 336.1205(1)(a) & (3)), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

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

1. Within 180 days after permit issuance, the permittee shall test emissions of PM, PM10, PM2.5, CO, NOx, VOC, benzene, cresols, naphthalene, phenol, other individual HAPs, and aggregate HAPs (including the inorganic HAPs arsenic, cadmium, chromium, lead, manganese and nickel) emission rates from the PCS fabric filter collector H (SV-H1 and SV-H2 stacks combined), by testing at owner's expense, in accordance with Department requirements. The emission rate during testing shall be determined by the average of the acceptable test runs performed in accordance with the method requirements. Thereafter, the permittee shall test emissions from the PCS fabric filter collector once every five years. No less than 60 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. The permittee shall verify emission rates by submitting a complete report of the test results to the AQD within 60 days following the last date of the test. Testing conducted prior to permit issuance may be accepted with approval from the AQD. **(R 336.1205(1)(a) & (3), R 336.1331(1)(c), 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/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3)), 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor and record, in a satisfactory manner, the tons of metal and poured on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

3. The permittee shall monitor and record, in a satisfactory manner, the sand processed for FGPOURCOOL on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**
4. The permittee shall monitor and record, in a satisfactory manner, the resin/catalyst binder processed for FGPOURCOOL on an hourly basis using a calendar day average, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**
5. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for EUINFRARED15, EUMOLDDRYER, EUHEATER, and EUPREHEATER on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**
6. The permittee shall calculate monthly and 12-month rolling time period CO, NOx, VOC, individual HAPs and aggregate HAPs emission calculations for FGPOURCOOL. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1702, 40 CFR 52.21(c) & (d))**
7. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**
8. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, verification of visible emissions from the FGPOURCOOL baghouse stacks SV-H1 and SV-H2 shall be performed and documented once daily by non-certified visible emissions readings. If visible emissions are present, the following information must be recorded:
 - a) Color of the emissions.
 - b) The cause of the emissions.
 - c) Duration of emission incident.
 - d) Corrective actions taken.**(R 336.1301(1)(c))**

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 the PCS fabric filter collector H. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-H1	72.0	65.0	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-H2	72.0	65.0	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

**FGMOLDSILOS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

The 100 ton molding new sand silo D-1. The 50 ton molding reclaim sand silo D-2.

Emission Unit: EUNEWMOldsSAND, EUMOLDSNDRECLAIM

POLLUTION CONTROL EQUIPMENT

Bin vent collector D-1 followed by vent (SV-D-1) and Bin vent collector D-2 followed by vent (SV-D-2).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Test Protocol*	EUNEWMOldsSAND	GC 13	R 336.1331(1)(c)
2. PM	0.045 pph	Test Protocol*	EUNEWMOldsSAND	GC 13	R 336.1205(1)(a) & (3), R 336.1331(1)(c)
3. PM	0.005 pph	Test Protocol*	EUMOLDSNDRECLAIM	GC 13	R 336.1205(1)(a) & (3), R 336.1331(1)(c)
4. PM10	0.0068 pph	Test Protocol*	EUNEWMOldsSAND	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. PM10	0.0038 pph	Test Protocol*	EUMOLDSNDRECLAIM	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
6. PM2.5	0.0068 pph	Test Protocol*	EUNEWMOldsSAND	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
7. PM2.5	0.0038 pph	Test Protocol*	EUMOLDSNDRECLAIM	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
8. Visible Emission	5% Opacity	Test Protocol*	Each of EUNEWMOldsSAND and EUMOLDSNDRECLAIM of FGMOLDSILOS	SC VI.2	R 336.1301(1)(c)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUNEWMOLDSAND unless the bin vent collector on silo D-1 is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall not operate EUMOLDSNDRECLAIM unless the bin vent collector on silo D-2 is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall perform non-certified visible emission observation for the EUNEWMOLDSAND and EUMOLDSNDRECLAIM of FGMOLDSILOS collector vents at least once a day during operation. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. **(R 336.1301(1)(c))**
3. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

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. SV-D-1	1 vent; 18.25 inches	55	40 CFR 52.21(c) & (d)
2. SV-D-2	1 vent; 18.25 inches	45	40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

**FGCORESILOS
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

The 35 ton core new sand silo E-1 and the 25 ton core reclaim sand silo E-2.

Emission Unit: EUNEWCORESAND, EUCORESNDRECLAIM

POLLUTION CONTROL EQUIPMENT

Two bin vent collectors on each silo. Collectors E-1A and E-1B followed by vents (SV-E-1A and SV-E-1B) and collectors E-2A and E-2B followed by vents (SV-E-2A and SV-E-2B).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Test Protocol*	Each of EUNEWCORESAND and EUCORESNDRECLAIM of FGCORESILOS	GC 13	R 336.1331(1)(c)
2. PM	0.045 pph	Test Protocol*	Each of EUNEWCORESAND and EUCORESNDRECLAIM of FGCORESILOS	GC 13	R 336.1205(1)(a) & (3), R 336.1331(1)(c)
3. PM10	0.0068 pph	Test Protocol*	Each of EUNEWCORESAND and EUCORESNDRECLAIM of FGCORESILOS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
4. PM2.5	0.0068 pph	Test Protocol*	Each of EUNEWCORESAND and EUCORESNDRECLAIM of FGCORESILOS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. Visible Emission	5% Opacity	Test Protocol*	Each of EUNEWCORESAND and EUCORESNDRECLAIM of FGCORESILOS	SC VI.2	R 336.1301(1)(c)

*Test protocol shall specify averaging time.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUNEWCORESAND unless the bin vent collectors on silo E-1 are installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

2. The permittee shall not operate EUCORESNDRECLAIM unless the bin vent collectors on silo E-2 are installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. Verification of visible emissions from the EUNEWCORESAND and EUCORESNDRECLAIM collector vents shall be performed and documented once daily by non-certified visible emissions readings. If visible emissions are present, the following information must be recorded:
- a) Color of the emissions.
 - b) The cause of the emissions.
 - c) Duration of emission incident.
 - d) Corrective actions taken.
- (R 336.1301(1)(c))**
3. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

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. SV-E-1A	1 vent; 18.25 inches	45	40 CFR 52.21(c) & (d)
2. SV-E-1B	1 vent; 18.25 inches	45	40 CFR 52.21(c) & (d)
3. SV-E-2A	1 vent; 18.25 inches	38	40 CFR 52.21(c) & (d)
4. SV-E-2B	1 vent; 18.25 inches	38	40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

**FGNATGASUNITS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Various natural gas combustion sources in the building. The equipment consists of ladle and furnace preheaters, infrared heaters, space heaters, air make up units, heat treat oven, and hot water boiler.

Emission Unit: EUHEATTREAT, EUINFRARED, EUAIRMAKEUP, EUBOILER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	7.6 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), R 336.1331(1)(c)
2. PM10	7.6 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
3. PM2.5	7.60 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
4. NO _x	100 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
5. CO	84 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), 40 CFR 52.21(d)
6. VOCs	2.8 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), R 336.1702
7. Aggregate HAPs	1.89 lb/MMscf	Test Protocol*	FGNATGASUNITS	GC 13	R 336.1205(1)(a) & (3), R 336.1702

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall use only natural gas as fuel in the FGNATGASUNITS. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**
2. The maximum heat input of all equipment in FGNATGASUNITS combined shall not exceed 39.2 MMBtu/hr. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain records showing the maximum heat input capacity of all equipment in FGNATGASUNITS. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702)**
3. The permittee shall calculate monthly and 12-month rolling time period PM, PM10, PM2.5, NOx, CO, VOC, and aggregate HAPs emission rates from FGNATGASUNITS. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (3)), R 336.1225, 40 CFR 52.21(c) & (d))**
4. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

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. Heat Treat Oven SV-1	22	22	R 336.1225 40 CFR 52.21(c) & (d)
2. Heat Treat Oven SV-2	22	22	R 336.1225 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

**FGPAINTING
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

A miscellaneous metal parts coating process consisting of two paint spray booths.

Emission Unit: EUPAINTING1, EUPAINTING2

POLLUTION CONTROL EQUIPMENT

Each booth is equipped with dry filters to control particulate overspray. Each booth is equipped with one exhaust stack.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOCs	16.9 pph	Test Protocol*	FGPAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1702(a)
2. VOCs	4.35 tons per calendar month	Test Protocol*	FGPAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1702(a)
3. VOCs	14.4 tpy	12-month rolling time period as determined at the end of each calendar month	FGPAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1205(1)(a) & (3), R 336.1702(a)

*Test protocol shall specify averaging time.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	3.0 lb/gal of coating (minus water) ^a as applied	Daily volume-weighted average	FGPAINTING	SC VI.1, SC VI.1, SC VI.3	R 336.1702(a)
2. Coating	9,600 gallons per year	12-month rolling time period as determined at the end of each month	FGPAINTING	SC VI.3	R 336.1702(a)
3. Coating	5.63 gallons per hour	Each operating hour	FGPAINTING	SC VI.3	R 336.1702(a)

^a The phrase "minus water" shall also include compounds which are used as organic solvents and which are excluded from the definition of volatile organic compound. (R 336.1602(4))

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste coatings, reducers, thinners, additives, catalysts, and solvents and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 36.1225, R 336.1702(a))**
2. The permittee shall dispose of spent filters in a manner which minimizes the introduction of air contaminants to the outer air. **(R 336.1224, R 336.1370)**

3. The permittee shall handle all VOC and/or HAP containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any spray booth portion of FGPAINTING unless its respective exhaust filters are installed, maintained and operated in a satisfactory manner. **(R 336.1224, R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall equip and maintain each spray booth portion of FGPAINTING with high volume low pressure (HVLV) spray guns or comparable technology with equivalent transfer efficiency. For HVLV applicators, the permittee shall keep test caps available for pressure testing. **(R 336.1702)**

V. TESTING/SAMPLING

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

1. The permittee shall determine the HAP content of any coating, reducer, thinner, additive, catalyst, and solvent as received and as applied, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311. **(R 336.1205(1)(a) & (3))**
2. The permittee shall determine the VOC content, water content and density of any coating, reducer, thinner, additive, catalyst, and solvent, as applied and as received, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's formulation data using federal Reference Test Method 24. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1205(1)(a) & (3), R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each coating, reducer, thinner, additive, catalyst, and solvent as applied, 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(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702)**
3. The permittee shall keep the following information on a calendar day, monthly, 12-month rolling time period as determined at the end of each calendar month basis for FGPAINTING:
 - a) Gallons (with water) of each coating, reducer, thinner, additive, catalyst, and solvent used.
 - b) VOC content (minus water and with water) of each coating, reducer, thinner, additive, catalyst, and solvent as applied.
 - c) VOC emission calculations determining the volume-weighted average VOC content of each coating as applied on a calendar day basis.
 - d) VOC mass emission calculations determining the emission rate in tons per calendar day, monthly, 12-month rolling time period as determined at the end of each calendar month.
 - e) Number of hours of operation.

The permittee shall make the records available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**

4. The permittee shall keep the following information on a calendar day, monthly, 12-month rolling time period as determined at the end of each calendar month basis for the use of purge and clean-up solvents associated with FGPAINTING:
- a) Gallons of each solvent used and reclaimed.
 - b) VOC content, in pounds per gallon, of each solvent used.
 - c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - d) VOC mass emission calculations determining the emission rate in tons per calendar day, monthly, and 12-month rolling time period as determined at the end of each calendar month.

The permittee shall make the records available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**

5. The permittee shall keep the following information on a calendar day basis for FGPAINTING:
- a) Gallons (with water) of each isopropyl alcohol (CAS # 67-63-0) containing coating, reducer, thinner, additive, catalyst, purge solvent, and clean-up solvent used.
 - b) Where applicable, gallons (with water) of each isopropyl alcohol (CAS # 67-63-0) containing coating, reducer, thinner, additive, catalyst, purge solvent, and clean-up solvent reclaimed.
 - c) The isopropyl alcohol (CAS # 67-63-0) content (with water) in pounds per gallon of each coating, reducer, thinner, additive, catalyst, purge solvent, and clean-up solvent used.
 - d) Isopropyl alcohol (CAS # 67-63-0) mass emission calculations determining the daily emission rate in pounds per calendar day.

The permittee shall make the records available to the Department upon request. **(R 336.1224, R 336.1225)**

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. SV-PB1	28	27	R 336.1225 40 CFR 52.21(c) & (d)
2. SV-PB2	28	27	R 336.1225 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

FGMACTZZZZZ
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

The affected source is a new or existing iron and steel foundry, that is (or is part of) an area source of hazardous air pollutant (HAP) emissions. The affected source is a new large foundry as defined by 40 CFR Part 63 Subpart ZZZZZ.

Emission Unit: EUCHRGHANDLG, EUINDUCFURNEIF6, EUPOURING, EUCOOLING, EUSHOTBLAST, EUSHAKEOUT, EUMOLDMAKING, EUCOREMAKING, EUINFRARED15, EUMOLDDRYER, EUSANDHANDLING, EUMOLDSANDSILOS, EUNEWMOLDSAND, EUMOLDSNDRECLAIM, EUNEWCORESAND, EUCORESNDRECLAIM, EUHEATTREAT, EUPREHEATER, EUINFRARED, EUFINISHING

POLLUTION CONTROL EQUIPMENT

Torit Dust Cartridge Collector (Collector B)

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.1 lb per ton of metal charged	Test Protocol*	Any metal melting furnace	SC V.1	40 CFR 63.10895(c)(2)
-OR-					
1. Total Metal HAP	0.008 lb per ton of metal charged	Test Protocol*	Any metal melting furnace	SC V.1	40 CFR 63.10895(c)(2)
2. Fugitive Emissions	20 percent opacity	6-minute average ^A	Foundry operations	SC V.2	40 CFR 63.10895(e)

^A Except for one 6-minute average per hour that does not exceed 30 percent

II. MATERIAL LIMIT(S)

- If applicable, the permittee shall not utilize a binder chemical formulation that uses methanol as a specific ingredient of the catalyst formulation for a warm box mold or core making line. This requirement does not apply to the resin portion of the binder system. **(40 CFR 63.10886)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall implement and maintain an approved plan to address the pollution prevention management practices for metallic scrap and mercury switches by the applicable compliance date specified in 40 CFR 63.10881. The plan shall include the following:
 - Metallic scrap management program. **(40 CFR 63.10885(a))**
 - Mercury requirements. **(40 CFR 63.10885(b))**

The permittee shall revise the plan within 30 days after a change occurs. **(40 CFR 63.10885)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall not operate any metal melting furnace at the iron and steel foundry unless a capture and collection system are installed, maintained, and operated in accordance with the American Conference of Governmental Industrial Hygienists standards or equivalent unless the furnace is specifically uncontrolled as part of an emissions averaging group. **(40 CFR 63.10895(b))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct performance tests to demonstrate compliance with all applicable PM or total metal HAP emissions limits in 40 CFR 63.10895 for a metal melting furnace or group of all metal melting furnaces no less frequently than every 5 years and each time the permittee elects to change an operating limit or make a process change likely to increase HAP emissions. The permittee shall conduct the performance tests as specified in Table 1 of 40 CFR Part 63 Subpart ZZZZZ. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. The permittee shall verify emission rates by submitting a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 63.10898)**
2. The permittee shall conduct each opacity test for fugitive emissions according to the requirements in §63.6(h)(5) and Table 1 of 40 CFR Part 63 Subpart ZZZZZ. The permittee shall conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.10895 no less frequently than every 6 months and each time the permittee makes a process change likely to increase fugitive emissions. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 63.10898)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions limit in §63.10895. The permittee shall maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information:
 - a) General facility and contact information;
 - b) Positions responsible for inspecting, maintaining, and repairing emissions control devices which are used to comply with this subpart;
 - c) Description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment, and conditions. For baghouses that are equipped with bag leak detection systems, the O&M plan must include the site-specific monitoring plan required in §63.10897(d)(2); and
 - d) Identity and estimated quantity of the replacement parts that will be maintained in inventory.

The permittee may use any other O&M, preventative maintenance, or similar plan which addresses the requirements in SC VI.3 to demonstrate compliance with the requirements for an O&M plan. **(40 CFR 63.10896(a) & (b))**

2. The permittee shall install, operate, and maintain a bag leak detection system for each baghouse. Each bag leak detection system shall meet the requirements of 40 CFR 63.10897(d)(1)(i) through (vii). **(40 CFR 63.10897(d)(1))**
3. The permittee shall prepare a site-specific monitoring plan for each bag leak detection system to be incorporated in the facility O&M plan. The permittee shall operate and maintain each bag leak detection system according to the plan at all times. The plan shall include all information required per 40 CFR 63.10897 (d)(2)(i) through (vi). **(40 CFR 63.10897(d)(2))**
4. In the event that a bag leak detection system alarm is triggered, the permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete corrective action as soon as practicable, but no later than 10 calendar days from the date of the alarm. The permittee shall record the date and time of each valid alarm, the corrective action was initiated, the correction action taken, and the date on which corrective action was completed. **(40 CFR 63.10897(d)(3))**

5. The permittee shall perform monthly inspections of the equipment that is important to the performance of the total capture system. This inspection must include observations of the physical appearance of the equipment. The permittee shall repair any defect or deficiency in the capture system as soon as practicable, but no later than 90 days. The permittee shall record the date and results of each inspection and the date of repair of any defect or deficiency. **(40 CFR 63.10897(e))**
6. In the event of an exceedance of an established emissions limitation (including an operating limit), the permittee shall restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the exceedance. The permittee shall record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed. **(40 CFR 63.10897(g))**
7. The permittee shall keep records on a monthly basis as required by 40 CFR 63.10899(b)(1) through (13) as applicable. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.10899(b))**
8. The permittee shall comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 3 in 40 CFR Part 63 Subpart ZZZZZ. **(40 CFR 63.10900)**
9. The notification of compliance status required by §63.9(h) shall include each applicable certification of compliance, signed by a responsible official, according to Table 4 in 40 CFR Part 63 Subpart ZZZZZ. **(40 CFR 63.10900(b))**

VII. REPORTING

1. The permittee shall submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The reports must include, at a minimum, the following information as applicable:
 - a) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective action taken;
 - b) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable); and
 - c) Summary information on any deviation from the pollution prevention management practices in §63.10885 and 63.10886 and the operation and maintenance requirements §63.10896 and the corrective action taken.**(40 CFR 63.10899(c))**
2. If applicable, the permittee shall submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that the facility has conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). The permittee shall identify which option in §63.10885(b) applies to each scrap provider, contract, or shipment. **(40 CFR 63.10899(b)(2)(i))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZZ for Iron and Steel Foundries by the initial compliance date. **(40 CFR Part 63 Subparts A & ZZZZZ)**

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

Varies by emission unit

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
2. PM10	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
3. PM2.5	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
4. NO _x	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
5. CO	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
6. VOCs	Less than 89.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
7. Each Individual HAP	Less than 8.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)
8. Aggregate HAPs	Less than 22.4 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) & (3)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal Melted	15,000 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)
2. Metal Poured	14,700 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)
3. Sand Processed	54,616 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)
4. Resin Binder/Catalyst Processed	546.2 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
5. Natural Gas	411 MMCF per year	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGFACILITY unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGFACILITY, has been submitted within 60 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

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) & (d))**

2. The permittee shall not operate FGFACILITY unless the fugitive dust control plan for all plant roadways, the plant yard, all material storage piles, and all material handling operations, has been submitted within 60 days of permit issuance, and is implemented and maintained. **(R 336.1371, R 336.1372, Act 451 324.5524)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3))**
2. The permittee shall keep the following information on a monthly basis for FGFACILITY:
 - a) Total charge handled, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
 - b) Total metal melted, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
 - c) Total metal poured, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.

- d) Lake sand processed, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
- e) Resin binder/catalyst processed, tons/year, based upon a 12-month rolling time period as determined at the end of each calendar month.
- f) Natural gas, cubic foot/year, based upon a 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, for a period of at least five years and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**

3. The permittee shall keep the following information on a monthly basis for FGFACILITY:
- a) PM emission calculations determining the monthly emission rate in tons per calendar month.
 - b) PM emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - c) PM10 emission calculations determining the monthly emission rate in tons per calendar month.
 - d) PM10 emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - e) PM2.5 emission calculations determining the monthly emission rate in tons per calendar month.
 - f) PM2.5 emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - g) NOx emission calculations determining the monthly emission rate in tons per calendar month.
 - h) NOx emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - i) CO emission calculations determining the monthly emission rate in tons per calendar month.
 - j) CO emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - k) VOC emission calculations determining the monthly emission rate in tons per calendar month.
 - l) VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
 - m) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
 - n) 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.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**

4. Within 30 days prior to startup of each emission unit the permittee shall develop a spreadsheet for approval by the AQD District Supervisor to calculate all emissions for FGFACILITY as specified in SC I.1 through I.9, based on fuel and material usage rates and emission factors. The permittee shall complete all required calculations and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205(1)(a) and (3))**
5. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1331(c))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA