

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF THE DIRECTOR

In the matter of administrative proceedings)
against **BARBER STEEL FOUNDRY**)
CORPORATION, a corporation organized)
under the laws of the State of Michigan and)
doing business at 2625 West Winston Road,)
City of Rothbury, County of Oceana, State of)
Michigan)

AQD No. 58-2014

SRN: B1961

STIPULATION FOR ENTRY OF FINAL ORDER
BY CONSENT

This proceeding resulted from allegations by the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) against Rothbury Steel, Inc. (Rothbury), a Michigan corporation formerly located at 2625 West Winston Road in the City of Rothbury, County of Oceana, State of Michigan, with State Registration Number (SRN) B1961. The MDEQ alleges that Rothbury was in violation of Permit to Install (PTI) No. 174-11 and National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundry Area Sources (40 CFR 63, Subpart ZZZZZ). Specifically, the MDEQ alleges that Rothbury failed to conduct semi-annual certified Method 9 observations; perform stack testing to ensure compliance with hazardous air pollutant emissions limits; perform an opacity test for fugitive emissions; conduct monthly inspections of the total capture system; maintain material throughput and emissions calculations records; submit a Malfunction Abatement Plan, a Fugitive Dust Plan and an Operations and Maintenance Plan; submit semiannual compliance reports; equip and maintain the fabric filter dust collectors with a bag leak detection system, and certify the pivot hood capture system, as cited herein and in the Violation Notice dated May 3, 2013. On July 1, 2013, Barber Steel Foundry Corporation (Company) acquired from Rothbury ownership of the facility located at 2625 West Winston Road in the City of Rothbury, County of Oceana, State of Michigan as well as PTI No. 174-11. On September 6, 2013, MDEQ commenced an escalated enforcement action against the Company relating to the above-described violations, which the MDEQ alleges continued after the Company acquired the facility and PTI No. 174-11. The Company and MDEQ stipulate to the termination of this proceeding by entry of this Stipulation for Entry of a Final Order by Consent (Consent Order).

The Company and MDEQ stipulate as follows:

1. The Natural Resources and Environmental Protection Act, 1994 PA 451 (Act 451), MCL 324.101 *et seq.* is an act that controls pollution to protect the environment and natural resources in this State.
2. Article II, Pollution Control, Part 55 of Act 451 (Part 55), MCL 324.5501 *et seq.* provides for air pollution control regulations in this State.
3. The MDEQ was created as a principal department within the Executive Branch of the State of Michigan pursuant to Executive Order 2011-1 and has all statutory authority, powers, duties, functions and responsibilities to administer and enforce all provisions of Part 55.
4. The Director has delegated authority to the Chief of the AQD (AQD Chief) to enter into this Consent Order.
5. The termination of this matter by a Consent Order pursuant to Section 5528 of Part 55 is proper and acceptable.
6. The Company and the MDEQ agree that the signing of this Consent Order is for settlement purposes only and does not constitute an admission by the Company that the law has been violated.
7. This Consent Order becomes effective on the date of execution (effective date of this Consent Order) by the AQD Chief.
8. The Company shall achieve compliance with the aforementioned regulations in accordance with the requirements contained in this Consent Order.

COMPLIANCE PROGRAM AND IMPLEMENTATION SCHEDULE

9. Permit

On and after the effective date of this Consent Order, the Company shall fully comply with PTI No. 12-14, and any subsequent permit revision, attached to this Consent Order as Exhibit A and made an enforceable part of the Consent Order.

GENERAL PROVISIONS

10. This Consent Order in no way affects the Company's responsibility to comply with any other applicable state and federal, or local laws or regulations, including without limitation, any

amendments to the federal Clean Air Act, 42 USC 7401 *et seq.*, Act 451, Part 55 or their rules and regulations, or to the State Implementation Plan.

11. This Consent Order constitutes a civil settlement and satisfaction as to the resolution of the violations specifically addressed herein; however, it does not resolve any criminal action that may result from these same violations.

12. Within thirty (30) days after the effective date of this Consent Order, the Company shall pay to the General Fund of the State of Michigan, in the form of a check made payable to the "State of Michigan" and mailed to the Michigan Department of Environmental Quality, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157, a settlement amount of \$77,500.00 which includes AQD costs for investigation and enforcement. This total settlement amount shall be paid within thirty (30) days of the effective date of this Consent Order. To ensure proper credit, all payments made pursuant to this Consent Order shall include the "Payment Identification Number No. AQD40067" on the front of the check and/or in the cover letter with the payment. This settlement amount is in addition to any fees, taxes, or other fines that may be imposed on the Company by law.

13. On and after the effective date of this Consent Order, if the Company fails to comply with the testing, monitoring, recordkeeping or reporting requirements in PTI No. 12-14, the Company is subject to a stipulated fine of up to \$3,000.00 per violation. On and after the effective date of this Consent Order, if the Company fails to comply with any other provision of this Consent Order, the Company is subject to a stipulated fine of up to \$1,000.00 per violation. The amount of the stipulated fines imposed pursuant to this paragraph shall be within the discretion of the MDEQ. Stipulated fines submitted under this Consent Order shall be by check, payable to the State of Michigan within thirty (30) days of written demand and shall be mailed to the Michigan Department of Environmental Quality, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909 8157. To ensure proper credit, all payments shall include the "Payment Identification Number AQD40067-S" on the front of the check and/or in the cover letter with the payment. Payment of stipulated fines shall not alter or modify in any way the Company's obligation to comply with the terms and conditions of this Consent Order.

14. The AQD, at its discretion, may seek stipulated fines or statutory fines for any violation of this Consent Order which is also a violation of any provision of applicable federal and state law, rule,

regulation, permit, or MDEQ administrative order. However, the AQD is precluded from seeking both a stipulated fine under this Consent Order and a statutory fine for the same violation.

15. To ensure timely payment of the settlement amount assessed in paragraph 12 and any stipulated fines assessed pursuant to paragraph 13 of this Consent Order, the Company shall pay an interest penalty to the State of Michigan each time it fails to make a complete or timely payment under this Consent Order. The interest penalty shall be determined at a rate of twelve percent (12%) per year compounded annually, using the full increment of amount due as principal, calculated from the due date specified in this Consent Order until the date that delinquent payment is finally paid in full. Payment of an interest penalty by the Company shall be made to the State of Michigan in accordance with paragraph 13 of this Consent Order. Interest payments shall be applied first towards the most overdue amount or outstanding interest penalty owed by the Company before any remaining balance is applied to subsequent payment amount or interest penalty.

16. The Company agrees not to contest the legal basis for the settlement amount assessed pursuant to paragraph 12. The Company also agrees not to contest the legal basis for any stipulated fines assessed pursuant to paragraph 13 of this Consent Order, but reserves the right to dispute in a court of competent jurisdiction the factual basis upon which a demand by MDEQ of stipulated fines is made. In addition, the Company agrees that said fines have not been assessed by the MDEQ pursuant to Section 5529 of Part 55 and therefore are not reviewable under Section 5529 of Part 55.

17. This compliance program is not a variance subject to the 12 month limitation specified in Section 5538 of Part 55.

18. This Consent Order shall remain in full force and effect for a period of at least three (3) years. Thereafter, the Consent Order shall terminate only upon written notice of termination issued by the AQD Chief. Prior to issuance of a written notice of termination, the Company shall submit a request, to the AQD Chief at the Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909-7760, consisting of a written certification that the Company has fully complied with all the requirements of this Consent Order and has made all payments including all stipulated fines required by this Consent Order. Specifically, this certification shall include: (i) the date of compliance with each provision of the compliance program and the date any payments or stipulated fines were paid; (ii) a statement that all required information has been reported to the AQD

Grand Rapids District Office District Supervisor; (iii) confirmation that all records required to be maintained pursuant to this Consent Order are being maintained at the facility; and, (iv) such information as may be requested by the AQD Chief.

19. In the event the Company sells or transfers the facility, with SRN B1961, it shall advise any purchaser or transferee of the existence of this Consent Order in connection with such sale or transfer. Within thirty (30) calendar days, the Company shall also notify the AQD Grand Rapids District Office District Supervisor, in writing, of such sale or transfer, the identity and address of any purchaser or transferee, and confirm the fact that notice of this Consent Order has been given to the purchaser and/or transferee. As a condition of the sale, the Company must obtain the consent of the purchaser and/or transferee, in writing, to assume all of the obligations of this Consent Order. A copy of that agreement shall be forwarded to the AQD Grand Rapids District Office District Supervisor within thirty (30) days of assuming the obligations of this Consent Order.

20. Prior to the effective date of this Consent Order and pursuant to the requirements of Sections 5511 and 5528(3) of Part 55, the public was notified of a 30-day public comment period and was provided the opportunity for a public hearing.

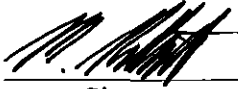
21. Section 5530 of Part 55 may serve as a source of authority but not a limitation under which the Consent Order may be enforced. Further, Part 17 of Act 451 and all other applicable laws and any other legal basis or applicable statute may be used to enforce this Consent Order.

22. The Company hereby stipulates that entry of this Consent Order is a result of an action by MDEQ to resolve alleged violations of its facility located at 2625 West Winston Road, Rothbury, Michigan. The Company further stipulates that it will take all lawful actions necessary to fully comply with this Consent Order, even if the Company files for bankruptcy in the future. The Company will not seek discharge of the settlement amount and any stipulated fines imposed hereunder in any future bankruptcy proceedings, and the Company will take necessary steps to ensure that the settlement amount and any future stipulated fines are not discharged. The Company, during and after any future bankruptcy proceedings, will ensure that the settlement amount and any future stipulated fines remain an obligation to be paid in full by the Company to the extent allowed by applicable bankruptcy law.

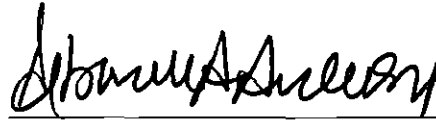
The undersigned certifies that he/she is fully authorized by the Company to enter into this Consent Order and to execute and legally bind the Company to it.

BARBER STEEL FOUNDRY CORPORATION

Michael J. Pattwell Attorney
Print Name and Title

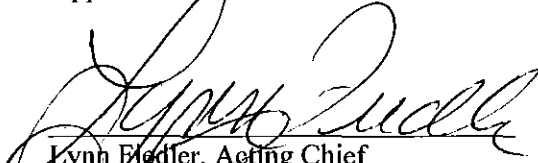
 Date: 12-10-14
Signature

The above signatory subscribed and sworn to before me this 10th day of December, 2014.

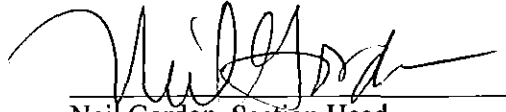

Notary Public

DEBORAH A. ANDERSON
NOTARY PUBLIC, STATE OF MI
COUNTY OF LIVINGSTON
MY COMMISSION EXPIRES Jan 23, 2020
ACTING IN COUNTY OF Ingham

Approved as to Content:


Lynn Eisdler, Acting Chief
AIR QUALITY DIVISION
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Approved as to Form:


Neil Gordon, Section Head
ENVIRONMENTAL REGULATION SECTION
ENVIRONMENT, NATURAL RESOURCES,
AND AGRICULTURE DIVISION
DEPARTMENT OF ATTORNEY GENERAL

Dated: 1/6/15

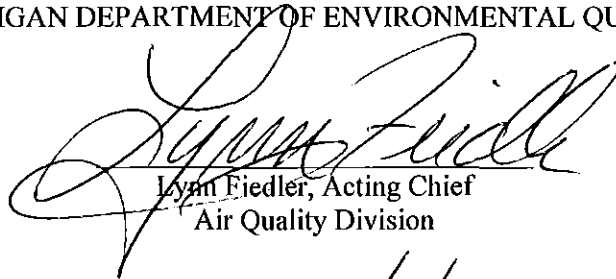
Dated: 12/18/14

FINAL ORDER

The Acting Chief of the Air Quality Division having had opportunity to review the Consent Order and having been delegated authority to enter into Consent Orders by the Director of the Michigan Department of Environmental Quality pursuant to the provisions of Part 55 of Act 451 and otherwise being fully advised on the premises,

HAS HEREBY ORDERED that the Consent Order is approved and shall be entered in the record of the MDEQ as a Final Order.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY



Lynn Fiedler, Acting Chief
Air Quality Division

Effective Date: 4/6/15

Exhibit A

Permit to Install No. 12-14

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

October 1, 2014

**PERMIT TO INSTALL
12-14**

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:

August 21, 2014

DATE PERMIT TO INSTALL APPROVED:

October 1, 2014

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	Btu	British thermal unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
CO ₂ e	Carbon Dioxide Equivalent	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	kW	Kilowatt
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfuction Abatement Plan	NO _x	Oxides of nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate matter
MSDS	Material Safety Data Sheet	PM10	PM less than or equal to 10 microns aerodynamic diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	PM less than or equal to 2.5 microns aerodynamic diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch, absolute
PTI	Permit to Install	psig	Pounds per square inch, gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO ₂	Sulfur dioxide
SCR	Selective Catalytic Reduction	THC	Total hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile organic compound
VE	Visible Emissions	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

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

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-CHRGHANDLG	Internal scrap run-around is sent to the charge yard and incoming scrap metal, which is delivered by trucks, to the charge yard which is an area with a roof and partially enclosed walls and concrete flooring.	FGFACILITY FGMACTZZZZZ
EUINDUCFURNEIF6	<p>6 Ton Capacity Electric Induction Furnace (EIF6) facilitated to melt steel scrap. The design melt rate of Furnace #6 is 6 tons/hour. The maximum furnace steel charging and melting rate for FG-MELTING is 40,000 tons per year.</p> <p>The furnace melting emissions will be collected by an articulating close capture lid that incorporates a side draft system and is ducted to a 22,900 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).</p>	FG-MELTING FGFACILITY FGMACTZZZZZ
EUINDUCFRNEIF10A	<p>10 Ton Capacity Electric Induction Furnace (EIF10A) facilitated to melt steel scrap. The design melt rate of Furnace #10A is 10 tons/hour. The maximum furnace steel charging and melting rate for FG-MELTING is 40,000 tons per year.</p> <p>The furnace melting emissions will be collected by an articulating close capture lid that incorporates a side draft system and is ducted to a 22,900 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).</p>	FG-MELTING FGFACILITY FGMACTZZZZZ
EUINDUCFRNEIF10B	<p>10 Ton Capacity Electric Induction Furnace (EIF10B) facilitated to melt steel scrap. The design melt rate of Furnace #10B is 10 tons/hour. The maximum furnace steel charging and melting rate for FG-MELTING is 40,000 tons per year.</p> <p>The furnace melting emissions will be collected by an articulating close capture lid that incorporates a side draft system and is ducted to a 22,900 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).</p>	FG-MELTING FGFACILITY FGMACTZZZZZ
EU-POURING	<p>Metal pouring operations. A hoist brings transfer ladles of molten metal to the staged molds. The ladles will be the "bottom-pour" type.</p> <p>The pouring and molding emissions will be fugitive to the plant environment, ultimately vented via existing roof exhaust units and routed to stack SV-H.</p>	FG-POURCOOL FGFACILITY FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-COOLING	<p>Poured mold-cooling operations. The molds will be cooled on the pour floor until they can be moved to shakeout. EU-COOLING includes the transfer of the castings in molds to the shakeout machine.</p> <p>Emissions from the cooling of the castings will be fugitive to the plant environment, ultimately vented via existing roof exhaust units and routed to stack SV-H.</p>	FG-POURCOOL FGFACILITY FGMACTZZZZZ
EU-SHAKEOUT	<p>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.</p> <p>Metal throughput is 39,200 tons per year</p> <p>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).</p>	FGFACILITY FGMACTZZZZZ
EU-SANDHANDLING	<p>Sand handling: The collected sand from the shakeout machine will be transported to the reclaim silo.</p> <p>The sand handling will be vented to the cooler classifier 12,500 acfm fabric filter dust collector (Collector G) followed by stack (SV-H).</p>	FG-SANDHANDLING FGFACILITY FGMACTZZZZZ
EU-MOLDSANDSILOS	<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>The cooler classifier, the reclaim silo and molding sand silo will be vented to the cooler classifier 12,500 acfm fabric filter dust collector (Collector G) followed by stack (SV-H).</p>	FG-SANDHANDLING FGFACILITY FGMACTZZZZZ
EU-MOLDMAKING	<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 are ultimately vented via existing roof exhaust units and routed to stack SV-H.</p>	FG-MELTING FGFACILITY FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-NEWMOLDSAND	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).	FG-MOLDSILOS FGFACILITY 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).	FG-MOLDSILOS FGFACILITY FGMACTZZZZZ
EU-COREMAKING	<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 ultimately vented via existing roof exhaust units and routed to stack SV-H.</p>	FG-MELTING FGFACILITY FGMACTZZZZZ
EU-NEWCORESAND	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).	FG-CORESILOS FGFACILITY 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).	FG-CORESILOS FGFACILITY FGMACTZZZZZ
EU-FINISHING	<p>The finishing process includes cutting off gates and risers, grinding, welding, and arc air cutting.</p> <p>Metal throughput is 32,000 tons per year.</p> <p>Emissions from cutting off gates and risers will be fugitive into the plant environment.</p> <p>Emissions from grinding will be fugitive into the plant environment.</p> <p>Emissions from welding will be fugitive into the plant environment.</p>	FGFACILITY FGMACTZZZZZ
EU-SHOTBLAST	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).	FGFACILITY FGMACTZZZZZ
EU-HEATTREAT	One (1) heat treat oven rated at 10.2 MMBtu/hr using natural gas in the heat treat room.	FG-NATGASUNITS FGFACILITY FGMACTZZZZZ

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-PREHEATER	Three (3) ladle and furnace preheaters rated at 1.5 MMBtu/hr each in the pouring area.	FG-NATGASUNITS FG-FACILITY FGMACTZZZZZ
EU-INFRARED	Nine (9) infrared heaters rated at 0.10 MMBtu/hr each using natural gas in the grinding room. Three (3) infrared heaters rated at 0.10 MMBtu/hr each using natural gas in the furnace area. Six (6) infrared heaters rated at 0.06 MMBtu/hr each using natural gas in the engineering/maintenance area.	FG-NATGASUNITS FGFACILITY FGMACTZZZZZ
EU-INFRARED15	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. Emissions from the infrared heaters are fugitive in the plant environment, ultimately vented via existing roof exhaust units and routed to stack SV-H.	FG-POURCOOL FGFACILITY FGMACTZZZZZ
EU-MOLDDRYER	Two (2) mold dryers rated at 1.0 MMBtu/hr using natural gas each in the molding area. Emissions from the mold dryers are fugitive into the plant environment, ultimately vented via existing roof exhaust units and routed to stack SV-H.	FG-POURCOOL FGFACILITY FGMACTZZZZZ
EU-AIRMAKEUP	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 3.2 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.	FG-NATGASUNITS FGFACILITY
EU-HEATER	Weld shop: Three heaters each rated at 0.10 MMBtu/hr using natural gas. Pattern shop: Four heaters each rated at 0.175 MMBtu/hr using natural gas. Pattern shop office: One heater rated at 0.075 MMBtu/hr using natural gas.	FG-NATGASUNITS FGFACILITY
EU-BOILER	There is (1) hot water heater unit rated at 0.03 MMBtu/hr using natural gas in the pattern shop office with a vent.	FG-NATGASUNITS FGFACILITY
EU-PAINTING1	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).	FG-PAINTING FGFACILITY
EU-PAINTING2	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).	FG-PAINTING FGFACILITY
EU-FUGITIVES	Fugitive dust emissions from vehicle traffic.	FGFACILITY

The following conditions apply to: EU-CHRGHANDLG

DESCRIPTION: Internal scrap run-around is sent to the charge yard and incoming scrap metal, which is delivered by trucks, to the charge yard which is an area with a roof and partially enclosed walls and concrete flooring.

Flexible Group ID: FGFACILITY 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 LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

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

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-FINISHING

DESCRIPTION: The finishing process includes cutting off gates and risers, grinding, welding and arc air cutting. Metal throughput is 32,000 tons per year.

Flexible Group ID: FGFACILITY FGMACTZZZZZ

POLLUTION CONTROL EQUIPMENT: Emissions from cut off gates and risers will be fugitive into the plant environment. Emissions from grinding will be fugitive into the plant environment. Emissions from welding will be fugitive into the plant environment.

I. EMISSION LIMITS

Pollutant	Limit ¹	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.04 tpy	12-month rolling time period as determined at the end of each calendar month	EU-FINISHING	GC 13	R 336.1331(1)(c)
2. PM10	0.04 tpy	12-month rolling time period as determined at the end of each calendar month	EU-FINISHING	GC 13	R 336.1205(1)(a)&(b) and (3) R 336.2803 R 336.2804
3. PM2.5	0.04 tpy	12-month rolling time period as determined at the end of each calendar month	EU-FINISHING	GC 13	R 336.1205(1)(a)&(b) and (3) R 336.2803 R 336.2804

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Metal Finished	32,000 tons/year	12-month rolling time period as determined at the end of each calendar month	EU-FINISHING	SC VI.2	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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)&(b), R 336.2803, R 336.2804)**
2. The permittee shall monitor and record, in a satisfactory manner, the metal finished for EU-FINISHING 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, R 336.2803, R 336.2804)**
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) & (b), R 336.1225, R 336.1331(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 EU-FINISHING. **(R 336.1201(7) (a))**

VIII. STACK/VENT RESTRICTIONS

1. The exhaust gases from EU-FINISHING shall be directly discharged into the building and not to the ambient air. **(R 336.1205(1) (a) & (3), R 336.1225, R 336.2803, R 336.2804)**

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-SHOTBLAST

DESCRIPTION: Enclosed process for the removal of excess material from castings.

Flexible Group ID: FGFACILITY 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 LIMITS

Pollutant	Limit ¹	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Test Protocol*	EU-SHOTBLAST	GC 13	R 336.1331(1)(c)
2. PM	0.18 pph	Test Protocol*	EU-SHOTBLAST	GC 13	R 336.1331(1)(c)
3. PM-10	0.12 pph	Test Protocol*	EU-SHOTBLAST	GC 13	R 336.1205 (1)(a)&(b) R 336.2803 R 336.2804
4. PM-2.5	0.12 pph	Test Protocol*	EU-SHOTBLAST	GC 13	R 336.1205 (1)(a)&(b) R 336.2803 R 336.2804 40 CFR 52.21(c) & (d)
5. Aggregate HAPs	0.0007 lb/ton metal finished ⁽¹⁾	Test Protocol*	EU-SHOTBLAST	GC 13	R 336.1205 (1)(a)&(b) R 336.1225
6. Visible Emissions	20% Opacity	Test Protocol*	EU-SHOTBLAST	GC 13 SC VI.3	R 336.1301(1)(a)

* Test protocol shall specify averaging time.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Metal Processed	32,000 tons/year	12-month rolling time period as determined at the end of each calendar month	EU-SHOTBLAST	SC VI.4	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EU-SHOTBLAST unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. (R 336.1205, R 336.1224, R 336.1225, 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))**

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) & (b), R 336.2803, R 336.2804)**
2. The permittee shall monitor and record, in a satisfactory manner, the pressure drop across the baghouse for EU-SHOTBLAST 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 EU-SHOTBLAST 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 EU-SHOTBLAST 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 336.2803, R 336.2804)**
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) & (b), R 336.1225, R 336.1331(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 EU-SHOTBLAST. **(R 336.1201(7) (a))**

VIII. STACK/VENT RESTRICTIONS

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

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-F	24	35	R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: EU-SHAKEOUT

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 39,200 tons per year

Flexible Group ID: FGFACILITY 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).

I. EMISSION LIMITS

Pollutant	Limit ¹	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.067 lb/1,000 lb exhaust gas	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1331(1)(c)
2. PM	0.46 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1331(1)(c)
3. PM-10	0.32 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.2803 R 336.2804
4. PM-2.5	0.19 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.2803 R 336.2804
5. CO	20.31 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.2804
6. CO	25.38 tpy	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC VI.4	R 336.1205(3)
7. VOCs	12.21 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1702
8. VOCs	15.26 tpy	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC VI.4	R 336.1205(1)(a)&(b) R 336.1702
9. Benzene	0.77 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
10. Cresols	0.77 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
11. Naphthalene	0.55 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
12. Phenol	1.33 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
13. Individual HAPs	1.33 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
14. Individual HAPs	1.67 tpy	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC VI.4	R 336.1205(1)(a)&(b) R 336.1225
15. Aggregate HAPs	3.91 pph	Test Protocol*	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
16. Aggregate HAPs	4.89 tpy	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC VI.4	R 336.1205(1)(a)&(b) R 336.1225
17. GHGs as CO ₂ e	103 tpy	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC V.1	R 336.1205(1)(a)&(b)

Pollutant	Limit ¹	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
18. Visible Emissions	20% Opacity	Test Protocol*	EU-SHAKEOUT	SC VI.2	R 336.1301(1)(a)

*Test protocol shall specify averaging time.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing/ Monitoring Method	Underlying Applicable Requirements
1. Metal Processed	15.7 tons/hour	Based on an hourly basis using a calendar day average	EU-SHAKEOUT	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
2. Metal Processed	39,200 tons/year	12-month rolling time period as determined at the end of each calendar month	EU-SHAKEOUT	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EU-SHAKEOUT unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall not operate EU-SHAKEOUT 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 commencement of initial startup of the first 10 ton per hour furnace in EUMELT, the permittee shall verify visible emissions, PM, PM10, PM2.5, CO, VOC, benzene, naphthalene, phenol, other individual HAPs, aggregate HAPs and CO₂e emission rates from EU-SHAKEOUT baghouse stacks SV-C-1 and SV-C-2 by testing at owner's expense, in accordance with Department 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. 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. **(R 336.1205, 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)&(b), R 336.2803, R 336.2804)**
2. Verification of visible emissions from EU-SHAKEOUT 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 EU-SHAKEOUT 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 336.2803, R 336.2804)**
4. The permittee shall calculate monthly and 12-month rolling time period CO, VOC, individual HAPs and aggregate HAPs emission calculations for the EU-SHAKEOUT 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)&(b), R 336.2803, R 336.2804)**
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)&(b), R 336.1225, R 336.1331(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 EU-SHAKEOUT. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

Stack & Vent ID	Maximum Exhaust Diameter (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-C-1	48	50	R 336.1225, R336.1901, R 336.2803, R 336.2804
2. SV-C-2	48	50	R 336.1205, R 336.1224, R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-MELTING	Three electric induction furnaces (EIF6 and EIF10A and EIF10B). The design steel (metal) melt rate of Furnaces 10A and 10B is 10 tons/hour each and Furnace #6 is 6 tons/hour. Furnace charging and melting with a limited metal melt of 40,000 tons per year.	EUINDUCFURNEIF6 EUINDUCFRNEIF10A EUINDUCFRNEIF10B
FG-POURCOOL	This flexible group consists of metal pouring, poured mold-cooling, mold making and core making operations. In addition, there are infrared heaters in the core room included in this flexible group.	EU-POURING EU-COOLING EU-MOLDMAKING EU-COREMAKING EU-INFRARED15 EU-MOLDDRYER
FG-SANDHANDLING	This flexible group consists of sand handling with a cooler classifier. Emissions from this equipment are collected by a 12,500 acfm fabric filter collector G followed by stack SV-H	EU-SANDHANDLING EU-MOLDSANDSILOS
FG-MOLDSILOS	The 100 ton molding sand new silo D-1 and the 50 ton molding sand reclaim silo D-2 will be controlled by a bin vent collector D-1 followed by vent (SV-D-1) and by a bin vent collector D-2 followed by vent (SV-D-2), respectively.	EU-NEWMOLDSAND EUMOLDSNDRECLAIM
FG-CORESILOS	The 35 ton core sand new silo E-1 and the 25 ton core sand reclaim silo E-2 will be controlled by a bin vent collector E-1 followed by vent (SV-E-1) and by a bin vent collector E-2 followed by vent (SV-E-2), respectively.	EU-NEWCORESAND EUCORESNDRECLAIM
FG-NATGASUNITS	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.	EU-HEATTREAT EU-PREHEATER EU-INFRARED EU-AIRMAKEUP EU-HEATER EU-BOILER
FG-PAINTING	A miscellaneous metal parts coating process consisting of two paint spray booths. Each booth is equipped with dry filters to control particulate overspray. Each booth is equipped with one exhaust stack	EU-PAINTING1 EU-PAINTING2

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.	EU-CHRGHANDLG EUINDUCFURNEIF6 EUINDUCFRNEIF10A EUINDUCFRNEIF10B EU-POURING EU-COOLING EU-SHOTBLAST EU-SHAKEOUT EU-MOLDMAKING EU-COREMAKING EU-INFRARED15 EU-MOLDDRYER EU-SANDHANDLING EU-MOLDSANDSILOS EU-NEWMOLDSAND EUMOLDSNDRECLAIM EU-NEWCORESAND EUCORESNDRECLAIM EU-HEATTREAT EU-PREHEATER EU-INFRARED EU-AIRMAKEUP EU-HEATER EU-BOILER EU-PAINTING1 EU-PAINTING2 EU-FINISHING EU-FUGITIVES
FGMACTZZZZZ	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 area source foundry as defined by 40 CFR Part 63 Subpart <u>ZZZZZ</u> .	EU-CHRGHANDLG EUINDUCFURNEIF6 EUINDUCFRNEIF10A EUINDUCFRNEIF10B EU-POURING EU-COOLING EU-SHOTBLAST EU-SHAKEOUT EU-MOLDMAKING EU-COREMAKING EU-INFRARED15 EU-MOLDDRYER EU-SANDHANDLING EU-MOLDSANDSILOS EU-NEWMOLDSAND EUMOLDSNDRECLAIM EU-NEWCORESAND EUCORESNDRECLAIM EU-HEATTREAT EU-PREHEATER EU-INFRARED EU-FINISHING

The following conditions apply to: FG-MELTING

DESCRIPTION: Three electric induction furnaces (EIF6 and EIF10A and EIF10B). The design steel (metal) melt rate of Furnaces 10A and 10B is 10 tons/hour each and Furnace #6 is 6 tons/hour. Furnace charging and melting with a limited metal melt of 40,000 tons per year.

Emission Units: EUINDUCFURNEIF6, EUINDUCFRNEIF10A, EUINDUCFRNEIF10B

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 22,900 cfm Torit Dust Cartridge Collector (Collector B) followed by a stack (SV-B).

I. EMISSION LIMITS

Pollutant	Limit ¹	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.011 lb/1,000 lb exhaust gas	Test Protocol*	FG-MELTING	SC V.3	R 336.1331(1)(c)
2. PM	0.96 pph	Test Protocol*	FG-MELTING	SC V.3	R 336.1331(1)(c)
3. PM	1.2 tpy	12-month rolling time period as determined at the end of each calendar month	FG-MELTING	SC VI.5	R 336.1205(3) R 336.1331(1)(c)
4. PM-10	0.28 pph	Test Protocol*	FG-MELTING	SC V.3	R 336.1205 (1)(a)&(b) R 336.2803, R 336.2804
5. PM-2.5	0.17 pph	Test Protocol*	FG-MELTING	SC V.3	R 336.1205 (1)(a)&(b) R 336.2803, R 336.2804
6. Total Inorganic HAPs	0.72 pph	Test Protocol*	FG-MELTING	SC V.3	R 336.1205 (1)(a)&(b) R 336.1225
7. Visible Emissions	20% opacity	Test Protocol*	FG-MELTING	SC V.3 SC VI.2	R 336.1301(1)(a)

* Test protocol shall specify averaging time.

II. MATERIAL LIMITS

- The permittee shall only melt in the furnaces of FG-MELTING 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 RESTRICTIONS

- The permittee shall not process more than 16 tons per hour and 40,000 tons per year of metal charged and melted in FG-MELTING, 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)&(b) & (3))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FG-MELTING unless the baghouse is installed, maintained, and operated in accordance with the American Conference of Governmental Industrial Hygienists standards or equivalent. **(R 336.1205, 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 FG-MELTING directly into the atmosphere through building access doors. **(R 336.1205(3), R 336.2803, R 336.2804)**
4. The permittee shall not operate any portion of FG-MELTING unless each 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 FG-MELTING unless the control system meets acceptable engineering standards. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. Within 60 days of permit issuance or 60 days after the installation of the first 10 ton per hour furnace included in FG-MELTING, the permittee shall provide the pivoting hood capture system design specifications, operating procedures and a signed certification package from a qualified contractor certifying that proper operation of each pivoting hood capture system as installed will achieve no less than 90% collection efficiency in the closed position for PM from the corresponding furnace. The verification shall include a description of the appropriate operating conditions for the furnace and exhaust gas flow rate to the baghouse control device as correlated to the hood collection efficiency during proper operation of each pivoting hood capture system. **(R336.1205 (1) (a) & (b))**
2. Within 180 days after commencement of trial operation of the first 10 ton per hour furnace in FG-MELTING, verification of visible emissions, PM, PM10, PM2.5 and only total inorganic HAPs of arsenic, cadmium, chromium, lead, manganese and nickel emission rates from the FG-MELTING baghouse stack, by testing at owner's expense, in accordance with Department requirements will be required. Thereafter, the permittee shall rotate the stack testing for one furnace of FG-MELTING once every five years. Each stack testing rotation shall verify visible emissions, PM, PM10, PM2.5 and only total inorganic HAPs of arsenic, cadmium, chromium, lead, manganese and nickel emission rates from the FG-MELTING baghouse stack, by testing at owner's expense; in accordance with Department requirements will be required. 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. 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. **(R 336.1205(1) (a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804)**

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) & (b)&(3), R 336.2803, R 336.2804)**

2. Verification of visible emissions from the FG-MELTING 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:
 - 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 negative pressure using a magnehelic gauge at the inlet side of the baghouse for FG-MELTING on a daily basis during operation of EU-MELTING 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, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.2803, R 336.2804)**
4. The permittee shall monitor and record, in a satisfactory manner, the metal melted for FG-MELTING 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 336.2803, R 336.2804, 40 CFR Part 63 Subpart ZZZZZ)**
5. The permittee shall calculate monthly and 12-month rolling time period PM emission calculations for FG-MELTING 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)&(b), R 336.1225, R 336.1331(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 FG-MELTING. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

Stack & Vent ID	Maximum Exhaust Diameter (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-B	44	47.75	R 336.1225, R 336.1901, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

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

Footnotes:

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

The following conditions apply to: FG-POURCOOL

DESCRIPTION: This flexible group consists of metal pouring, poured mold-cooling, mold making and core making operations. In addition, there are infrared heaters in the core room included in this flexible group.

Emission Units: EU-POURING, EU-COOLING, EU-MOLDMAKING, EU-COREMAKING EU-INFRARED15, EU-MOLDDRYER

POLLUTION CONTROL EQUIPMENT: The emissions from FG-POURCOOL will be fugitive to the plant environment, ultimately vented via existing roof exhaust units and routed to stack SV-H.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	32.95 pph	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1331(1)(c)
2. PM-10	16.16 pph	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
3. PM2.5	7.92 pph	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
4. CO	22.16 pph ^(a)	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.2804
5. CO	28.46 tpy ^(a)	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3 SC VI.4 SC VI.5	R 336.1205(3)
6. NOx	0.43 pph ^(b)	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
7. NOx	1.41 tpy ^(b)	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3 SC VI.4 SC VI.5	R 336.1205(3)
8. VOCs	15.91 pph ^(c)	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1702
9. VOCs	19.91 tpy ^(c)	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3 SC VI.4 SC VI.5	R 336.1205(3) R 336.1702
10. Benzene	1.41 pph ^{(1)(e)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
11. Cresols	0.84 pph ^{(1)(e)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
12. Naphthalene	1.18 pph ^{(1)(e)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
13. Phenol	2.02 pph ^{(1)(e)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
14. Individual HAPs	2.02 pph ^{(1)(e)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
15. Individual HAPs	2.53 tpy ^(e)	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3 SC VI.4 SC VI.5	R 336.1205(3)
16. Aggregate HAPs	5.97 pph ^{(1)(d)}	Test Protocol*	FG-POURCOOL	SC V.1	R 336.1205(1)(a)&(b) R 336.1225
17. Aggregate HAPs	7.48 tpy ^(d)	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3 SC VI.4 SC VI.5	R 336.1205(3)
18. GHGs as CO ₂ e	384.39 pph	Test Protocol*	FG-POURCOOL	SC V.1 and Appendix A	R 336.1205(1)(a)&(b)
19. Visible Emissions	20% Opacity	Test Protocol*	FG-POURCOOL	SC V.1 SC VI.2	R 336.1301(1)(c)

*Test protocol shall specify averaging time.

a) CO emissions based on 2.8 lb/ton of metal poured of EU-POURING, EU-COOLING, and EU-SHAKEOUT, and 84 lb/MMCF of natural gas usage of EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL.

b) NO_x emissions based on 100 lb/MMCF of natural gas usage of EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL.

c) VOC emissions based on 1.68 lb VOC/ton of metal poured of the combined EU-POURING, EU-COOLING and EU-SHAKEOUT, 0.0454 lb VOC/ton of sand of EU-MOLDMAKING and EU-COREMAKING, and 2.8 lb VOC/MMCF of natural gas usage of EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL.

d) Total organic HAPs emissions based on 0.54 lb HAPs/ton of metal poured of the combined EU-POURING, EU-COOLING and EU-SHAKEOUT, 0.0003 lb of organic HAPs/pound of Binder/Catalyst in the sand of EU-MOLDMAKING and EU-COREMAKING, and 1.89 lb total HAPs/MMCF of natural gas usage of EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL.

e) Individual HAP emission based on 0.184 lb HAP/ton of metal poured of EU-POURING, EU-COOLING, AND EU-SHAKEOUT combined. The largest individual HAP is phenol.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Metal Poured	15.7 tons/hour	Based on a hourly basis using a calendar day average	FG-POURCOOL	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
2. Metal Poured	39,200 tons/year	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
3. Sand Processed	59.45 tons/hour	Based on a hourly basis using a calendar day average	FG-POURCOOL	SC VI.4	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
4. Sand Processed	148,615 tons/year	12-month rolling time period as determined at the end of each calendar month	FG-POURCOOL	SC VI.4	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
5. Resin Binder/Catalyst Processed (@ 1.0% resin/catalyst in sand)	0.6 tons/hour (1,200 lb/hr) of binder/catalyst	Based on a hourly basis using a calendar day average	FG-POURCOOL	SC VI.5	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
6. Resin Binder/Catalyst Processed (@ 1.0% resin/catalyst in sand)	1,500 tons/year of binder/catalyst	12-month rolling time period as determined at the end of each calendar month	EU-MOLDMAKING and EU-COREMAKING of FG-POURCOOL	SC VI.5	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
7. Natural Gas	24.3 MMCF per year	12-month rolling time period basis as determined at the end of each calendar month	EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL	SC VI.6	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

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

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

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

1. Within 180 days after commencement of initial startup of the first 10 ton per hour furnace in FG-MELTING, the permittee shall verify visible emissions, PM, PM10, PM2.5, NOx, CO, VOC, benzene, naphthalene, phenol, other individual HAPs, aggregate HAPs and CO₂e emission rates from stack SV-H by testing at owner's expense, in accordance with Department 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. 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. **(R 336.1205, 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)&(b), R 336.2803, R 336.2804)**
2. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install verification of visible emissions from the FG-POURCOOL stack SV-H 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 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 336.2803, R 336.2804)**
4. The permittee shall monitor and record, in a satisfactory manner, the sand processed for FG-POURCOOL 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 336.2803, R 336.2804)**
5. The permittee shall monitor and record, in a satisfactory manner, the resin/catalyst binder processed for FG-POURCOOL 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 336.2803, R 336.2804)**
6. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for EU-INFRARED15 and EU-MOLDDRYER of FG-POURCOOL 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)&(b), R 336.1225, R 336.2803, R 336.2804)**
7. The permittee shall calculate monthly and 12-month rolling time period CO, NOx, VOC, individual HAPs and aggregate HAPs emission calculations for FG-POURCOOL. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install these calculations shall be for FG-POURCOOL emissions from stack SV-H. 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), R 336.2803, R 336.2804)**

8. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. **(R 336.1205(1)(a)&(b), R 336.1225, R 336.1331(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 FG-POURCOOL. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install 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-H	96	70	R 336.1205, R 336.1224, R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: FG-SANDHANDLING

DESCRIPTION: This flexible group consists of sand handling with a cooler classifier.
 Sand handling: The collected sand from the shakeout machine will be transported to the reclaim silo.
 Sand from the reclaim silo is put through a cooler classifier which will cool and screen the sand and then deposit it in the molding sand silo.

Emission Units: EU-SANDHANDLING, EU-MOLDSANDSILOS

POLLUTION CONTROL EQUIPMENT: The sand handling, cooler classifier, reclaim silo, and molding sand silo will be vented to the cooler classifier 12,500 acfm fabric filter dust collector (Collector G) which is ducted to stack SV-H.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.9 pph	Test Protocol*	FG-SANDHANDLING	SC V.1	R 336.1205(1)(a)&(b) R 336.1331(1)(c)
2. PM-10	0.63 pph	Test Protocol*	FG-SANDHANDLING	SC V.1	R 336.1205(1)(a)&(b) R 336.2803 R 336.2804 40 CFR 52.21(c) & (d)
3. PM2.5	0.45 pph	Test Protocol*	FG-SANDHANDLING	SC V.1	R 336.1205(1)(a)&(b) R 336.2803 R 336.2804
4. Visible Emissions	20% Opacity	Test Protocol*	FG-SANDHANDLING	SC V.1 SC VI.2	R 336.1301(1)(c)

*Test protocol shall specify averaging time.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Sand Processed	58.26 tons/hour	Based on a hourly basis using a calendar day average	FG-SANDHANDLING	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804
2. Sand Processed	145,643 tons/year	12-month rolling time period as determined at the end of each calendar month	FG-SANDHANDLING	SC VI.3	R 336.1205(1)(a)&(b) and (3) R 336.1225 R 336.1702 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee shall not operate FG-SANDHANDLING unless the baghouse is installed, maintained, and operated in accordance with the manufacturer's recommendations. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
2. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install the permittee shall not operate FG-SANDHANDLING 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 commencement of initial startup of the first 10 ton per hour furnace in FG-MELTING, the permittee shall verify visible emissions, PM, PM10, and PM2.5 emission rates from FG-SANDHANDLING stack SV-H by testing at owner's expense, in accordance with Department 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. 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. **(R 336.1205, 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)&(b), R 336.2803, R 336.2804)**
2. On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install verification of visible emissions from FG-SANDHANDLING stack SV-H 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 tons of sand processed 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 336.2803, R 336.2804)**
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)&(b), R 336.1225, R 336.1331(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 FG- SANDHANDLING. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

On and after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install 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-H	96	70	R 336.1205, R 336.1224, R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: FG-MOLDSILOS

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

Emission Units: EU-NEWMOLDSAND and 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 LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Test Protocol*	EU-NEWMOLDSAND of FG-MOLDSILOS	GC 13	R 336.1331(1)(c)
2. PM	0.045 pph	Test Protocol*	EU-NEWMOLDSAND of FG-MOLDSILOS	GC 13	R 336.1205(3) R 336.1331(1)(c)
3. PM	0.005 tpy	Test Protocol*	EUMOLDSNDRECLAIM of FG-MOLDSILOS	GC 13	R 336.1205(3) R 336.1331(1)(c)
4. PM-10	0.0068 pph	Test Protocol*	EU-NEWMOLDSAND of FG-MOLDSILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
5. PM-10	0.0038 pph	Test Protocol*	EUMOLDSNDRECLAIM of FG-MOLDSILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
6. PM2.5	0.0068 pph	Test Protocol*	EU-NEWMOLDSAND of FG-MOLDSILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
7. PM2.5	0.0038 pph	Test Protocol*	EUMOLDSNDRECLAIM of FG-MOLDSILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
8. Visible Emission	5% Opacity	Test Protocol*	Each of EU-NEWMOLDSAND and EUMOLDSNDRECLAIM of FG-MOLDSILOS	SC VI.2	R 336.1301(1)(c)

*Test protocol specifies averaging time.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

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

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)&(b), R 336.2803, R 336.2804)**
2. The permittee shall perform non-certified visible emission observation for the EU-NEWMOLDSAND and EUMOLDSNDRECLAIM of FG-MOLDSILOS 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)&(b), R 336.1225, R 336.1331(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 each of EU-NEWMOLDSAND and EUMOLDSNDRECLAIM of FG-MOLDSILOS. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

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	R 336.2803, R 336.2804
2. SV-D-2	1 vent; 18.25 inches	45	R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: FG-CORESILOS

DESCRIPTION: The 35 ton core new sand silo E-1. The 25 ton core reclaim sand silo E-2.

Emission Units: EU-NEWCORESAND and 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 LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.01 lb/1,000 lb exhaust gas	Test Protocol*	Each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILOS	GC 13	R 336.1331(1)(c)
2. PM	0.045 pph	Test Protocol*	Each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILOS	GC 13	R 336.1205 (3) R 336.1331(1)(c)
3. PM-10	0.0068 pph	Test Protocol*	Each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
4. PM2.5	0.0068 pph	Test Protocol*	Each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILOS	GC 13	R 336.1205 (3) R 336.2803, R 336.2804
5. Visible Emission	5% Opacity	Test Protocol*	Each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILOS	SC VI.2	R 336.1301(1)(c)

*Test protocol specifies averaging time.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

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

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)&(b), R 336.2803, R 336.2804)**
2. Verification of visible emissions from the EU-NEWCORESAND of FG-CORESILLOS 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)&(b), R 336.1225, R 336.1331(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 each of EU-NEWCORESAND and EUCORESNDRECLAIM of FG-CORESILLOS. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

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	R 336.2803, R 336.2804
2. SV-E-1B	1 vent; 18.25 inches	45	R 336.2803, R 336.2804
3. SV-E-2A	1 vent; 18.25 inches	38	R 336.2803, R 336.2804
4. SV-E-2B	1 vent; 18.25 inches	38	R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: FG-NATGASUNITS

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 Units: EU-HEATTREAT, EU-PREHEATER, EU-INFRARED, EU-AIRMAKEUP, EU-HEATER, EU-BOILER

POLLUTION CONTROL EQUIPMENT: N/A

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	7.6 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.1331(1)(c)
2. PM10	7.6 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
3. PM2.5	7.60 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
4. NOx	100 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
5. CO	84 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.2803, R 336.2804
6. VOCs	2.8 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.1702
7. Aggregate HAPs	1.89 lb/MMscf	Test Protocol*	FG-NATGASUNITS	GC 13	R 336.1205(1)(a)&(b) R 336.1702

*Test protocol specifies averaging time.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Natural Gas	387 MMCF per year	12-month rolling time period basis as determined at the end of each calendar month	FG-NATGASUNITS	SC VI.2	R 336.1205(1)(a)&(b) R 336.1225 R 336.2803 R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall use only natural gas as fuel in the FG-NATGASUNITS. **(R 336.1205(1)(a)&(b), R 336.1225, R 336.2803, R 336.2804)**
2. The maximum heat input of heat treat oven shall not exceed 10.2 MMBtu/hr. **(R 336.1205(1)(a)&(b) and (3))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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)&(b), R 336.2803, R 336.2804)**
2. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for FG-NATGASUNITS 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)&(b), R 336.1225, R 336.2803, R 336.2804)**
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 FG-NATGASUNITS. 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)&(b), R 336.1225, R 336.2803, R 336.2804)**
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)&(b), R 336.1225, R 336.1331(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 FG-NATGASUNITS. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

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 R 336.2803, R 336.2804
2. Heat Treat Oven SV-2	22	22	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply to: FG-PAINTING

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

Emission Units: EU-PAINTING1, EU-PAINTING2

POLLUTION CONTROL EQUIPMENT: Each booth is equipped with dry filters to control particulate overspray. Each booth is equipped with one exhaust stack.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOCs	16.9 pph ^(a)	Test Protocol*	FG-PAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1702(a)
2. VOCs	1.24 tons per calendar month ^(a)	Test Protocol*	FG-PAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1702(a)
3. VOCs	4.5 tpy ^(b)	12-month rolling time period as determined at the end of each calendar month	FG-PAINTING	SC VI.1 SC VI.3 SC VI.4	R 336.1205(3) R 336.1702(a)
4. Isopropyl Alcohol (CAS # 67-63-0)	230.0 pounds per calendar day	Test Protocol*	FG-PAINTING	SC VI.5	R 336.1225

* Test protocol shall specify averaging time.

^{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))**

^{b)} Beginning on operation, and continuing for the first 12 calendar months, the limit applies to the cumulative total emissions. Thereafter, the limit shall become a 12-month rolling limit.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOCs	3.0 lb/gal of coating (minus water) ^a as applied	Daily volume-weighted average.	FG-PAINTING	SC V.1 SC VI.1 SC VI.3	R 336.1702(a)
2. Coating	3000 gallons per year	12-month rolling time period as determined at the end of each calendar month	FG-PAINTING	SC VI.3	R 336.1702(a)
3. Coating	5.63 gallons per hour	each operating hour	FG-PAINTING	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 RESTRICTIONS

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 336.1225, 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(3), R 336.1224, R 336.1225, R 336.1702(a), R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any spray booth portion of FG-PAINTING 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 FG-PAINTING with high volume low pressure (HVLP) spray guns or comparable technology with equivalent transfer efficiency. For HVLP 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(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, 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, 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, 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 FG-PAINTING:
- Gallons (with water) of each coating, reducer, thinner, additive, catalyst, and solvent used.
 - VOC content (minus water and with water) of each coating, reducer, thinner, additive, catalyst, and solvent as applied.
 - VOC emission calculations determining the volume-weighted average VOC content of each coating as applied on a calendar day basis.
 - 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.
 - Number of hours of operation.

The permittee shall make the records available to the Department upon request. **(R 336.1205, 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 FG-PAINTING:
- Gallons of each solvent used and reclaimed.
 - VOC content, in pounds per gallon, of each solvent used.
 - VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - 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, R 336.1225, R 336.1702(a))**

5. The permittee shall keep the following information on a calendar day basis for FG-PAINTING:
- Gallons (with water) of each isopropyl alcohol (CAS # 67-63-0) containing coating, reducer, thinner, additive, catalyst, purge solvent, and clean-up solvent used.
 - 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.
 - 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.
 - 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

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 FG-PAINTING. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-PB1	28	27	R 336.1225, R 336.2803, R 336.2804
2. SV-PB2	28	27	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:

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

The following conditions apply Source-Wide to: FGFACILITY

All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

POLLUTION CONTROL EQUIPMENT: Baghouses

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
2. PM10	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
3. PM2.5	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
4. NOx	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
5. CO	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
6. VOCs	Less than 89.9 tpy ^{(a) (b)}	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
7. Each Individual HAP	Less than 8.9 tpy ^(a)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
8. Aggregate HAPs	Less than 22.4 tpy ^(a)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(1)(a) R 336.1205(3)
9. GHGs as CO ₂ e	Less than 90,000 tpy ^(a)	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3 and Appendix A	R 336.1205(1)(a) R 336.1205(3)

a) Beginning on operation, and continuing for the first 12 calendar months, the limit applies to the cumulative total emissions. Thereafter, the limit shall become a 12-month rolling limit.

In addition to other emission units, the PM, PM10 and PM2.5 emissions shall include the following:

b) A portion of the PM emissions are based on 0.13 lb/ton of charge handling of EU-CHRGHANDLG.

c) A portion of the PM10 emissions are based on 0.09 lb/ton of charge handling of EU-CHRGHANDLG.

d) A portion of the PM2.5 emissions are based on 0.054 lb/ton of charge handling of EU-CHRGHANDLG

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Metal Melted	40,000 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)(b) R 336.1205(3)
2. Metal Poured	39,200 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)(b) R 336.1205(3)
3. Sand Processed	148,615 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)(b) R 336.1205(3)
4. Resin Binder/Catalyst Processed	1,500 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)(b) R 336.1205(3)
5. Natural Gas	250.35 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)(b) R 336.1205(3)

III. PROCESS/OPERATIONAL RESTRICTIONS

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, R 336.2803, R 336.2804)**

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 PARAMETERS

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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(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. **(R336.1205(1)(b), R 336.1205(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.
- o) CO₂e emission calculations determining the monthly emission rate of each in tons per calendar month.
- p) CO₂e 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(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 FG-FACILITY as specified in SC I.1 through I.9, based on 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(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)&(b) and (3), R 336.1225, R 336.1331(c))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

- 1 The permittee shall install and operate a plant-wide fugitive emissions ventilation system with roof exhaust fans ducted to SV-H as described in the permit application within 180 days after completion of the installation of EUINDUCFRNEIF10A or EUDINCUCFREIF10B or by April 1, 2016, whichever date comes first. **(R 336.1201)**

Footnotes:

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

The following conditions apply to: FGMACTZZZZZ

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 Units: FGFACILITY as applicable

POLLUTION CONTROL EQUIPMENT: Torit Dust Cartridge Collector (Collector B)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring 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	Foundry operations	SC V.2	40 CFR 63.10895(e)

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

II. MATERIAL LIMITS

1. 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 RESTRICTIONS

1. 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:
 - a) Metallic scrap management program. **(40 CFR 63.10885(a))**
 - b) 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 PARAMETERS

1. 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. Within 180 days after the applicable compliance date specified in 40 CFR 63.10881, the permittee shall conduct a performance test to demonstrate initial compliance with PM or Total Metal HAP emission limits for each metal melting furnace. The permittee shall conduct subsequent 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. 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)**
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) and (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. **(§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 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. **(63.10899(b)(2)(i))**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

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

Footnotes:

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

APPENDIX A

Stacks C-1, C-2, and H

Pouring Area:

$$5.0 \text{ lb CO}_2/\text{ton} \times 15.7 \text{ tph} = 78.5 \text{ pph}$$

$$5.0 \text{ lb/ton} \times 39,200 \text{ tpy} \times 1 \text{ ton}/2000 \text{ lbs} = 100 \text{ tpy}$$

$$0.01 \text{ lb NO}_x/\text{ton} \times 15.7 \text{ tph} = 0.16 \text{ pph}$$

$$0.01 \text{ lb NO}_x/\text{ton} \times 39,200 \text{ tpy} \times 1 \text{ ton}/2000 \text{ lbs} = 0.20 \text{ tpy}$$

PTE

$$\text{CO}_2\text{e} = \text{CO}_2 (100 \times 1) + \text{CH}_4 (0 \times 21) + \text{N}_2\text{O} (0.20 \times 310) = \text{CO}_2 (100) + \text{CH}_4 (0) + \text{N}_2\text{O} (62) = \underline{162.0 \text{ tons/yr}}$$

For limits on Fuel usage: Total natural gas consumed for one year = 24.3 MMcf

Emission factors from 40 CFR Part 98, Table C-1.

CO₂, CH₄, and N₂O (lb/hr) = fuel usage x heat value x emission factor

$$\text{CO}_2 = (0.0027 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (116.89 \text{ lbs CO}_2/\text{MMBtu}) = 321.92 \text{ lb/hr}$$

$$\text{CH}_4 = (0.0027 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.0022 \text{ lbs CH}_4/\text{MMBtu}) = 0.0061 \text{ lb/hr}$$

$$\text{N}_2\text{O} = (0.0027 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.00022 \text{ lbs N}_2\text{O}/\text{MMBtu}) = 0.00061 \text{ lb/hr}$$

PTE CO₂e =

$$\text{CO}_2 (321.92 \times 1) + \text{CH}_4 (0.0061 \times 21) + \text{N}_2\text{O} (0.00061 \times 310) =$$

$$\text{CO}_2 (321.92) + \text{CH}_4 (0.13) + \text{N}_2\text{O} (0.19) = 322.2 \text{ lb/hr}$$

CO₂, CH₄, and N₂O (tons/yr) = fuel usage x heat value x emission factor x 1 ton/2000 lbs

$$\text{CO}_2 = (24.3 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (116.89 \text{ lbs CO}_2/\text{MMBtu}) \times (1 \text{ ton}/2000 \text{ lbs}) = 1448.6 \text{ tons/yr}$$

$$\text{CH}_4 = (24.3 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.0022 \text{ lbs CH}_4/\text{MMBtu}) \times (1 \text{ ton}/2000 \text{ lbs}) = 0.027 \text{ tons/yr}$$

$$\text{N}_2\text{O} = (24.3 \text{ MMcf}) \times (1028 \text{ Btu/cf}) \times (0.00022 \text{ lbs N}_2\text{O}/\text{MMBtu}) \times (1/2000) = 0.0027 \text{ tons/yr}$$

Global Warming Potential from 40 CFR Part 98, Table A-1

Actual CO₂e = GHG emission rate x Global Warming Potential

$$\text{PTE CO}_2\text{e} = \text{CO}_2 (1448.6 \times 1) + \text{CH}_4 (0.027 \times 21) + \text{N}_2\text{O} (0.0027 \times 310) = 1450.1 \text{ tons/yr}$$

$$\text{PTE CO}_2\text{e} = \text{CO}_2 (1448.6) + \text{CH}_4 (0.57) + \text{N}_2\text{O} (0.84) = 1450.1 \text{ tons/yr}$$

Total CO₂e emissions from Stacks C-1, C-2, and H:

$$73.5 \text{ pph} + 322.2 \text{ pph} = 395.7 \text{ pph}$$

$$162 \text{ tons/yr} + 1450.1 \text{ tons/yr} = 1612.1 \text{ tpy}$$

Area Sources other than pouring, cooling, and shakeout:

For limits on Fuel usage: Total natural gas consumed for one year = 387 MMcf

Emission factors from 40 CFR Part 98, Table C-1.

CO₂, CH₄, and N₂O (lb/hr) = fuel usage x heat value x emission factor

$$\text{CO}_2 = (0.044 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (116.89 \text{ lbs CO}_2/\text{MMBtu}) = 5268.2 \text{ lb/hr}$$

$$\text{CH}_4 = (0.044 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.0022 \text{ lbs CH}_4/\text{MMBtu}) = 0.099 \text{ lb/hr}$$

$$\text{N}_2\text{O} = (0.044 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.00022 \text{ lbs N}_2\text{O}/\text{MMBtu}) = 0.0099 \text{ lb/hr}$$

PTE CO₂e =

$$\text{CO}_2 (5268.2 \times 1) + \text{CH}_4 (0.099 \times 21) + \text{N}_2\text{O} (0.0099 \times 310) =$$

$$\text{CO}_2 (5268.2) + \text{CH}_4 (2.079) + \text{N}_2\text{O} (3.069) = 5273.3 \text{ lb/hr}$$

CO₂, CH₄, and N₂O (tons/yr) = fuel usage x heat value x emission factor x 1 ton/2000 lbs

$$\text{CO}_2 = (387 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (116.89 \text{ lbs CO}_2/\text{MMBtu}) \times (1 \text{ ton}/2000 \text{ lbs}) = 23074.9 \text{ tons/yr}$$

$$\text{CH}_4 = (387 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.0022 \text{ lbs CH}_4/\text{MMBtu}) \times (1 \text{ ton}/2000 \text{ lbs}) = 0.43 \text{ tons/yr}$$

$$\text{N}_2\text{O} = (387 \text{ MMcf}) \times (1020 \text{ Btu/cf}) \times (0.00022 \text{ lbs N}_2\text{O}/\text{MMBtu}) \times (1/2000) = 0.043 \text{ tons/yr}$$

Global Warming Potential from 40 CFR Part 98, Table A-1

Actual CO₂e = GHG emission rate x Global Warming Potential

PTE CO₂e =

$$\text{CO}_2 (23074.9 \times 1) + \text{CH}_4 (0.43 \times 21) + \text{N}_2\text{O} (0.043 \times 310) =$$

$$\text{CO}_2 (23074.9) + \text{CH}_4 (9.12) + \text{N}_2\text{O} (13.46) = 23097.4 \text{ tons/yr}$$