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

June 2, 2020

PERMIT TO INSTALL
129-19A

ISSUED TO
Berne Enterprises Incorporated

LOCATED AT
7190 Berne Road
Pigeon, Michigan 48755

IN THE COUNTY OF
Huron

STATE REGISTRATION NUMBER
A1453

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **May 8, 2020**	
DATE PERMIT TO INSTALL APPROVED: **June 2, 2020**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUINDUCTIONA	Coreless induction tilt-furnace used for melting steel alloys with a nominal holding capacity of 4,000 lb	FGFOUNDRY
EUINDUCTIONB	Coreless induction tilt-furnace used for melting steel alloys with a nominal holding capacity of 4,000 lb	FGFOUNDRY
EUINDUCTIONC	Coreless induction tilt-furnace used for melting steel alloys with a nominal holding capacity of 2,000 lb	FGFOUNDRY
EUINDUCTIOND	Coreless induction tilt-furnace used for melting stainless steel or aluminum, with a nominal holding capacity of 1,000 lb	FGFOUNDRY
EUPOURING	Pouring line with the ladle supported by an overhead trolley system.	FGFOUNDRY
EUCOOLING	Cooling line. Parts are conveyed from pouring area as they cool.	FGFOUNDRY
EUSHAKEOUT	Manual shakeout process to separate cast parts from sand molds.	FGFOUNDRY
EUFINISHING	Various finishing and cleaning processes in the Main Building and Metal Building, including grinding and cutting. Emissions from the east side of the Main Building are controlled by Baghouse #1.	NA
EUSANDHANDLING	Sand that is shipped to the facility in trucks is placed into a holding tank outside using a conveyor and elevator. A screw auger transfers the sand from the holding tank into the Main Building. Sand is placed in a tank on top of the molding machines.	FGMOLDCORE
EUMOLD1	15.5 by 30.5-inch molding machine with overhead natural gas-fired oven rated at 750,000 BTU/hr.	FGMOLDCORE
EUMOLD2	15.5 by 30.5-inch molding machine with overhead natural gas-fired oven rated at 750,000 BTU/hr.	FGMOLDCORE
EUMOLD3	30 by 40-inch molding machine with overhead natural gas-fired oven rated at 2,000,000 BTU/hr.	FGMOLDCORE
EUMOLD4	30 by 40-inch molding machine with overhead natural gas-fired oven rated at 1,250,000 BTU/hr.	FGMOLDCORE
EUMOLD5	15.5 by 30.5-inch molding machine with overhead natural gas-fired oven rated at 750,000 BTU/hr.	FGMOLDCORE
EUMOLD6	15.5 by 30.5-inch molding machine with overhead natural gas-fired oven rated at 750,000 BTU/hr.	FGMOLDCORE
EUMOLD7	15.5 by 30.5-inch molding machine with overhead natural gas-fired oven rated at 750,000 BTU/hr.	FGMOLDCORE
EUHANDMOLD	Natural gas-fired brick oven rated at 250,000 BTU/hr, where small parts are molded.	FGMOLDCORE
EUCORE1	Core machine fired by natural gas with a rating of 150,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUCORE2	Core machine fired by natural gas with a rating of 250,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUCORE3	Core machine fired by natural gas with a rating of 150,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUCORE4	Core machine fired by natural gas with a rating of 250,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUCORE5	Core machine fired by natural gas with a rating of 250,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUCORE6	Core machine fired by natural gas with a rating of 150,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUCORE7	Core machine fired by natural gas with a rating of 750,000 BTU/hr. Sand is blown into the core box, which is heated by two natural gas manifolds. The target temperature is 500°F.	FGMOLDCORE
EUHEATTREAT1	Natural gas-fired heat-treating furnace with maximum heat input capacity of 1,000,000 BTU/hr and associated water-based and oil-based quenching located in the Main Building. Emissions are controlled by Baghouse #2.	FGHEATTREAT
EUHEATTREAT2	Natural gas-fired heat-treating furnace with maximum heat input capacity of 750,000 BTU/hr and associated water-based and oil-based quenching located in the Main Building. Emissions are controlled by Baghouse #2.	FGHEATTREAT
EUHEATTREAT3	Electric heat-treating furnace with maximum heat input capacity of 250,000 BTU/hr and associated water-based and oil-based quenching located in the Metal Building.	FGHEATTREAT
EUHEATTREAT4	Natural gas-fired heat-treating furnace with maximum heat input capacity of 1,000,000 BTU/hr and associated water-based and oil-based quenching located in the Metal Building.	FGHEATTREAT

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUFINISHING
EMISSION UNIT CONDITIONS

DESCRIPTION

Various finishing and cleaning processes in the Main Building and Metal Building, including grinding and cutting. Emissions from the east side of the Main Building are controlled by Baghouse #1.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse #1 controls emissions on the east side of the Main Building from finishing.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUFINISHING unless a malfunction abatement plan (MAP) as described in Rule 911(2), for baghouse #1, has been submitted within 90 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 336.1225, R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

2. The permittee shall not operate EUFINISHING unless a pressure drop between 0.5 to 6.0 inches water column across the baghouse filter is maintained. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUFINISHING unless baghouse #1 is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the pressure drop across the baghouse associated with EUFINISHING at least once per week. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

2. The permittee shall keep a record of all inspections and maintenance performed on baghouse #1, in accordance with the MAP. The permittee shall maintain this record on site and make it available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBH1*	24	35	R 336.1225, 40 CFR 52.21(c) and (d)
*The stack requirements apply on and after July 31st, 2021.			

IX. OTHER REQUIREMENT(S)

NA

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFOUNDRY	Four (4) coreless induction tilt-furnaces used to produce various steel, stainless steel, aluminum alloys, with a pouring line, cooling, and manual shakeout operations. Emissions from the furnaces are in-plant, with 3 general exhaust fans nearby overhead (SVFAN1, SVFAN2, SVFAN3). Pouring, cooling, and shakeout emissions to be enclosed in a new building and exhausted out a new stack (SVSTACK1).	EUINDUCTIONA, EUINDUCTIONB, EUINDUCTIONC, EUINDUCTIOND, EUPOURING, EUCOOLING, EUSHAKEOUT
FGMOLDCORE	Sand premixed with chemical binder (resin coated sand, or RCS) is used to make molds. There are 7 molding machines, a hand-molding operation, and 7 core machines. The molding area of the plant is exhausted through 3 overhead general exhaust fans (SVFAN1, SVFAN2, SVFAN3).	EUMOLD1, EUMOLD2, EUMOLD3, EUMOLD4, EUMOLD5, EUMOLD6, EUMOLD7, EUHANDMOLD, EUCORE1, EUCORE2, EUCORE3, EUCORE4, EUCORE5, EUCORE6, EUCORE7
FGHEATTREAT	Four (4) heat treating furnaces and associated water-based and oil-based quenching operations. EUHEATTREAT1 and EUHEATTREAT2 are located in the Main Building and associated with Baghouse #2. EUHEATTREAT3 and EUHEATTREAT4 are located in the Metal Building.	EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4
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 an existing small foundry as defined by 40 CFR Part 63 Subpart ZZZZZ.	NA

FGFOUNDRY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Four coreless induction tilt-furnaces used to produce various steel, stainless steel, aluminum alloys, with a pouring line, cooling, and manual shakeout operations. Emissions from the furnaces are in-plant, with three general exhaust fans nearby overhead (SVFAN1, SVFAN2, SVFAN3). Pouring, cooling, and shakeout emissions to be enclosed in a building and exhausted out a new stack (SVSTACK1).

Emission Unit: EUINDUCTIONA, EUINDUCTIONB, EUINDUCTIONC, EUINDUCTIOND, EUPOURING, EUCOOLING, EUSHAKEOUT

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Metal charged to furnaces	1675 tons per year	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d)
2. 0030 Steel poured	81 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
3. 090 Steel poured	130.5 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
4. 1025 Steel poured	36 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
5. 1030 Steel poured	9 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
6. 1040 Steel poured	18 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
7. 1045 Steel poured	207 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
8. 1524 Steel poured	126 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
9. 3137 Steel poured	18 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
10. 4140 Steel poured	252 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
11. 8630 Steel poured	216 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
12. 8635 Steel poured	40.5 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
13. 8640 Steel poured	65.25 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
14. 356T6 Aluminum poured	4.9 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
15. Almag 35 Aluminum poured	2.45 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
16. Armor Steel poured	27 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
17. AusMn Steel poured	90 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
18. C I Steel poured	135 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
19. CuMn Steel poured	9 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
20. D I Steel poured	22.5 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
21. Spring Steel poured	22.5 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225
22. WCB Steel poured	162 tons per year [1]	12-month rolling time period as determined at the end of each calendar month	FGFOUNDRY	SC VI.3	R 336.1224, R 336.1225

23. The permittee shall not melt alloys other than the following in FGFOUNDRY:[1] **(R 336.1224, R 336.1225)**

0030 Steel	3137 Steel	Armor Steel
090 Steel	4140 Steel	AusMn Steel
1025 Steel	8630 Steel	C I Steel
1030 Steel	8635 Steel	CuMn Steel
1040 Steel	8640 Steel	D I Steel
1045 Steel	356T6 Aluminum	Spring Steel
1524 Steel	Almag 35 Aluminum	WCB Steel

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate more than one melting furnace simultaneously. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

2. The permittee shall not charge EUINDUCTIONA with more than 4,500 lbs of metal per heat. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

3. The permittee shall not charge EUINDUCTIONB with more than 4,500 lbs of metal per heat. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

4. The permittee shall not charge EUINDUCTIONC with more than 2,200 lbs of metal per heat. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

5. The permittee shall not charge EUINDUCTIOND with more than 1,100 lbs of metal per heat. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

6. On and after July 31st, 2021, all operations of FGFOUNDRY shall take place inside an enclosed building. **(R 336.1225, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the total weight of metal added to the furnace for each heat, and the type of alloy poured for each heat. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

2. The permittee shall monitor and record, in a satisfactory manner, the hours of operation for each furnace, in order to demonstrate compliance with SC III.1. **(R 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

3. The permittee shall keep records, in a satisfactory manner, of the total amount of each alloy poured from the furnaces of FGFOUNDRY, and the total amount of all metals added to the furnaces of FGFOUNDRY, on a monthly and 12-month rolling time period basis. The calculations shall be completed by the end of the month, for the previous month and 12-month rolling time period. 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 336.1224, R 336.1225, 40 CFR 52.21(c) and (d))**

VII. REPORTING

1. Within 30 days after completion of the construction project to enclose all emission units of FGFOUNDRY in a building, the permittee shall notify the AQD District Supervisor, in writing, of the completion of the activity. **(R 336.1225, 40 CFR 52.21(c) and (d))**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVFAN1*	12	40	R 336.1225, 40 CFR 52.21(c) and (d)
2. SVFAN2*	6	40	R 336.1225, 40 CFR 52.21(c) and (d)
3. SVFAN3*	6	40	R 336.1225, 40 CFR 52.21(c) and (d)
4. SVSTACK1*	16	50	R 336.1225, 40 CFR 52.21(c) and (d)
*The stack requirements apply on and after July 31st, 2021.			

IX. OTHER REQUIREMENT(S)

NA

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

FGMOLDCORE
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Sand premixed with chemical binder (resin coated sand, or RCS) is used to make molds. This includes seven molding machines, a hand-molding operation, and seven core machines. The molding area of the plant is exhausted through three overhead general exhaust fans (SVFAN1, SVFAN2, SVFAN3).

Emission Unit: EUMOLD1, EUMOLD2, EUMOLD3, EUMOLD4, EUMOLD5, EUMOLD6, EUMOLD7, EUHANDMOLD, EUCORE1, EUCORE2, EUCORE3, EUCORE4, EUCORE5, EUCORE6, EUCORE7

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. RCS used	1,508 tons per year	12-month rolling time period as determined at the end of each calendar month	FGMOLDCORE	SC VI.1	R 336.1224, R 336.1225, R 336.1702(a)

2. The permittee shall not use any fuel other than natural gas in FGMOLDCORE. **(R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum nameplate heat input of the emission units in FGMOLDCORE shall not exceed the following: **(R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) and (d))**
   a) EUMOLD1 750,000 BTU/hr
   b) EUMOLD2 750,000 BTU/hr
   c) EUMOLD3 2,000,000 BTU/hr
   d) EUMOLD4 1,250,000 BTU/hr
   e) EUMOLD5 750,000 BTU/hr
   f) EUMOLD6 750,000 BTU/hr
   g) EUMOLD7 750,000 BTU/hr
   h) EUHANDMOLD 250,000 BTU/hr
   i) EUCORE1 150,000 BTU/hr
   j) EUCORE2 250,000 BTU/hr
   k) EUCORE3 150,000 BTU/hr
   l) EUCORE4 250,000 BTU/hr
   m) EUCORE5 250,000 BTU/hr
   n) EUCORE6 150,000 BTU/hr
   o) EUCORE7 750,000 BTU/hr

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 monitor and record, in a satisfactory manner, the amount of RCS used in FGMOLDCORE, on a monthly and 12-month rolling time period basis. The calculations shall be completed by the end of the month, for the previous month and 12-month rolling time period. 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 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVFAN1*	12	40	R 336.1225, 40 CFR 52.21(c) and (d)
2. SVFAN2*	6	40	R 336.1225, 40 CFR 52.21(c) and (d)
3. SVFAN3*	6	40	R 336.1225, 40 CFR 52.21(c) and (d)
*The stack requirements apply on and after July 31st, 2021.			

IX. OTHER REQUIREMENT(S)

NA

FGHEATTREAT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Four heat treating furnaces and associated water-based and oil-based quenching operations. EUHEATTREAT1 and EUHEATTREAT2 are located in the Main Building and associated with Baghouse #2. EUHEATTREAT3 and EUHEATTREAT4 are located in the Metal Building.

Emission Unit: EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4

POLLUTION CONTROL EQUIPMENT

Baghouse #2 controls emissions on the west side of the Main Building associated with EUHEATTREAT1 AND EUHEATTREAT2.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Quench oil*	55 gal/year	12-month rolling time period as determined at the end of each calendar month	FGHEATTREAT	SC VI.2	R 336.1225, R 336.1702(a)
*The quench oil usage is defined as the amount of quench oil added to bring the quench oil levels up to starting levels less any amount of quench oil reclaimed, disposed of, or spilled and cleaned up.					

2. The permittee shall not combust any fuel other than natural gas in FGMOLDCORE. **(R 336.1225, R 336.1702(a), 40 CFR 52.21(c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUHEATTREAT1 or EUHEATTREAT2 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for baghouse #2, has been submitted within 90 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 336.1225, R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**

2. The permittee shall not operate EUHEATTREAT1 or EUHEATTREAT2 unless a pressure drop between 0.5 to 6.0 inches water column across the baghouse filter is maintained. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUHEATTREAT1 or EUHEATTREAT2 unless baghouse #2 is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

2. The maximum nameplate heat input of the emission units in FGHEATTREAT shall not exceed the following: **(R 336.1225, R 336.1702(a), 40 CFR 52.21(c) and (d))**
   a) EUHEATTREAT1 1,000,000 BTU/hr
   b) EUHEATTREAT2 750,000 BTU/hr
   c) EUHEATTREAT3 250,000 BTU/hr
   d) EUHEATTREAT4 1,000,000 BTU/hr

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each quench oil, 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 336.1225, R 336.1702(a))**

2. The permittee shall monitor and record, in a satisfactory manner, the amount of quench oil used in FGHEATTREAT, on a monthly and 12-month rolling time period basis. The records shall be completed by the end of the month, for the previous month and 12-month rolling time period. 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 336.1225, R 336.1702(a))**

3. The permittee shall monitor and record, in a satisfactory manner, the pressure drop across the baghouse #2 at least once per week. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

4. The permittee shall keep a record of all inspections and maintenance performed on baghouse #2, in accordance with the MAP. The permittee shall maintain this record on site and make it available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, 40 CFR 52.21)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBH2*	10	35	R 336.1225, 40 CFR 52.21(c) and (d)
*The stack requirements apply on and after July 31st, 2021.			

IX. OTHER REQUIREMENT(S)

NA

FGMACTZZZZZ
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

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

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

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 RESTRICTION(S)

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 PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. 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))**

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).
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 RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

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