June 21, 2018

Pacific Steel Casting Company LLC
1333 2nd Street
Berkeley, CA 94710

Attention: Jorge Costa, General Manager

Application Number: 14029
Plant Number: 22605
Equipment Location:
1328 2nd Street
Berkeley, CA 94710

Dear Applicant:

SUBJECT: ISSUANCE OF SYNTHETIC MINOR OPERATING PERMIT

This letter is to advise you that your application for a revision to the Synthetic Minor Operating Permit for the following facility has been approved:

**Site # E2605 Pacific Steel Casting Company LLC**

The facility described above is subject to Conditions 20207, 24547, 24548, and 24466.

Please include your permit number with any correspondence with the District. If you have any questions regarding this matter, please call **Nicholas Maiden, Principal Air Quality Engineer at (415) 749-4718**.

Very truly yours,

Jack P. Broadbent
Executive Officer/Air Pollution Control Officer

by Signed by Pamela J. Leong
Pamela J. Leong, Director of Engineering

NCM:DTJ
Enclosure

**Plant Name: Pacific Steel Casting Company LLC**
**Synthetic Minor Operating Permit**
**Condition No. 20207 Plant No. 22605 Application No. 14029**

Pacific Steel Casting (PSC) Plants 1, 2, and 3 (collectively District Plant # 22605), have a synthetic minor operating permit (SMOP). This SMOP covers all sources at the facility as of the date of permit issuance.

These conditions establish the permit terms that ensure this plant is classified as a Synthetic Minor Facility under District Regulation 2, Rule 6 - Major Facility Review and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. All applications submitted by the applicant and all modifications to the facility's equipment after issuance of this SMOP must be evaluated to ensure that the facility will not exceed the synthetic minor operating permit limits below and that sufficient monitoring, recordkeeping, and reporting requirements are imposed to ensure enforceability of the limits.

Any revision to a condition establishing this facility's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a Synthetic Minor must undergo the procedures specified by Rule 2-6, Section 423. The basis for the synthetic minor conditions is an emission limit for each regulated air pollutant of less than 90 tons per year at the facility, an emission limit for a single hazardous air pollutant of less than 9 tons per year at the facility, and an emission limit for a combination of hazardous air pollutants of less than 23 tons per year at the facility.

The District's SMOP contains adequate monitoring to enable the District to verify compliance with the SMOP emissions limits.

Pacific Steel Casting is considered a synthetic minor source for the CO, PM10, PM2.5, VOC and SO2 and a natural minor source for NOx and HAPs.

## 1. General Conditions

1.1 For purposes of this permit, the permitted source consists of the following equipment and/or activities. The information in this table is for descriptive purposes only.

The permitted sources (S-#) at Plant 1 on the date of issuance of this synthetic minor permit are:

1001 ARC FURNACE
1002 POUR-OFF AREA
1003 B SHAKE OUT (DUST COLLECTION)
1004 A SHAKE OUT (DUST COLLECTION)
1005 SAND SYSTEM (DUST COLLECTION)W/WHIRL AIR FLOW SYSTEM
1006 SAND COOLER,6 SCREEN,W/MOLD RELEASE COATING OPERATION
1007 SAND SCREEN
1008 MULLER
1010 MULLER, CORE SAND
1011 MULLER
1012 CLEANING & GRINDING DEPT.
1013 ARC-AIR BOOTH
1014 ARC-AIR BOOTH
1015 PANGBORN TABLE BLAST
1016 ROTO-BLAST

1017 ROTOBLAST
1018 HEAT TREATING FURNACES
1019 RAW SAND RECEIVING
1022 CORE BAKE OVENS
1027 Core-Making Operation
32001 MINOR SOURCES

The permitted abatement devices (A-#) at Plant 1 on the date of issuance of this synthetic minor permit are:

1001 BAGHOUSE # 1
1002 BAGHOUSE # 2
1003 BAGHOUSE # 3
1004 BAGHOUSE # 4
1006 BAGHOUSE # 5A
1007 CARBON ADSORPTION SYSTEM
1008 BAGHOUSE, CARTRIDGE
1009 BAGHOUSE
1010 BAGHOUSE CORE SAND # 9

The permitted sources (S-#) at Plant 2 on the date of issuance of this synthetic minor permit are:

2001 SAND SILO LOADING ELEVATOR
2002 SAND SILO #1
2003 SAND SILO #2
2004 BUCKET ELEVATOR
2005 RESIN TANK (LIQUI-BIN)
2006 SAND HEATER
2007 SAND COATING
2008 COATED SAND PUG MILL
2009 COATED SAND VIBRATING SCREEN
2010 BUCKET ELEVATOR
2011 COOLING TOWER, COATED SAND
2012 BUCKET ELEVATOR
2013 CORE MOLDING MACHINE [EXEMPT]
2014 CORE MOLDING MACHINE [EXEMPT]
2015 CORE MOLDING MACHINE [EXEMPT]
2016 CORE MOLDING MACHINE [EXEMPT]
2017 CORE MOLDING MACHINE [EXEMPT]
2018 CORE MOLDING MACHINE [EXEMPT]
2019 COATED SAND BIN
2020 SHELL MOLDING MACHINE, SINGLE [EXEMPT]
2021 SHELL MOLDING MACHINE, TWIN [EXEMPT]

2022 SHELL MOLDING MACHINE, TWIN [EXEMPT]
2023 SHELL MOLDING MACHINE, TWIN [EXEMPT]
2024 SHELL MOLDING MACHINE, SINGLE [EXEMPT]
2025 ABRASIVE BLASTER, CORE AREA [EXEMPT]
2026 LARGE LADLE HEATER
2027 ELECTRIC ARC FURNACE
2028 EAF LADLE STATION W/CANOPY HOOD
2029 SHELL MOLD POURING STATION
2030 CAST MOLD COOLING ROOM
2031 SHAKEOUT & TRAY SANDING
2032 ROTOBLAST
2033 ABRASIVE CUT-OFF SAW [EXEMPT]
2034 ABRASIVE CUT OFF SAW [EXEMPT]
2035 ABRASIVE CUT-OFF SAW [EXEMPT]
2036 ABRASIVE CUT-OFF SAW [EXEMPT]
2037 GRINDER [EXEMPT]
2038 GRINDER [EXEMPT]
2039 GRINDER [EXEMPT]
2040 GRINDER [EXEMPT]
2044 SAND STORAGE SILO
2045 LUMP BREAKER
2046 FLOW BIN (REJECTED MATERIAL)
2047 SAND COOLER/AIR BED #1 (C-1)
2048 MATERIAL HANDLING EQUIPMENT (3 HOPPERS,3 BUCKET ELEVS, ONE TRUCK
2049 (R-1), THERMAL RECYCLING UNIT (SAND RECLAMATION)
32000 MISCELLANEOUS MINOR SOURCES [EXEMPT]

The permitted abatement devices (A-#) at Plant 2 on the date of issuance of this synthetic minor permit are:

2001 BAGHOUSE # 1
2002 BAGHOUSE # 2
2003 BAGHOUSE # 3
2004 BAGHOUSE # 4
2005 BAGHOUSE # 5
2006 BAG FILTER
2007 CARBON ADSORPTION SYSTEM
2010 PULSE JET BAG HOUSE DUST COLLECTOR

The permitted sources (S-#) at Plant 3 on the date of issuance of this synthetic minor permit are:

3001 ELECTRIC ARC FURNACE
3002 LADLE HEATER [EXEMPT]

3004 CASTING MOLD SHAKE OUT STATION
3005 BLAST TABLE
3006 TUMBLE BLAST
3007 NEW SAND SILO #1
3009 SAND COOLER CLASSIFIER
3010 SAND CONDITIONING UNIT #1
3011 SAND CONDITIONING UNIT #2
3012 RETURN SAND BIN #1
3013 RECLAIMED SAND BIN #2
3014 MIXER SAND BIN
3015 NEW SAND RECEIVING BUCKET ELEVATOR #1
3016 BUCKET ELEVATOR #2 RETURNED SAND
3017 BUCKET ELEVATOR #3 RECLAIMED SAND
3018 MOLD COATING OPERATION
3019 POURING AND COOLING
3020 HOLCOTE 578 CCD COATING

The permitted abatement devices (A-#) at Plant 3 on the date of issuance of this synthetic minor permit are:

3001 EAF BAGHOUSE
3002 CLEANING ROOM BAGHOUSE # 1
3003 SHAKE OUT BAGHOUSE # 1
3004 SAND SYSTEM BAGHOUSE
3005 MIXER SAND BIN DUST FILTER
3006 CLEANING ROOM BAGHOUSE # 2
3007 SHAKEOUT BAGHOUSE # 2
3008 CARBON ADSORPTION SYSTEM & DUCTING

1.2 The owner/operator shall comply with Conditions 24466 (Plant 1), 24548 (Plant 2), and 24547 (Plant 3) at all times of operation. Condition 20207, 24466, 24547, and 24548 constitute the Synthetic Minor Operating Permit for the facility and a violation of any part of Conditions 20207, 24466, 24548, or 24547 shall be considered a violation of the Synthetic Minor Operating Permit.
[Basis: Regulation 2-6-423]

**2. Acronyms, Abbreviations, Definitions & Units**

For the purposes of these SMOP conditions, the following terms have the following meanings:

"**facility**" shall mean and comprise Plants 1, 2, and 3;

"**owner/operator**" shall mean the owner or operator of the facility;

"**operations**" shall mean and include material handling, mixing, mold making activities, melting, pouring, cooling, shakeout, grinding, and sand recycling;

"**operational hour**s" shall mean those periods of time during which material handling, mixing, mold making activities, melting, pouring, cooling, or shakeout operations are taking place at a facility plant;

"**cooling operations**" shall mean the period of time commencing with the pouring of casting and concluding with the commencement of shakeout operations at a plant;

"**shakeout operations**" shall mean the period of time commencing with any separation of the casting from the mold and ends with a complete removal of the casting from the shakeout station with all of the sand from the mold contained in the shakeout operation;

"**carbon cycle**" at a plant shall mean the commencement of carbon adsorption system operation with a fresh batch of carbon through the last day of operation with that same batch of carbon.

"**maintain**" shall mean maintain and keep in good repair at all times.

"**District-approved**" shall mean the following depending on the context:

- **"source tests"** shall mean source tests that met the requirements of these conditions and of District Manual of Procedures Volume IV (Source Test Policy and Procedures) using EPA-approved source test methods

- **"source test results**" shall mean results from a District-approved source test that have been reviewed and approved by the District's Source Test Section and Engineering Division

- **"corrective action**" shall mean an action that brings the facility into compliance with an associated requirement and that has been reviewed and approved by the District's Enforcement Division. Such an action shall identify and eliminate the cause(s) of the non-complying occurrence to prevent recurrence.

- **"instrument**" shall mean a device capable of detecting and measuring air velocity with a minimum resolution of one foot per minute that is properly operated and maintained according to manufacturer specifications. Such a device shall be reviewed and approved by the District's Enforcement Division.

- "**FID**" shall mean a flame ionization device that meets the requirements listed in EPA Performance Specification 8A as well as the District's Manual of Procedures Volume V (Continuous Emission Monitoring Policy and Procedures) and that has been reviewed and approved by the District's Source Test Section and Engineering Division.

- "**broken bag device**" shall mean a device that satisfies the requirements of Title 40 CFR Part 60 Subpart AA and that has been reviewed and approved by the District's Source Test Section and Enforcement and Engineering Divisions.

- "**alternative continuous monitoring and recording device**" shall mean a device that is functionally equivalent to the in lieu of device and has equivalent or superior specifications regarding data quality capture, recording, and assurance that is reviewed and approved by the District's Enforcement, Engineering, and Technical Divisions.

- "**alternative continuous parametric emissions monitoring system**" shall mean a device that continuously measures process parameters and uses a computer model to estimate emissions based on the parameters measured. Used as an equivalent to direct measurement of emissions.

- "**log**" or "**logbook**" shall mean a physical or electronic record that captures the required information in the frequency specified (e.g. daily, monthly, quarterly) in a format approved by the District's Enforcement and/or Engineering Division. At a minimum, the record shall include the date of entry, source number(s) and description(s), required information, and name of the person recording the information. If in electronic form, the record shall include a mechanism for preventing editing after a record has been entered.

- "**report**" shall mean a standardized document that includes the requested information in a format reviewed and approved by the District's Enforcement and Engineering Divisions. At a minimum, the report should include the requested information in the frequency specified (e.g. daily, monthly, etc.) as well as the listing the name and title of the facility personnel responsible for the accuracy of the report.

- "**emission factors**" shall mean emission factors calculated per the requirements of this condition and that have been reviewed and approved by the District's Enforcement and Engineering Divisions

For the purposes of this SMOP, if two or more carbon beds together abate one or more sources, the carbon beds together constitute a "carbon adsorption system." If a single carbon bed abates a specific source or sources exclusively, that carbon bed constitutes a "carbon adsorption system" for the source or sources. The carbon adsorption systems at the facility are A-1007 at Plant 1, A-2007 at Plant 2, and A-3008 at Plant 3. Unless a permit condition refers to a specific carbon adsorption system at one of the plants, a reference to a carbon adsorption system means and applies to all of the carbon adsorption systems.

## 3. Emission Limits and Work Practice Requirements

3.1 At all times, including periods of startup, shutdown, maintenance and malfunction, the owner/operator shall, to the extent practicable, maintain and operate each source, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions and considering the manufacturer's recommended operating procedures. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the District, which may include but is not limited to, monitoring results, review of operating and maintenance procedures and inspection of the source.
[Basis: Regulation 2-6-423, 2-1-403, Synthetic Minor]

3.2 The owner/operator shall not allow the facility to exceed any of the following emission limits in any consecutive 12-month period:

a. 90 tons of any regulated air pollutant including, but not limited to: precursor organic compounds (POC), carbon monoxide (CO), particulate matter less than 10 microns ($PM_{10}$), sulfur dioxide ($SO_2$), and oxides of nitrogen ($NO_X$), but not including hazardous air pollutants (HAPs);
b. 9 tons of any single HAP, and
c. 23 tons of any combination of HAPs.

The emission limits listed above apply to emissions from all equipment covered by the permit, including emissions during startup periods, shutdown periods, and during periods of malfunction or upset.
[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

3.3 The owner/operator shall not allow the facility to exceed any of the throughputs, emissions factors, and/or emissions specified in these SMOP conditions as well as SMOP Conditions 24466 (Plant 1), 24548 (Plant 2), and 24547 (Plant 3). All data and assumptions contained in this part as well as Conditions 24466, 24547, and 24548 shall be considered enforceable limits. The compliance demonstration for the emissions limits listed in Part 3.2 shall include emissions from all equipment covered by the permit, including emissions during startup periods, shutdown periods, and periods of malfunction or upset.
[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

EMISSION CALCULATIONS

3.4 To demonstrate compliance with the criteria pollutant emissions limits in Parts 3.2 and 3.3, the owner/operator shall determine the facility rolling 12-month emissions by calculating the emissions (tons/month) for each source for each month and adding the emissions for the previous eleven months. The owner/operator shall determine monthly emissions (tons/month) for each source by using the following equations:

a. For sources, other than S-2005, with emission factors in units of lbs per gallon, the owner/operator shall calculate pre-control emissions using the following equation:

Pre-Control Monthly Emissions (tons/month) = $[\sum_{i=1}^{n}(Vol_i) \times (D_i) \times (W_i)]/2000$

where:

| | |
|---|---|
| $Vol_i$ used | = monthly volume (gallon/month) of each coating, sealant, solvent and ink |
| $D_i$ | = density (lb/gallon) of each coating, sealant, solvent and ink |
| $W_i$ | = mass fraction (lb/lb) of pollutant in each coating, sealant, solvent and ink |
| n | = number of coatings, sealants, solvents and inks used each month |

b. For Source 2005 (Resin Tank), the owner/operator shall calculate emissions using the equations listed in EPA's AP 42, Fifth Edition, Volume 1, Section 7.1 (Organic Liquid Storage Tanks), Subsection 7.1.3.1 (Total Losses From Fixed Roof Tanks), dated November 2006.

c. For sources with emission factors in units of lbs per therm, the owner/operator shall calculate pre-control emissions using the following equation:

Pre-Control Monthly Emissions (tons/month) = [(NG) x (HHV) x (0.00001) x (EF)]/2000

where:

| | |
|---|---|
| NG | = scf of natural gas combusted in source each month |
| HHV | = higher heating value for natural gas (assume 1020 unless measured) |
| 0.00001 | = conversion factor (1 therm/100,000 Btu) |
| EF | = pollutant emission factor (lbs/therm) |

d. For sources with emission factors in units of lbs per ton of steel or lbs per ton of sand, the owner/operator shall calculate pre-control emissions using the following equation:

Pre-Control Monthly Emissions (tons/month) = [(Throughput) x (EF)]/2000
where:
Throughput = monthly throughput (tons sand or steel)
EF = pollutant emission factor (lbs/ton sand or steel)

e. For sources where THC emissions are continuously measured using a flame ionization device (FID), the owner/operator shall calculate emissions using the following equation:

Emissions (tons) = [(PPM/1,000,000) x (MM/MV) x (DCFM) x (MIN)]/2000
where:
PPM = total hydrocarbons concentration (parts per million)
MM = molar mass (lb/lb-mol), assume 12 (for carbon) unless otherwise measured
MV = molar volume (cubic feet/lb-mol), use 386 (21 deg Celsius, 14.7 psia)
DCFM = exhaust flow rate (dry standard cubic feet per minute at 21 deg Celsius, 14.7 psia)
MIN = number of minutes between FID measurements

During periods where a FID has malfunctioned, the owner/operator shall substitute the PPM reading in the above equation using the following procedure based on data availability:

| Data Availability | Substitution Procedure |
|---|---|
| > 90 percent | Use average of the hour before and hour after missing period |
| < 90 percent | Maximum recorded during previous 720 quality-assured monitor operating hours |

f. For sources where emissions of a pollutant are not controlled, the emissions shall be the "pre-control emissions" calculated using an equation per parts a through e. For sources where emissions of a pollutant are controlled, the owner/operator shall calculate total emissions (post-control and fugitive) of that pollutant from a source using the following equations:

Total Monthly Emissions = Post-Control Emissions + Fugitive Emissions

Post-Control Emissions = (CAP) x (1 – CF) x Pre-Control Emissions
Fugitive Emissions = (1 – CAP) x Pre-Control Emissions
where:
CAP = Capture Efficiency (Percentage/100)
CF = Control Efficiency (Percentage/100)

g. For sources that have emission factors in more than one units (e.g. lbs/gallon and lbs/ton sand or lb/ton steel), the owner/operator shall calculate emissions using all applicable emission factors and sum them to determine the total emissions for the source.

h. For total facility emissions, the owner/operator shall calculate total facility emissions (tons/month) by summing all individual source emissions (tons/month).

[Basis: 2-6-423, 2-1-403, Synthetic Minor]

EMISSION FACTORS

3.5 For sources where emissions are calculated using an emission factor per Part 3.4, the owner/operator shall calculate emissions using the emission factors listed in Conditions 24466 (Plant # 1 sources), 24547 (Plant # 3 sources), and 24548 (Plant # 2 sources) or emission factors derived from periodic source tests or emissions monitoring for each pollutant.

a. For sources with emission factors in units of lbs per therm, the owner/operator shall derive an emission factor from District-approved source test results using the following equation:

Emission Factor (lbs/therm) = [(ER) x (100,000)]/[(NG) x (HHV)]
where:

| | |
|---|---|
| ER | = average emission rate (lbs/hour) during source test |
| NG | = average amount (scf) of natural gas combusted per hour during source test |
| HHV | = higher heating value for natural gas (assume 1020 unless measured) |
| 100,000 | = conversion factor (100,000 Btu/therm) |

b. For sources with emission factors in units of lbs per ton of steel or lbs per ton of sand, the owner/operator shall derive an emission factor from District-approved source test results using the following equation:

Emission Factor (lbs/ton sand or steel) = (ER)/(Throughput)
where:

| | |
|---|---|
| ER | = average emission rate (lbs/hour) during source test |
| Throughput | = average throughput (tons sand or steel) per hour during source test |

[Basis: 2-6-423, 2-1-403]

CARBON ABATEMENT

3.6 The owner/operator shall properly maintain all carbon adsorption systems and keep all the carbon adsorption systems in good repair at all times in accordance with the manufacturer's specifications and in a manner to assure that both the carbon adsorption systems and the abated sources remain in compliance with this SMOP.
[Basis: Cumulative Increase, Regulation 2-1-403]

3.7 Within 30 days of the issuance of this SMOP and until installation of flame ionization detectors (FIDs) at each carbon adsorption system (pursuant to Part 4.2 below), the owner/operator shall operate the carbon adsorption systems at A-1007 at Plant 1 and A-2007 at Plant 2 in a manner to prevent carbon breakthrough as defined in this Part 3.7.

a. If carbon breakthrough occurs at one of the carbon adsorption systems, the owner/operator shall cease all mixing, pouring, and/or shakeout operations at the respective plant where carbon breakthrough has occurred, until the carbon is replaced in accordance with Part 3.7b.

b. The owner/operator shall replace all carbon at that carbon adsorption system with fresh carbon no later than 24 hours after carbon breakthrough has occurred. If the owner/operator has poured a mold less than 24 hours after carbon breakthrough, then the owner/operator shall continue to abate the cooling operation for a minimum of 24 hours from the time of the last pour. Abatement shall continue until carbon replacement.

For purposes of this Part 3.7 only, "carbon breakthrough" shall be defined as not achieving a minimum control efficiency of 88.0 percent by weight as determined by daily hydrocarbon sampling (per Part 4.4) at each carbon adsorption system at all times the system is in operation. The "carbon cycle" shall be defined as the period from installation of a fresh load of carbon at the carbon adsorption system until carbon breakthrough.

[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

3.8 The owner/operator shall properly operate A-3008 at Plant 3 at all times during any mixing, pouring, cooling, and/or shakeout operations at S-3019 Pouring and Cooling Area, S-3004 Shakeout Station, and/or S-3014 Mixer. If carbon breakthrough, as defined below, occurs at A-3008, the owner/operator shall cease immediately all mixing, pouring and shakeout operations at Plant 3. The owner/operator shall replace all carbon in A-3008 at Plant 3 with fresh carbon no later than 24 hours after carbon breakthrough has occurred as defined below. If a pouring operation has occurred within the previous 24 hours of carbon breakthrough, the owner/operator shall not replace the carbon until A-3008 has abated the emissions from the cooling molds/castings for at least 24 hours from the time of the last pour. Abatement shall continue until carbon replacement.

For the purposes of this SMOP "carbon breakthrough" for A-3008 at Plant 3 occurs when any one of the following conditions exists at A-3008:

i. the inlet total hydrocarbon (THC) loading is greater than or equal to 220 pounds per calendar day, the abatement efficiency is less than 88.0 % by weight averaged over the twenty-four period of each calendar day, and the inlet cumulative THC loading is greater than or equal to 5,640 pounds, or

ii. the inlet THC loading is less than 220 pounds per calendar day, the outlet THC emissions are greater than or equal to 55 pounds per calendar day, and the inlet cumulative THC loading is greater than or equal to 5,640 pounds.

The owner/operator shall not exceed an inlet THC loading that measures or exceeds 15,000 pounds.

[Basis: Regulations 2-6-423, 2-1-403, 7, 1-301, Cumulative Increase]

3.9 The owner/operator of the facility's FID systems shall:

a. Properly maintain the FID systems and keep the FID systems in good repair;

b. Repair FID monitors expeditiously, which shall be no later than 24 hours after discovery of a FID-related malfunction;

c. Calibrate each FID at least once on each day of operation of the respective carbon adsorption system and re-calibrate each FID following its repair or maintenance;

d. Maintain monitors to be accurate within 20 percent when compared with a reference test method or within 10 percent of the applicable standard including the limits contained within these conditions;

e. Replace or clean FID system tubing during carbon change-out of the FID's respective carbon adsorption system in order to minimize FID system bias; and

f. Establish FID system bias weekly using hydrocarbon-free air or zero gas introduced to the probe tip. The system bias shall be used until the next system bias is determined. The owner/operator shall maintain the system bias to less than 30 ppmv THC as C1.

g. Use data substation for periods where a FID has malfunction.

[Basis: Regulations 1-523, 2-6-423, 2-1-403, 7, 1-301, Cumulative Increase]

3.10 The owner/operator shall properly operate A-1007 at Plant 1 at all times during the operation of any or all of S-1002 Pour Off Area, including cooling operations; S-1003 B Shakeout; S-1004 A Shakeout; A-1001 Baghouse; and A-1008 Baghouse. If carbon breakthrough, as defined below occurs at A-1007, the owner/operator shall cease immediately all pouring and shakeout operations at Plant 1. Furthermore, the owner/operator shall replace all carbon in A-1007 at Plant 1 with fresh carbon no later than 24 hours after carbon breakthrough has occurred as defined below, unless a pouring operation has occurred within the previous 24 hours. Molds/casts that are cooling, while breakthrough has occurred shall continue to be abated for at least 24 hours from the time of the last pour prior to the carbon change out. Abatement shall continue until carbon replacement.

Breakthrough definition will be determined within permit applications required to be submitted as specified in Part 5.6.

[Basis: Regulations 2-6-423, 2-1-403, 7, 1-301, Cumulative Increase]

3.11 The owner/operator shall properly operate A-2007 at Plant 2 at all times during the operation of any or all of S-2022, S-2023, S-2026, S-2029, S-2030, S-2031, S-2032, A-2001, and A-2002. If carbon breakthrough, as defined below, occurs at A-2007, the owner/operator shall cease immediately all pouring and shakeout at Plant 2. Furthermore, the owner/operator shall replace all carbon in A-2007 at Plant 2 with fresh carbon no later than 24 hours after carbon breakthrough has occurred as defined below, unless a pouring operation has occurred within the previous 24 hours. Molds/casts that are cooling, while breakthrough has occurred shall continue to be abated for at least 24 hours from the time of the last pour prior to the carbon change out. Abatement shall continue until carbon replacement.

Breakthrough definition will be determined within applications required to be submitted as specified in Part 5.6

[Basis: Regulations 2-6-423, 2-1-403, 7, 1-301, Cumulative Increase]

3.12 The owner/operator shall operate each carbon adsorption system (A-1007, A-2007, A-3008) to achieve a "minimum control efficiency," of at least 90.5% by weight on a carbon cycle basis. For the purposes of this SMOP, a carbon cycle commences on the date of installation of a load of "fresh" carbon at the carbon adsorption system through the date of removal of that load as "spent" carbon. The owner/operator shall demonstrate compliance with the "minimum control efficiency" through the use of the FID data on each carbon adsorption system's inlet and outlet concentration measurements and verified on a carbon cycle basis. If the owner/operator discovers that a carbon adsorption system has failed to meet the "minimum control efficiency," the owner/operator shall report the non-compliance in accordance with Part 5.13.

[Basis: Regulations 2-6-423, 2-1-403, 2-5]

3.13 The owner/operator shall have on-site a full replacement load of fresh carbon for carbon change out at A-1007, A-2007, or A-3008 no later than five business days following carbon replacement at A-1007, A-2007, or A-3008.

The following is considered full replacement load for each carbon abatement device:

| | | |
|---|---|---|
| A-1007 | 12,350 lbs/carbon bed | 37,000 lbs/three carbon beds |
| A-2007 | 9,667 lbs/carbon bed | 29,000 lbs/three carbon beds |
| A-3008 | 52,000 lbs/carbon | |

[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

3.14 The owner/operator of Plant 1, 2, and 3 shall properly install and properly operate both audible and visual alarms to be triggered at carbon breakthrough as defined in Part 3.8, 3.10, and/or 3.11.
[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

3.15 The owner/operator shall not operate the carbon adsorption systems in a manner such that the outlet THC concentration exceeds the inlet THC concentration measured as C1 by the FIDs.
[Basis: Regulation 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

BAGHOUSE ABATEMENT

3.16 The owner/operator shall cease all pouring and shakeout operations whenever the pressure drop across each carbon adsorption system carbon bed that abates the respective pouring and shakeout operations is lower than one inch water gauge and greater than nine inches water gauge.
[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

3.17 The owner/operator shall not allow the pressure drop at any baghouse to exceed any of the following pressure ranges (inches water gauge):

Plant 1 Baghouses

| Device | Minimum | Maximum | |
|---|---|---|---|
| A-1007 | 1.0 | 9.0 | |
| A-1002 | [TBD] | [TBD] | no device currently installed |
| A-1003 | [TBD] | [TBD] | no device currently installed |
| A-1004 | [TBD] | [TBD] | no device currently installed |
| A-1006 | [TBD] | [TBD] | no device currently installed |
| A-1008 | 1.0 | 5.0 | |
| A-1009 | 2.0 | 12.0 | |
| A-1010 | 0.0 | 4.0 | |

Plant 2 Baghouses

| Device | Minimum | Maximum | |
|---|---|---|---|
| A-2001 | 1.0 | 9.0 | 7 sections and 7 pressure differential gauges |
| A-2002 | 1.0 | 9.0 | |
| A-2003 | 1.0 | 9.0 | 4 sections and 4 pressure differential gauges |
| A-2004 | 1.0 | 9.0 | |
| A-2005 | 1.0 | 9.0 | |
| A-2006 | 1.0 | 9.0 | |

| | | |
|---|---|---|
| A-2010 | 1.0 | 6.0 |

Plant 3 Baghouses

| Device | Minimum | Maximum |
|---|---|---|
| A-3001 | 2.0 | 12.0 |
| A-3002 | 1.0 | 9.0 |
| A-3003 | 4.5 | 7.0 |
| A-3004 | 1.0 | 7.0 |
| A-3005 | 0.0 | 2.0 |
| A-3006 | 1.0 | 9.0 |
| A-3007 | 4.5 | 7.0 |

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

3.18 The owner/operator of the facility shall maintain and operate at sufficient intervals the pulsejet cleaning system to maintain compliance with Part 3.2 above.
[Basis: Regulations 2-6-423, 2-1-403]

3.19 The owner/operator shall cease operation of all equipment abated by any of abatement devices listed in Part 4.8, when an associated alarm is triggered, until a District-approved corrective action has been taken. The owner/operator shall only operate these baghouses in compliance with the set pressure ranges.
[Basis: Regulations 6-1-301, 6-1-310, 6-1-311, 2-1-403, 2-6-423]

MATERIAL USAGE

3.20 The owner/operator shall not change materials that may increase either VOC and/or HAP emissions, or result in the emissions of a toxic air contaminant not previously emitted, without obtaining prior approval of an application for the revision from the District Engineering Division. Any change in materials shall be submitted on a Data Form X with an attached MSDS. The owner/operator of this facility (including Plants 1, 2, and 3) shall not use any materials containing chlorinated compounds without obtaining prior approval from the District Engineering Division.
[Basis: Regulations 2-1-301, 7, 1-301, 2-5, Cumulative Increase]

3.21 The owner/operator shall not use purchased pre-coated sand at Plant 3.
[Basis: Regulation 2-5, Cumulative Increase]

CAPTURE EFFICIENCY

3.22 The owner/operator shall conduct all furnaces, pouring, cooling, shakeout, and scrap and charge handling in a total enclosure. The owner/operator shall comply with all of the following requirements to maintain the entire building of each plant and new addition, other than the main office area, as a total enclosure.

a. The owner/operator shall maintain a negative pressure at each of the plant's exterior doors, windows, and other openings as identified and required within the facility's Regulation 12, Rule 13 Emissions Minimization Plan.
b. The owner/operator shall maintain in inward flow of air through all natural draft openings.

c. The owner/operator shall maintain all other openings or doors leading to/from the total enclosure closed except for during use, or equip the openings with overlapping strip doors or air curtains.
d. The owner/operator shall ventilate the total enclosure continuously to ensure negative pressure values of at least 0.007 inches of water is maintained at all times.
e. The owner/operator shall maintain the inlet face velocity at each exterior opening at a minimum of 200 feet per minute.
f. The owner/operator shall use a District-approved instrument to measure the face velocity of each opening of a plant for which a source is operating. The owner/operator shall measure the face velocity of each facility exterior opening at least once per operating day. The owner/operator is not required to measure the face velocity for a plant for which no source is operating and for which no mold is being cooled or material is being shaken out.
g. The owner/operator shall maintain a District-approved logbook of all face velocity measurements.
h. If the owner/operator cannot maintain the inlet face velocities of Part 3.22e for a plant, the owner/operator shall not commence shakeout operations at the respective plant's shakeout sources S-1003, S-1004, S-2031, and/or S-3004 until there is no casting that produces visible emissions as demonstrated using EPA Method 22 at the respective plant's pouring and cooling sources S-1002, S-2029, and/or S-3019.
i. The owner/operator shall maintain all exterior openings closed except during use, or equip the openings with overlapping strip doors or air curtains.
j. If the owner/operator installs air curtains, the air curtains shall be operated at all times that any of the pouring stations, furnaces, and scrap and charge handling equipment are in operation. The owner/operator shall maintain and operate all air curtains according to the manufacturer's specifications. The owner/operator shall conduct inspections at least once each calendar week, while the pouring stations, furnaces or scrap handling equipment is in operation, to determine if the air curtains are in operation as required by this condition. The owner/operator shall maintain a written record of the inspections and any corrective action taken.
k. If the owner/operator installs air curtains, the owner/operator shall post signs at each exit that has an air curtain that states that the air curtain must be operated at all times that any of the pouring stations, furnaces, or scrap handling equipment are in operation.

If the APCO determines that significant fugitive emissions are emitted from any source, the APCO may require the owner/operator to conduct tracer gas testing to demonstrate the capture efficiencies listed in Conditions 24466, 24547, and 24548.

[Basis: Regulations 2-1-403, 2-6-423, 12-13-403]

3.23 The owner/operator shall maintain a negative pressure at each of the plant's interior doors, windows, and other openings as identified and required within the facility's Regulation 12, Rule 13 Emissions Minimization Plan.

a. The owner/operator shall maintain the inlet face velocity at each interior opening at a minimum of 200 feet per minute.
b. If the owner/operator cannot maintain the inlet face velocities of Part 3.23a for a plant, the owner/operator shall not commence shakeout operations at the respective plant's shakeout sources S-1003, S-1004, S-2031, and/or S-3004 until there is no casting that produces visible emissions as demonstrated using EPA Method 22 at the respective plant's pouring and cooling sources S-1002, S-2029, and/or S-3019.

[Basis: Regulations 2-1-403, 2-6-423]

PLANT 1

3.24 The owner/operator of the Plant 1 S-1004 Line "A" deck conveyor system shall maintain all rubber/plastic strips in good condition and ensure that there are no missing rubber/plastic strips or damaged strips. The owner/operator shall not operate the S-1004 Shake Out if there is any missing or damaged rubber/plastic strips.
[Basis: Regulations 2-1-403, 2-6-423]

3.25 The owner/operator of Plant 1 S-1003 Shake Out shall not store or allow any open or cracked molds outside of the Plant 1 shakeout station, except as provided below for flasked molds. The owner/operator shall only open molds that are in the shakeout station, except that it may open flasked molds (unflasking) up to 5 minutes prior to placing the molds in the shakeout station. The owner/operator of Plant 1 S-1003 "Line B" shall not remove opened or cracked molds until shakeout is completed in the Shake Out Station. The owner/operator shall not cease shakeout until all castings in the shakeout station are removed from the molds.
[Basis: Regulations 2-1-403, 2-6-423]

3.26 The owner/operator shall abate all pouring and cooling operations on the Main Floor Area of S-1002 by A-1007.
[Basis: Regulations 2-1-403, 2-6-423]

3.27 The owner/operator shall route all PM emissions, including PM10 emissions, from Plant 1 Source S-1001 Electric Arc Furnace, from the Pouring Operations at the Electric Arc Furnace ladle, and the A-line ladle, to A-1009 Baghouse at Plant 1.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-301, 6-1-310, 6-1-311]

3.28 The owner/operator of Plant 1 A-1009 Baghouse shall not exceed PM10 emissions of 0.0017 grains per dry standard cubic foot as determined by District-approved methods per Part 4.31.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, BACT, Cumulative Increase]

PLANT 2

3.29 The owner/operator shall route all PM emissions, including PM10 emissions, from Plant 2 Source S-2027 Electric Arc Furnace, from the Pouring Operations at the Electric Arc Furnace ladle, and the A-line ladle, to A-2003 Baghouse at Plant 2.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-301, 6-1-310, 6-1-311]

PLANT 3

3.30 The owner/operator shall route all PM emissions, including PM10 emissions, from Source S-3001 Electric Arc Furnace, from the Pouring Operations at the Electric Arc Furnace ladle, and the A-line ladle, to A-3001 Baghouse at Plant 3.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-301, 6-1-310, 6-1-311]

3.31 The owner/operator of Plant 3 shall keep the two exhaust vents above the molding area (S-3014) fully closed at all times of operation of S-3014. The owner/operator of Plant 3 shall shut off the roof fans and fully close the dampers when the roof intake vents are shut off. The owner/operator shall only perform maintenance on S-3014 while S-3014 is not operating. The owner/operator of S-3014 shall only open these two exhaust vents above S-3014 during periods of maintenance.
[Basis: Regulations 2-1-403, 2-6-423]

3.32 The owner/operator of Plant 3 shall not have any fugitive visible emissions from S-3004 at Plant 3, while S-3004 Casting Mold Shakeout Station is operating. The owner/operator shall complete the shakeout and ensure that sand is not left and/or stored in S-3004.
[Basis: Regulations 2-1-403, 2-6-423]

ODOR MINIMIZATION

3.33 The owner/operator shall implement a District-approved written program to respond to odor complaints from the community.

If the District has not confirmed an odor complaint to the facility for a period of 24 consecutive months, the owner/operator is not required to follow this program until such time that the District confirms an odor complaint to the facility.
[Basis: Regulations 2-1-403 and 2-6-423]

## 4. Monitoring and Recordkeeping Requirements

4.1 The owner/operator shall calculate and record monthly and rolling 12-month total emissions (tons) for all sources using the equations in Part 3.4.

CARBON ADSORPTION SYSTEMS (Plants 1, 2, and 3)

Depending on the activity level at each plant, the following Parts 4.2 through 4.7 require the installation and operation of an organic vapor-analyzer-flame ionization detector (FID) system for each carbon adsorption system in Plants 1, 2, and 3 as the parametric monitoring and recording system to demonstrate compliance with the Synthetic Minor Operating Permit, including the determination of carbon breakthrough and verification of system control efficiencies.

4.2 Within 90 days of either exceeding 4,500 tons of steel production at Plant 1 or Plant 2 or of an indication that production will exceed 4,500 tons of steel at Plant 1 or Plant 2, unless prior to the expiration of the 90-day period the APCO approves a later date not to exceed 180 days of the issuance of the SMOP, the owner/operator shall properly install, at the plant that exceeded or will exceed the threshold, a District-approved FID system to measure and record both the inlet and outlet volatile organic compounds (VOC) concentration of the respective carbon adsorption systems (A-1007 at Plant 1, A-2007 at Plant 2). This parametric monitoring system shall provide for the calculation and recording of VOC mass emissions from the inlet and outlet of each carbon adsorption system, control efficiencies, and carbon breakthrough determinations.
[Basis: Regulations 2-6-423, 2-1-403, 1-523, 1-301, 7, Cumulative Increase, Rule 2-5]

4.3 Prior to installing a District-approved FID at A-1007 or A-2007 per Part 4.2, the owner/operator shall conduct a source test at the inlet of the carbon adsorption unit for total hydrocarbon analysis using EPA Method 18 or a District-approved equivalent method, to determine specific organic compounds and an appropriate FID response factor.
[Basis: Regulation 2-6-423, 2-1-403, 1-523, 1-307, Cumulative Increase, Rule 2-5]

4.4 Prior to installing a District-approved FID at A-1007 or A-2007 per Part 4.2, the owner/operator shall conduct hydrocarbon sampling at both the inlets and outlets of each carbon adsorption system's carbon bed during either pouring or shake-out operations at the sources abated by the carbon adsorption system. The owner/operator shall also conduct analysis of all hydrocarbon samples. The owner/operator shall have such hydrocarbon sampling and analysis conducted by an entity approved in advance by the District. The hydrocarbon sampling and analysis shall be conducted a minimum of once every calendar day.
[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

4.5 The owner/operator shall properly operate each FID system at all times that any of the respective sources that are being abated by each carbon adsorption system is operating. Each FID system shall do the following:

a. Continuously monitor (i.e. generate at least one valid data point of VOC concentration every l5 minutes) and record at both the inlet and outlet at each carbon adsorption system. If necessary as determined by the APCO, the owner/operator shall substitute the missing data through use of a best engineering practice acceptable to the APCO.
b. Continuously calculate VOC mass emissions from each inlet and outlet VOC concentration data point.
c. Calculate the abatement efficiency of each carbon adsorption system for each set of inlet and outlet data points and averaged over each calendar day and carbon cycle.
d. Determine VOC concentrations by subtracting the FID system bias from the FID measurement.

The FID system shall be subject to the requirements of Regulation 1-523 and those requirements set forth in Parts 3.6 and 3.9.
[Basis: Regulations 1-523, 2-6-423, 1-301, 7, Cumulative Increase]

4.6 The owner/operator shall properly maintain and properly operate a continuous pressure monitor that shall measure and record the pressure drop across each carbon adsorption system carbon bed and each carbon system prefilter.
[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

4.7 In order to demonstrate compliance with the above permit conditions, the owner/operator shall maintain the following **FID/Carbon Adsorption/Odor-related information** in a District-approved daily log:

a. The most recent odor panel results in units of DTT for each carbon bed and/or system.
b. FID system bias determination of the sampling/analysis system and the time and date it was established at each carbon bed and/or system.
c. All pressure drop data across each carbon bed or carbon adsorption system.
d. The inlet temperature to each carbon adsorption system carbon bed.
e. Results of all source testing and inlet velocity testing.
f. FID 90 minute and one-minute average total hydrocarbon (THC) concentrations from both the inlet and outlet of each carbon adsorption system carbon bed, as ppm C1.

g. FID daily and cumulative hydrocarbon mass emissions at both the inlet and outlet of each carbon adsorption system carbon bed.
h. At the request of the APCO, make monitoring data available within 30 days following the replacement of carbon at each carbon adsorption system.
i. Carbon-cycle basis abatement efficiency of each carbon adsorption system carbon bed.
j. Daily carbon control efficiency, mass emissions at both the inlet and outlet for the purposes of determining carbon breakthrough and compliance per Parts 3.8, 3.10, 3.11, 3.12, and 3.13.
k. The date that carbon change-outs occur and the steel throughput in tons between carbon change-outs for each plant.
l. Any carbon adsorption system's non-operation times lasting more than one hour.
m. Carbon prefilter change-outs for each carbon bed or system at each plant.
n. Manometer readings for each of the carbon prefilters at each plant.
o. Records that demonstrate that the owner/operator timely ordered the replacement carbon to demonstrate compliance with Part 3.13.
p. All source test data and results for each plants.
q. All records required per Parts 3.13 and 5.3
r. Records of maintenance and repairs, including the date of discovery of the breakdown, and the date and nature of the repair, as required by Part 3.9.
s. Records to verify daily FID system calibrations.

All records shall be retained on-site for five years from the date of entry and shall be made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
[Basis: Regulations 2-1-403, 2-6-423, Cumulative Increase, Regulation 1-441]

BAGHOUSE ABATEMENT (Plants 1, 2, and 3)

Plant 1 Broken Bag Leak Detection Device (A-1001 and A-1008 CARBON and A-1009 EAF)
Plant 1 Pressure Drop (A-1001, A-1002, A-1003, A-1004, A-1006, S-1008, S-1009)

Plant 2 Broken Bag Leak Detection Device (A-2001 and A-2002 CARBON and A-2003 EAF)
Plant 2 Pressure Drop (A-2001, A-2002, A-2003, A-2004, A-2005, A-2006, S-2010)

Plant 3 Broken Bag Leak Detection Device (A-3003 and A-3007 CARBON and A-3001 EAF)
Plant 3 Pressure Drop (A-3001, A-3002, A-3003, A-3004, A-3005, A-3006, A-3007)
[Basis: Regulation 2-1-403]

4.8 No later than 180 days from the issuance of the SMOP, the owner/operator shall properly install and properly operate a device at each that measures the pressure drop across each of the following baghouses:

Plant 1: A-1001, A-1002, A-1003, A-1004, A-1006, A-1008, A-1009, and A-1010 Baghouses
Plant 2: A-2001, A-2002, A-2003, A-2004, A-2005, A-2006, and A-2010 Baghouses
Plant 3: A-3001, A-3002, A-3003, A-3004, A-3005, A-3006, and A-3007 Baghouses

The owner/operator shall check each measuring device for plugging at least once every three months. The owner/operator shall cease operation of any equipment abated by any of the abatement devices listed above, when the pressure drop measured across an associated baghouse is outside of the range identified in Part 3.17 and shall not commence operations, until the pressure drop range of the baghouse returns to compliance.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.9 The owner/operator of the facility shall check or inspect the pressure drop across the baghouse at the three plants daily to ensure proper operation.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.10 The owner/operator of the facility shall check or inspect all baghouses at the three plants daily for evidence of particulate breakthrough. If breakthrough is evident from plume observations, dust buildup near the stack outlet, or abnormal pressure drops, the filter bags shall be checked for any tears, holes, abrasions, and scuffs, and replaced as needed.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.11 No later than 180 days from the issuance of the SMOP, the owner/operator shall properly install and properly operate a District-approved broken bag detection device, unless it is determined by the District not to be technologically feasible, then the owner/operator shall properly install and properly operate a District-approved alternative continuous monitoring and recording device, that shall trigger an audible alarm when a preset level is exceeded, on each of the following baghouses:

Plant 1: A-1001, A-1008, and A-1009 Baghouses
Plant 2: A-2001, A-2002, and A-2003 Baghouses
Plant 3: A-3001, A-3003, and A-3007 Baghouses
[Basis: Regulations 6-1-301, 6-1-310, 6-1-311, 2-1-403, 2-6-423]

4.12 In order to demonstrate compliance with these conditions, the owner/operator of the facility shall maintain the following **baghouse monitoring information** in a District-approved daily log:

a. Records of all inspections and all maintenance work including bag replacements for each baghouse. Records of each inspection shall consist of a District-approved log containing the date of inspection and the initials of the personnel that inspects each of the above baghouses.
b. The pressure drop records across all baghouses as required by Parts 3.17 and 4.9 above.
c. In order to demonstrate compliance with Part 4.11, the time, date, and duration of each broken bag leak detector alarm event and the corrective action taken.
d. All source test data and results for each plants.

All records shall be retained on-site for five years from the date of entry and shall be made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
[Basis: Regulations 2-1-403, 2-6-423, Cumulative Increase, 1-441]

CAPTURE EFFICIENCY

4.13 To demonstrate operating under a negative pressure, the owner/operator shall comply with the following:

a. The owner/operator shall install, operate, and maintain a minimum of one building digital differential pressure monitor at each of the following three walls in a total enclosure that has a total ground surface area of 10,000 square feet or more:

(i) the leeward wall,

(ii) the windward wall, and

(iii) An exterior wall that connects the leeward and windward wall at a location defined by the intersection of a perpendicular line between a point on the connecting wall and a point on its furthest opposite exterior wall, and intersecting within plus or minus 10 meters of the midpoint of a straight line between the two other monitors specified. The midpoint monitor must not be located on the same wall as either of the other two monitors.

If District-approved, the third monitor may be placed in an alternative location on the midpoint wall or an exterior wall that is not the windward wall, leeward wall or midpoint wall.

b. The owner/operator shall install, operate, and maintain a minimum of one building digital differential pressure monitor at the leeward wall of a total enclosure that has a total ground surface area of less than 10,000 square feet.

c. All digital pressure monitors shall be certified by the manufacturer to be capable of measuring and displaying a negative pressure containing values in the range of 0.01 to 0.2 millimeters mercury (0.005 to 0.11 inches of water) and capable of recording data in increments of 0.002 millimeters of mercury (0.001 inches of water).

d. The owner/operator shall record the differential pressure at least once every 24 hours when in operation. The owner/operator shall record the time and date of each pressure reading and whether or not the recorded pressure was above the minimum value required by this condition.

e. The owner/operator shall calibrate each digital differential pressure monitor in accordance with manufacturer's specifications.

f. The owner/operator shall take corrective action as soon as possible if the differential pressure is below 0.007 inches of water. Corrective action shall return the pressure differential to above the permitted range. The owner/operator shall keep a record of the type and date of any corrective action taken.

The windward wall shall be the exterior wall of a total enclosure that is most impacted by the wind in its most prevailing direction determined by a wind rose using available data from the closest representative meteorological station. When openings into enclosures are not impacted by ambient wind due to the enclosure being part of a larger structure, the owner/operator may designate which wall of the enclosure to define as the windward wall.

The leeward wall shall be the exterior wall of a total enclosure that is opposite the leeward wall.
[Basis: Regulation 2-6-423, 2-1-403, Synthetic Minor]

4.14 The owner/operator shall use a District-approved instrument to measure the face velocity of each opening of a plant for which a source is operating.

a. The owner/operator shall measure the face velocity of each facility interior opening at least once per operating day. The owner/operator is not required to measure the face velocity for a plant for which no source is operating and for which no mold is being cooled or material is being shaken out.

b. The owner/operator shall maintain a District-approved logbook of all face velocity measurements.

If the APCO determines that significant fugitive emissions are emitted from any source, the APCO may require the owner/operator to conduct tracer gas testing to demonstrate the capture efficiencies listed in Conditions 24466, 24547, and 24548.
[Basis: Regulations 2-1-403, 2-6-423]

4.15 At a minimum of once every three years and unless meeting the criteria specified in Part 4.15b, the owner/operator shall verify the capture efficiencies of any source whose emissions are abated by a control device and whose uncontrolled emissions exceed 10 percent of an emissions limit in Part 3.2. The owner/operator shall verify capture efficiencies using tracer gas testing.

a. At the issuance of this SMOP, the following sources and respective abatement devices have been identified as having maximum uncontrolled emissions exceeding 10 percent of an emissions limit in Part 3.2. For entries with more than one source and/or abatement device listed, the owner/operator shall verify the capture efficiencies of those sources and/or abatement devices on the same operating day.

| Plant | Source(s) | Abatement Device(s) |
|---|---|---|
| Plant 1 | S-1001 | A-1009 |
| Plant 1 | S-1003 | A-1001 and A-1007 |
| Plant 1 | S-1004 | A-1001 and A-1007 |
| Plant 1 | S-1005 | A-1001 and A-1007 |
| Plant 1 | S-1006 | A-1001 and A-1007 |
| Plant 1 | S-1007 | A-1001 and A-1007 |
| Plant 1 | S-1008 | A-1001 and A-1007 |
| Plant 1 | S-1012 | A-1004 |
| Plant 2 | S-2006 through S-2012 | A-2004 |
| Plant 2 | S-2027 | A-2003 |
| Plant 2 | S-2028, S-2029, and S-2031 | A-2001, A-2002, and A-2007 |
| Plant 2 | S-2030 | A-2002 and A-2007 |
| Plant 2 | S-2033 through S-2040 | A-2005 |
| Plant 2 | S-2044 through S-2049 | A-2010 |
| Plant 3 | S-3001 | A-3001 |
| Plant 3 | S-3004 and S-3019 | A-3003, A-3007, and A-3008 |
| Plant 3 | S-3009 | A-3004 |
| Plant 3 | S-3012 | A-3004 |
| Plant 3 | S-3013 | A-3004 |
| Plant 3 | S-3016 | A-3004 |
| Plant 3 | S-3017 | A-3004 |
| Plant 3 | Finishing Room Cleaning & Grinding | |

b. The owner/operator does not have to verify the capture efficiency of a source required per this Part 4.15 if the owner/operator can demonstrate compliance with Part 3.2 using the pre-control emissions rather than post-control emissions for that source.
[Basis: Regulation 2-6-423, 2-1-403, Synthetic Minor]

SOURCE TEST REQUIREMENTS

4.16 No later than 120 days from the issuance of this SMOP or the date a source (S-1001, S-2027, S-3001) begins operating if is not operating at the time of SMOP issuance, the owner/operator of the facility shall conduct District approved PM10 source tests at each Baghouse (A-1009, A-2003, A-3001) abating an Electric Arc Furnace (S-1001, S-2027, S-3001) at the facility to determine initial compliance with the emissions limits in Parts 3.2 and 3.3 and grain loading limits in Part 3.28 and in Condition 24466, 24547, and 24548. The owner/operator shall repeat the source testing on an annual basis thereafter.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.17 No later than 120 days from the issuance of this SMOP or the date a source (S-1001, S-2027, S-3001) begins operating if is not operating at the time of SMOP issuance, the owner/operator of the facility shall conduct District approved CO source tests at each Baghouse (A-1009, A-2003, A-3001) abating an Electric Arc Furnace (S-1001, S-2027, S-3001) at the facility to determine initial compliance with the individual source (S-1001, S-2027, S-3001) CO limits in Conditions 24466, 24547, and 24548 as well as the facility-wide CO limit in Part 3.2. The owner/operator shall repeat the source testing on a biennial (occurring every two years) basis thereafter.
[Basis: Regulations 2-6-423, 2-1-403, Cumulative Increase]

4.18 No later than 120 days from the issuance of this SMOP or the date a source (S-2006, S-2007, S-2008, S-2009, S-2010, S-2011, S-2012) begins operating if it is not operating at the time of SMOP issuance, the owner/operator of the facility shall conduct District approved SO2 source tests at S-2006 (Sand Heater), S-2007 (Sand Coating), S-2008 (Coated Sand Pug Mill), S-2009 (Coated Sand Vibrating Screen), S-2010 (Bucket Elevator), S-2011 (Cooling Tower), and S-2012 (Bucket Elevator) to determine initial compliance with the individual source SO2 limits in Condition 24547 as well as the facility-wide SO2 limit in Part 3.2. The owner/operator shall repeat the source testing on an annual basis thereafter.
[Basis: Regulation 2-6-423, 2-1-403, Cumulative Increase]

4.19 No later than 120 days from the issuance of this SMOP or the date a source (S-1001, S-2027, S-3001) begins operating if is not operating at the time of SMOP issuance, the owner/operator shall conduct District-approved source tests for the full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium and zinc) and filterable PM at each Baghouse (A-1009, A-2003, A-3001) abating an Electric Arc Furnace (S-1001, S-2027, S-3001) at the facility to determine initial compliance with the HAP limits in Part 3.2. The owner/operator shall provide the steel production rate data during each source test in order to determine an emission factors for each test point. The owner/operator shall repeat the source testing once every 3 years thereafter.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.20 No later than 120 days from the issuance of this SMOP or the date S-3001 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 3 S-3001 EAF shall conduct a one-time source test for the full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium and zinc) and filterable PM to characterize the emissions from Plant 3 S-3001 EAF (post-modifications to improve capture efficiency). Test points should include the inlet to the baghouse (A-3001), the outlet from the baghouse and the melt shop roof vents. The owner/operator shall report the steel production rate during the test to the District in order to calculate emission factors for each test point.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.21 No later than 120 days from the issuance of this SMOP or the date S-3004 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 3 S-3004 Shakeout shall conduct a one-time source test for the full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese mercury, nickel, selenium and zinc), filterable PM, PAHs (contained in Reg. 2, Rule 5), benzene, formaldehyde and NMHC to characterize emissions separate from the S-3019 Pour Area and S-3014 & S-3018 Mold Mixing Area/Coating Operation emissions. The test points should be in the ducting before the split to the two baghouses (A-3003, A-3007) and before and after the carbon bed (A-3008). The owner/operator shall provide to the District the amount of sand in the molds processed during the test in order to calculate emission factors.

The owner/operator shall conduct annual source tests for a pollutant from a source listed above if the results of an initial source test for that pollutant and source demonstrate any of the following:

a. Emissions exceed an applicable federal, state, or District regulation.
b. Emissions would cause an increase in health risk above a previously calculated level per Regulation 2, Rule 5 or would cause the facility health risk to exceed a previously calculated level per AB 2588 (Air Toxics "Hot Spots" Program).
c. The variation between source test results and previous source test results on an activity basis (e.g. lbs per ton of material) exceed 50 percent.

The owner/operator may petition to reduce the frequency of source testing by submitting a permit application and demonstrating that the source and pollutant no longer meet any of the conditions listed above.

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.22 No later than 120 days from the issuance of this SMOP or the date S-3019 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 3, S-3019, Pour Area shall conduct a one-time source test for full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese mercury, nickel, selenium and zinc), filterable PM, PAHs, benzene, formaldehyde and NMHC to characterize emissions separate from the S-3004 Shakeout and S-3014 & S-3018 Mold Mixing Area/Coating Operation emissions. The test points should be in the ducting before the split to the two baghouses (A-3003, A-3007), and before and after the carbon bed (A-3008). The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors. The duration of the test should include not only the pouring operation, but also a cooling period.

The owner/operator shall conduct annual source tests for a pollutant from a source listed above if the results of an initial source test for that pollutant and source demonstrate any of the following:

a. Emissions exceed an applicable federal, state, or District regulation.
b. Emissions would cause an increase in health risk above a previously calculated level per Regulation 2, Rule 5 or would cause the facility health risk to exceed a previously calculated level per AB 2588 (Air Toxics "Hot Spots" Program).
c. The variation between source test results and previous source test results on an activity basis (e.g. lbs per ton of material) exceed 50 percent.

The owner/operator may petition to reduce the frequency of source testing by submitting a permit application and demonstrating that the source and pollutant no longer meet any of the conditions listed above.

[Basis: Regulations 2-6-423, 2-1-403, 2-5]

4.23 No later than 120 days from the issuance of this SMOP or the date S-2029 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 2, S-2029, Shell Mold Pouring Station shall conduct a one-time source test for full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese mercury, nickel, selenium and zinc), filterable PM, PAHs, benzene, formaldehyde and NMHC to characterize S-2029 emissions separate from S-2031 Shake Out & Tray Sanding, S-2030 Cast Mold Cooling and S-2032 Rotoblast emissions. The test point should at a location downstream of S-2029, but before the common ducting for the other sources. Testing should be done for the sand molds that are prepared using the resin binder and sand mixed on-site. The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors.

The owner/operator shall conduct annual source tests for a pollutant from a source listed above if the results of an initial source test for that pollutant and source demonstrate any of the following:

a. Emissions exceed an applicable federal, state, or District regulation.
b. Emissions would cause an increase in health risk above a previously calculated level per Regulation 2, Rule 5 or would cause the facility health risk to exceed a previously calculated level per AB 2588 (Air Toxics "Hot Spots" Program).
c. The variation between source test results and previous source test results on an activity basis (e.g. lbs per ton of material) exceed 50 percent.

The owner/operator may petition to reduce the frequency of source testing by submitting a permit application and demonstrating that the source and pollutant no longer meet any of the conditions listed above.

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.24 No later than 120 days from the issuance of this SMOP or the date S-2031 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 2, S-2031, Shakeout & Tray Sanding, shall conduct a one-time source test for full set of metals (arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese mercury, nickel, selenium and zinc), filterable PM, PAHs, benzene, formaldehyde and NMHC to characterize S-2031 emissions separate from S-2029 Shell Mold Pouring Station, S-2030 Cast Mold Cooling and S-2032 Rotoblast emissions. The test point should at a location downstream of S-2031, but before the common ducting for the other sources. Testing shall be conducted on sand molds that use the resin binder and sand mixed on-site. The owner/operator shall report to the District the amount of sand in the molds processed during the test in order to calculate emission factors.

The owner/operator shall conduct annual source tests for a pollutant from a source listed above if the results of an initial source test for that pollutant and source demonstrate any of the following:

a. Emissions exceed an applicable federal, state, or District regulation.
b. Emissions would cause an increase in health risk above a previously calculated level per Regulation 2, Rule 5 or would cause the facility health risk to exceed a previously calculated level per AB 2588 (Air Toxics "Hot Spots" Program).

c. The variation between source test results and previous source test results on an activity basis (e.g. lbs per ton of material) exceed 50 percent.

The owner/operator may petition to reduce the frequency of source testing by submitting a permit application and demonstrating that the source and pollutant no longer meet any of the conditions listed above.

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.25 No later than 120 days from the issuance of this SMOP or the date S-2030 begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 2, S-2030, Cast Mold Cooling Room shall conduct a one-time source test for filterable PM, PAHs, benzene, formaldehyde and NMHC to characterize S-2030 emissions separate from S-2029 Shell Mold Pouring Station, S-2031 Shake Out & Tray Sanding and S-2032 Rotoblast emissions. The test point should at a location downstream of S-2030, but before the common ducting for the other sources. The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors. The duration of the test shall be pre-approved by the APCO in order to provide sufficient time to determine the amount of emissions that off-gas from the molds.

The owner/operator shall conduct annual source tests for a pollutant from a source listed above if the results of an initial source test for that pollutant and source demonstrate any of the following:

a. Emissions exceed an applicable federal, state, or District regulation.
b. Emissions would cause an increase in health risk above a previously calculated level per Regulation 2, Rule 5 or would cause the facility health risk to exceed a previously calculated level per AB 2588 (Air Toxics "Hot Spots" Program).
c. The variation between source test results and previous source test results on an activity basis (e.g. lbs per ton of material) exceed 50 percent.

The owner/operator may petition to reduce the frequency of source testing by submitting a permit application and demonstrating that the source and pollutant no longer meet any of the conditions listed above.

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.26 No later than one year from the issuance of this SMOP or the date a source (S-1002, S-1003, S-1004) begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 1, S-1002 (Pour-Off Area), S-1003 (B Shake Out), and S-1004 (A Shake Out) shall conduct a source test for carbon monoxide to characterize carbon monoxide emissions from pouring, cooling, and shakeout operations at Plant 1. The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors. The duration of the test shall be pre-approved by the APCO in order to provide sufficient time to determine the amount of emissions that off-gas from the molds. The owner/operator shall obtain approval of the testing methodology by the District's Engineering and Technical Divisions prior to conducting the source test. The owner/operator shall repeat the source testing once every five years thereafter.

[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.27 No later than one year from the issuance of this SMOP or the date a source (S-2029, S-2030, S-2031) begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 2 S-2029 (Shell Mold Pouring Station), S-2030 (Cast Mold Cooling Room), and S-2031 (Shakeout & Tray Sanding)

shall conduct a source test for carbon monoxide to characterize carbon monoxide emissions from pouring, cooling, and shakeout operations at Plant 2. The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors. The duration of the test shall be pre-approved by the APCO in order to provide sufficient time to determine the amount of emissions that off-gas from the molds. The owner/operator shall obtain approval of the testing methodology by the District's Engineering and Technical Divisions prior to conducting the source test. The owner/operator shall repeat the source testing once every five years thereafter.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

4.28 No later than one year from the issuance of this SMOP or the date a source (S-3004, S-3019) begins operating if is not operating at the time of SMOP issuance, the owner/operator of Plant 3 S-3004 (Casting Mold Shake Out Station) and S-3019 (Pouring and Cooling) shall conduct a source test for carbon monoxide to characterize carbon monoxide emissions from pouring, cooling, and shakeout operations at Plant 3. The owner/operator shall report to the District the amount of steel processed during the test in order to calculate emission factors. The duration of the test shall be pre-approved by the APCO in order to provide sufficient time to determine the amount of emissions that off-gas from the molds. The owner/operator shall obtain approval of the testing methodology by the District's Engineering and Technical Divisions prior to conducting the source test. The owner/operator shall repeat the source testing once every five years thereafter.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

CONTROL EFFICIENCY VERIFICATION

4.29 The owner/operator of the facility shall conduct District-approved annual PM10 source tests at each baghouse upstream of each carbon adsorption system. In order to determine compliance with the control efficiencies used in Part 1.2 and 3.2, the owner/operator shall test the following points:

Plant 1: inlet and outlet of A-1001 and A-1008 and the outlet of A-1007
Plant 2: inlet and outlet of both A-2001 and A-2002 and the outlet of A-2007
Plant 3: inlet and outlet of both A-3003 and A-3007 and the outlet of A-3008
[Basis: Regulations 2-6-423, 2-1-403, 6-310, 2-5, Cumulative Increase]

4.30 The owner/operator of the facility shall conduct District approved source tests at each of the following baghouses and sources per the frequencies and pollutants specified below:

| Annual Source Test Frequency | |
|---|---|
| A-1001, A-1004, A-1009 | PM10 |
| A-2001, A-2002, A-2003 | PM10 |
| A-3001, A-3003, A-3007 | PM10 |
| S-2006 to S-2012 | SO2 |
| S-2006 to S-2012 | Non-Methane Hydrocarbons |

| Once Every Two Years Source Test Frequency | |
|---|---|
| A-1009 | CO |
| A-2003 | CO |
| A-3001 | CO |

| Once Every Three Years Source Test Frequency | |
|---|---|
| A-1002, A-1008 | PM10 |
| A-2004, A-2010 | PM10 |
| A-3002, A-3003, A-3006, A-3007 | PM10 |
| A-1009 | Metals* |
| A-2003 | Metals* |
| A-3001 | Metals* |
| A-1009 | Filterable PM |
| A-2003 | Filterable PM |
| A-3001 | Filterable PM |

*arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, manganese, nickel, selenium, zinc

| Once Every Five Years Source Test Frequency | |
|---|---|
| A-1003, A-1006 | PM10 |
| A-2005 | PM10 |
| A-3004 | PM10 |
| S-1002, S-1003, S-1004 | CO |
| S-2029, S-2030, S-2031 | CO |
| S-3004, S-3019 | CO |

in order to determine compliance with the abatement efficiencies, emissions limits, and/or grain loading contained in Part 1.2.
[Basis: Regulations 2-6-423, 2-1-403, 6-310, 2-5, Cumulative Increase]

SOURCE TEST METHODS

4.31 The owner/operator of the facility shall conduct District approved source tests using the following the approved methods:

| Pollutant | Method |
|---|---|
| Volume Flowrate | EPA Method 2 or CARB Method 2 |
| PM10 | EPA Method 201A* and EPA Method 202 |
| CO | EPA Method 10 or CARB Method 10 or 100 |
| SO2 | EPA Method 6 or 6C, CARB Method 6 or 100 |
| Filterable PM | EPA Method 5 |
| Metals | |
| Arsenic | EPA Method 29 or CARB 436 |
| Beryllium | EPA Method 29 or CARB 436 |
| Cadmium | EPA Method 29 or CARB 436 |
| Total Chromium | EPA Method 29 or CARB 436 |

| | |
|---|---|
| Hexavalent Chromium | CARB 425 |
| Copper | EPA Method 29 or CARB 436 |
| Lead | EPA Method 12 or 29 or CARB 436 |
| Manganese | EPA Method 29 or CARB 436 |
| Nickel | EPA Method 29 or CARB 436 |
| Selenium | EPA Method 29 or CARB 436 |
| Zinc | EPA Method 29 or CARB 436 |
| PAHs | EPA SW-846 Method 0023A (Modification Approved) |
| Benzene | EPA Method 18 or TO-15 |
| Formaldehyde | EPA Method 320 or EPA SW-846 Method 001 |
| Non-Methane Hydrocarbons | EPA Method 25 or 25A and EPA Method 8 |

*If stack gas conditions or port size do not allow the use of EPA Method 201A, the District may approve a different filterable PM method to be used with EPA Method 202. However, in such cases the total measured filterable PM would be assumed to be PM10.

The owner/operator may use an equivalent method to those specified above on a case-by-case basis and for which is pre-approved by the District's Engineering Division and District's Technical Division. [Basis: Regulation 2-6-423, 2-1-403]

CONTINUOUS EMISSIONS MONITORING

4.32 The owner/operator of the facility shall install a continuous emissions monitoring system or District-approved alternative continuous parametric emissions monitoring system for any source with a potential to emit equal to or exceeding 25 tons per year of a criteria pollutant and for which the results of two or more source tests for the source and pollutant indicate a violation of Condition 24466, 24547, or 24548. The facility shall install the monitor per the procedures listed in the District's Manual of Procedures Volume V (Continuous Emission Monitoring Policy and Procedures). For purpose of installation scheduling per the Manual of Procedures, the effective date shall be the date of the second source test indicating a violation of Condition 24466, 24547, or 24548.

The following sources and pollutants have been identified as having a potential to emit equal to or exceeding 25 tons per year.

| Source | Pollutant(s) |
|---|---|
| S-1001 | CO, PM10 |
| S-1002 | CO |
| S-2006 to S-2012 | SO2 |
| S-2027 | CO, PM10 |
| S-2028, S-2029, and S-2031 | PM10 |
| S-2030 | CO |
| S-3001 | PM10 |
| S-3004 & S-3019 | CO |

[Basis: Regulation 2-6-423]

DAILY RECORDKEEPING

4.33 In order to demonstrate compliance with the above permit conditions, the owner/operator of the facility shall maintain the following **production/emissions-related information** in a District-approved daily log:

a. In order to demonstrate compliance with Parts 1.2, 3.2, 3.3, 3.8, 3.10, 3.11, 3.12, and 3.13 carbon capture efficiency records for each source contained in Part 3.3, in the units used in Part 3.3, with monthly summaries and consecutive 12-month totals
b. The total amount of steel throughput at each plant in tons at each plant
c. The total amount of binder and catalyst usage in tons at each plant
d. The total amount of coated sand usage in tons at each plant
e. The total amount of pre-coated sand usage in tons at each plant
f. The total amount of stainless steel castings produced in tons at each plant
g. Time of first casting poured and last casting poured at each plant
h. Start and end times of shakeout at each plant

All records shall be retained on-site for five years from the date of entry and shall be made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
[Basis: Cumulative Increase, Regulation 1-441]

4.34 The owner/operator shall maintain records for at least five years of emission calculations and raw data and parameters used in the emission calculations.

## 5. Reporting Requirements

ABATEMENT EQUIPMENT PERFORMANCE REPORTING

5.1 The owner/operator shall submit a carbon breakthrough report within 10 days of breakthrough, as defined in Part 3.7 and determined in Part 4.4, at A-1007 or A-2007 to the Director of Engineering, with a copy to the Director of the Compliance and Enforcement. The plant report shall include all of the following information about the carbon cycle in which carbon breakthrough occurred and the sources abated by that plant's carbon adsorption system:

a. The date, time and location of each daily hydrocarbon sample taken and whether pouring and/or shake out operations occurred during the sampling.
b. The daily hydrocarbon sampling's analytical results.
c. The number of days of operation prior to breakthrough.
d. The daily tonnage of steel throughput.
e. The number of castings produced each day during the operation period prior to breakthrough.
f. The total tons of sand used each day during the operation period prior to breakthrough.
g. The total tons of binder and catalyst materials used each day during the operation period prior to breakthrough.
h. The date and time of the last pouring operation prior to breakthrough.

[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

5.2 The owner/operator shall notify the District staff no later than three business days after each carbon replacement at A-1007, A-2007, or A-3008 per Part 3.13.
[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

5.3 If carbon breakthrough occurs as defined in Parts 3.8, 3.10, and/or 3.11, the owner/operator shall submit a notification in accordance with Part 5.13.
[Basis: Regulations 2-1-403, 2-6-423, 1-301, 2-5-501, 7]

QUARTERLY COMPLIANCE REPORTING

5.4 In order to demonstrate compliance with Parts 3.2 and 3.3, the owner/operator shall submit a District-approved quarterly throughput and emissions report within thirty days of the end of the previous calendar quarter. The report shall provide the information listed below with supporting documentation for each of the previous three months, the previous calendar quarter and the previous consecutive twelve-month period. The owner/operator shall calculate the consecutive 12-month emissions estimates using the actual throughputs and District-approved emissions factors and assumptions contained in Part 3.3. In addition to normal operation, the owner/operator shall include emissions resulting from any startup, shutdown, and malfunction periods. The report shall include:

a. Monthly throughputs from all sources contained in Part 3.3.
b. Total Plant 1 emissions of POC, CO, PM10, SO2, individual HAPs and combined HAPs, in tons/month.
c. Total Plant 2 emissions POC, CO, PM10, SO2, individual HAPs and combined HAPs, in tons/month.
d. Total Plant 3 emissions of POC, CO, PM10, SO2, individual HAPs and combined HAPs, in tons/month.
e. Total facility emissions of POC, CO, PM10, SO2, individual HAPs and combined HAPs, in tons/month.
f. Total facility emissions of POC, CO, PM10, SO2, individual HAPs and combined HAPs, in tons/consecutive 12 months for each month covered in the quarterly report.
g. All FID inlet and outlet monitoring data for the carbon adsorption abatement system and/or carbon beds for each plant.
h. For each plant, the cumulative total hydrocarbon (THC) mass emissions for each carbon cycle, measured at the inlet of each carbon adsorption system that is required to have a THC mass emissions monitoring device pursuant to Part 4.2.
i. Carbon control efficiencies corresponding to the 90-minute averages for each of the carbon adsorption abatement systems as determined by the FID monitoring systems.
j. For each plant's carbon adsorption system, the average control efficiencies averaged over each carbon cycle as determined by the FID monitoring systems.
k. The control efficiencies determined in Part 3.12.
l. Dates and amounts of each carbon replacement as required by Parts 3.8, 3.10, and 3.11.
m. Combined facility aerosol paint spray can usage in gallons and emissions in pounds or tons. The POC emissions shall be included with the emissions estimates in Part 3.4 in order to demonstrate compliance with the POC emission limit contained in Part 3.2a.
n. All material safety data sheets for all aerosol spray paints used during the previous quarterly period if either the MSDS has changed since the previous MSDS submittal for that aerosol spray paint or the

owner or operator has not used such aerosol spray paint within the past five years and identification of all materials used including quantities of each material.

o. Cumulative steel production rates for the previous quarter and consecutive 12-month period at each facility.

The owner/operator shall submit the report to the Director of Engineering with a copy to the Director of Compliance & Enforcement. The owner/operator shall follow the reporting procedure outlined in Part 5.13 for any discovery of non-compliance or potential non-compliance.

The owner/operator shall retain all quarterly throughput and emissions reports and accompanying documentation at the facility for five years from the date of the report. The owner/operator will make the reports and accompanying documentation available for inspection by District staff upon request.
[Basis: Regulations 2-6-423, 2-1-403, Synthetic Minor]

5.5 The owner/operator shall submit an annual compliance certification report to both the Director of Engineering and Director of Compliance & Enforcement consistent with requirements of Reg. 2-6-426. The owner/operator shall certify the facility's compliance with the requirements of all parts, including Parts 3.2, 3.3, 3.8, 3.10, 3.11, and 3.12. The annual report shall specifically include all emissions-related information including, but not limited to, throughput, capture/control efficiencies, and emissions factors. If during the certification review, the owner/operator determines that any of the emissions-related items listed above are no longer accurate, or are underestimating the emissions from any source, then the owner/operator shall submit a completed permit application to the District within 30 days of either the annual compliance certification notice or any monitoring data throughout the year that indicates inaccurate or underestimated emissions from the source, such as FID or source test data.
[Basis: Regulations 2-1-403, 2-6-423, Cumulative Increase, 1-441]

PERMIT APPLICATIONS

5.6 In order to establish the initial and subsequent carbon breakthrough-related parameters for Part 3.10 and Part 3.11, the owner/operator shall submit permit applications to the District within 30 days of the collection of 6 months, one year, and two years of FID data from the date of issuance of this permit condition. The APCO shall determine enforceable parameters for Plant 1 and Plant 2 following similar FID data analysis used to determine the carbon breakthrough-related parameters for Plant 3 in Part 3.8.
[Basis: Regulations 2-6-423, 2-1-403, 7, 1-301, Cumulative Increase]

5.7 No later than 60 days from the installation of a pressure drop measuring device required per Part 4.8, the owner/operator shall submit a permit application to revise Part 3.17 to include the minimum and maximum operating pressure drop range specific to the baghouse being measured.
[Basis: Regulation 2-6-423, 2-1-403]

5.8 Prior to the use of purchased pre-coated sand at Plant 3, the owner/operator shall submit a permit application to the District in order to obtain an Authority to Construct and/or Permit to Operate for the use of purchased pre-coated sand at Plant 3 and a revision to Part 3.21.
[Basis: Regulation 2-5, Cumulative Increase]

5.9 If the corrective action proposed to be taken per Part 5.13 is to modify the applicable limit set forth in Parts 3.2, 3.3, 3.8, 3.10, 3.11, 3.12, 3.13, or 4.2, the owner/operator shall submit a permit application within 30 days of the date of discovery to modify that limit.
[Basis: Regulation 2-6-423, 2-1-403]

5.10 If a continuous emissions monitor or an alternative continuous parametric emissions monitoring system is installed at the facility, the owner/operator shall submit a permit application to revise these synthetic minor operating permit conditions to include the additional monitoring. The permit application should be submitted to the District within 60 days of the District certifying the monitor or monitoring system.
[Basis: Regulation 2-6-423, 2-1-403, Synthetic Minor]

5.11 No later than 90 days from the issuance of this SMOP, the owner/operator of Plant 3 S-3004 (Casting Mold Shake Out Station) and S-3019 (Pouring and Cooling) shall submit a permit application for a New Source Review analysis of carbon monoxide emissions from S-3004 and S-3019. Within 60 days of issuance of an NSR permit, the owner/operator shall submit a permit application to revise these synthetic minor operating permit conditions to include the additional monitoring or emissions limitation resulting from the analysis.
[Basis: Regulation 2-6-423, Regulation 2-2]

SOURCE TEST AND CAPTURE EFFICIENCY TEST REPORTS

5.12 The owner/operator shall submit results of all source tests or capture efficiency tests required by this condition to the District Source Test Manager no later than 60 days after the source test or capture efficiency test. The owner/operator shall obtain approval for all source test or capture efficiency test procedures from the District's Source Test Section prior to conducting any tests and shall comply with all applicable testing requirements as specified in Volume IV of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test or capture efficiency test protocols and projected test dates at least 7 days prior to testing.
[Basis: Regulations 2-6-423, 2-1-403, 6-1-310, 2-5, Cumulative Increase]

NOTIFICATION AND NON-COMPLIANCE REPORTING

5.13 The owner/operator shall report any instance of carbon breakthrough or non-compliance with any permit condition in writing to the Director of Compliance and Enforcement with a copy to the Director of Engineering within 10 calendar days of discovery of non-compliance. The report shall describe the incident and any corrective action taken to address the incident and to assure future compliance with the permit condition.
[Basis: Regulation 2-6-423, 2-1-403]

6. SEVERABILITY

6.1 In the event that any provision of this permit is invalidated by a court or tribunal of competent jurisdiction, or by the Administrator of the EPA, all remaining portions of the permit shall remain in full force and effect.
[Basis: Regulation 2-6-423]

***End of Conditions***

**Plant Name: Pacific Steel Casting Company LLC**
**Synthetic Minor Operating Permit**
**Condition No. 24466 Plant No. 22605 Application No. 14029**

Maximum Operating Throughput and Emissions Related Limits
Pacific Steel Casting Plant #1

The owner/operator of Pacific Steel Casting facility (Plant 22605) shall not allow the facility to exceed any of the throughputs, emission factors, and/or emissions specified in these conditions. All data and assumptions contained in these conditions shall be considered enforceable limits.

The owner/operator of the facility shall demonstrate compliance with the emission limits listed in this condition by using the following equations:

Captured emissions = throughput x emission factor x capture efficiency x (1 - control efficiency)

Fugitive emissions = throughput x emission factor x (1 - capture efficiency)

Total emissions = captured emissions + fugitive emissions

The following tables list maximum throughputs, emission factors, and emissions as well as the minimum required capture and control efficiencies for Pacific Steel Casting Plant # 1 sources. These assumptions constitute Synthetic Minor Operating limits as specified in Condition 20207 Part 2.

Source No. 1001, Arc Furnace abated by A-1009
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 2.00E-01 | 97.50% | 0.00% |
| CO | 1.80E+00 | 97.50% | 0.00% |
| VOC | 3.50E-01 | 97.50% | 0.00% |
| $PM_{10/2.5}$ | 1.24E+02 | 97.50% | 99.57% |
| $SO_2$ | 7.00E-01 | 97.50% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.36E+03 | 3.48E+01 | 1.39E+03 |
| CO | 1.22E+04 | 3.13E+02 | 1.25E+04 |
| VOC | 2.37E+03 | 6.08E+01 | 2.43E+03 |
| $PM_{10/2.5}$ | 3.62E+0e | 2.16E+04 | 2.52E+04 |
| $SO_2$ | 4.74E+03 | 1.22E+02 | 4.87E+03 |

Source No. 1002, Pour-off area abated by A-1008 and A-1007
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 4.52E-01 | 86.50% | 90.50% |
| CO | 6.00E+00 | 86.50% | 0% |
| PM10/2.5 | 5.83E-01 | 86.50% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 2.58E+02 | 4.24E+02 | 6.82E+02 |
| CO | 3.61E+04 | 5.63E+03 | 4.17E+04 |
| $PM_{10/2.5}$ | 5.25E+00 | 5.47E+02 | 5.52E+02 |

Source No. 1003, B Shake Out (Dust Collection) abated by A-1001, A-1007
Max. Annual throughput = 22,920 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 8.00E-02 | 95.00% | 90.50% |
| $PM_{10/2.5}$ | 1.00E+01 | 95.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 1.65E+02 | 9.17E+01 | 2.57E+02 |
| $PM_{10/2.5}$ | 3.27E+02 | 1.15E+04 | 1.18E+04 |

Source No.1004, A Shake Out (Dust Collection) abated by A-1001, A-1007
Max. Annual throughput = 45,840 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 7.68E-02 | 99.00% | 90.50% |
| PM10/2.5 | 9.62E+00 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 3.31E+02 | 3.52E+01 | 3.66E+02 |
| PM10/2.5 | 6.55E+02 | 4.41E+03 | 5.06E+03 |

Source No.1005, SAND SYSTEM (DUST COLLECTION) abated by A-1001, A-1007
Max. Annual throughput = 63,140 tons sand
Max. Annual throughput = 1,094 gallons mold release

| Pollutants | Unabated Emissions Factors (lb/unit) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |
| VOC | 3.05E+00 | 99.00% | 90.50% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.06E+01 | 3.41E+02 | 3.92E+02 |
| VOC | 3.14E+02 | 3.34E+01 | 3.48E+02 |

Source No.1006, SAND COOLER, 6 SCREEN, abated by A-1001, A-1007
Max. Annual throughput = 34,727 tons sand
Max. Annual throughput = 330 gallons mold release

| Pollutants | Unabated Emissions Factors (lb/unit) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |
| VOC | 1.60E+00 | 99.00% | 90.50% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 2.78E+01 | 1.88E+02 | 2.15E+02 |
| VOC | 4.98E+01 | 5.29E+00 | 5.51E+01 |

Source No.1007, SAND SCREEN abated by A-1001, A-1007
Max. Annual throughput = 34,727 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 2.78E+01 | 1.88E+02 | 2.15E+02 |

Source No.1008, MULLER abated by A-1001, A-1007
Max. Annual throughput = 63,140 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.06E+01 | 3.41E+02 | 3.92E+02 |

Source No.1010, MULLER, CORE SAND abated by A-1001
Max. Annual throughput = 4929 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 3.95E+00 | 2.66E+01 | 3.06E+01 |

Source No.1011, MULLER abated by A-1010
Max. Annual throughput = 5 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| $PM_{10/2.5}$ | 4.01E-03 | 2.70E-02 | 3.10E-02 |

Source No.1012, CLEANING & GRINDING DEPT. abated by A-1004
Max. Annual throughput = 12,600 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.70E+00 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 8.29E+01 | 2.14E+03 | 2.22E+03 |

Source No.1013, ARC-AIR BOOTH abated by A-1004
Max. Annual throughput = 8,760 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.00E-03 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 3.39E-02 | 8.76E-01 | 9.10E-01 |

Source No.1014, ARC-AIR BOOTH abated by A-1006
Max. Annual throughput = 8,760 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.00E-03 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 3.39E-02 | 8.76E-01 | 9.10E-01 |

Source No.1015, PANGBORN TABLE BLAST abated by A-1003

Max. Annual throughput = 4,200 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 4.00E-02 | 100.00% | 99.57% |
| $PM_{2.5}$ | 4.00E-03 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 7.22E-01 | 0.00E+00 | 7.22E-01 |
| $PM_{2.5}$ | 7.22E-02 | 0.00E+00 | 7.22E-02 |

Source No.1016, ROTO-BLAST abated A-1002
Max. Annual throughput = 4,200 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 4.00E-02 | 100.00% | 98.00% |
| $PM_{2.5}$ | 4.00E-03 | 100.00% | 98.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 3.36E+00 | 0.00E+00 | 3.36E+00 |
| $PM_{2.5}$ | 3.36E-01 | 0.00E+00 | 3.36E-01 |

Source No.1017, ROTO-BLAST abated A-1002
Max. Annual throughput = 4,200 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 4.00E-02 | 100.00% | 98.00% |
| $PM_{2.5}$ | 4.00E-03 | 100.00% | 98.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 3.36E+00 | 0.00E+00 | 3.36E+00 |
| $PM_{2.5}$ | 3.36E-01 | 0.00E+00 | 3.36E-01 |

Source No. 1018, HEAT TREATING FURNACES

Max. Annual throughput = 560,640 therms

| Pollutants | Unabated Emissions Factors (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 5.50E+03 | 0.00E+00 | 5.50E+03 |
| CO | 4.62E+03 | 0.00E+00 | 4.62E+03 |
| VOC | 3.02E+02 | 0.00E+00 | 3.02E+02 |
| $PM_{10/2.5}$ | 4.18E+02 | 0.00E+00 | 4.18E+02 |
| $SO_2$ | 3.30E+01 | 0.00E+00 | 3.30E+01 |

Source No. 1019, Raw Sand Receiving
Max. Annual throughput = 30,000 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 99.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 2.41E+01 | 1.62E+02 | 1.86E+02 |

Source No. 1022, Core Bake Ovens (exempt)
Max. Annual throughput = 140,160 therms

| Pollutants | Unabated Emissions Factors (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |

| | | | |
|---|---|---|---|
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.37E+03 | 0.00E+00 | 1.37E+03 |
| CO | 1.15E+03 | 0.00E+00 | 1.15E+03 |
| VOC | 7.56E+01 | 0.00E+00 | 7.56E+01 |
| $PM_{10/2.5}$ | 1.04E+02 | 0.00E+00 | 1.04E+02 |
| $SO_2$ | 8.24E+00 | 0.00E+00 | 8.24E+00 |

Source No. 1027, Core-Making Operation
Max. Annual throughput = 6,300 gallons binder

| Pollutants | Unabated Emissions Factors (lb/gallon) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 6.42E-01 | 0.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 0.00E+00 | 4.05E+03 | 4.05E+03 |

Source No. 32001, MINOR SOURCES (small ladle heater, exempt)
Max. Annual throughput = 29,696 therms

| Pollutants | Unabated Emissions Factors (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 2.91E+02 | 0.00E+00 | 2.91E+02 |
| CO | 2.45E+02 | 0.00E+00 | 2.45E+02 |
| VOC | 1.60E+01 | 0.00E+00 | 1.60E+01 |
| $PM_{10/2.5}$ | 2.21E+01 | 0.00E+00 | 2.21E+01 |
| $SO_2$ | 1.75E+00 | 0.00E+00 | 1.75E+00 |

Emissions from stacks:

Baghouse A-1001
Abating S-1003, S-1004, S-1005, S-1006, S-1007, S-1008, S-1010, S-1011, and S-1019
Required Emissions Limits: 0.0045 gr/dscf
Maximum Flow Rate: 37,287 dscfm
Operation Hour: 8760 hours/year

Baghouse A-1002
Abates: S-1016 and S-1017
Required Emissions Limits: 0.01 gr/dscf
Maximum Flow Rate: 6,325 dscfm
Maximum Operation Hour: 7200 hours/year

Baghouse A-1003
Abates: S-1015
Required Emissions Limits: 0.01 gr/dscf
Maximum Flow Rate: 3,680 dscfm
Maximum Operation Hour: 8760 hours/year

Baghouse A-1004
Abates: S-1012 and S-1013
Required Emissions Limits: 0.01 gr/dscf
Maximum Flow Rate: 10,323 dscfm
Maximum Operation Hour: 7200 hours/year

Baghouse A-1006
Abates: S-1014
Required Emissions Limits: 0.01 gr/dscf
Maximum Flow Rate: 40,294 dscfm
Maximum Operation Hour: 6000 hours/year

Baghouse A-1008
Abates: S-1002
Required Emissions Limits: 0.0045 gr/dscf
Maximum Flow Rate: 3,228 dscfm
Maximum Operation Hour: 7200 hours/year

Baghouse A-1009
Abates: S-1001
Required Emissions Limits: 0.0017 gr/dscf
Maximum Flow Rate: 41,443 dscfm
Maximum Operation Hour: 6000 hours/year

***End of Conditions***

**Plant Name: Pacific Steel Casting Company LLC**
**Synthetic Minor Operating Permit**
**Condition No. 24548 Plant No. 22605 Application No. 14029**

Maximum Operating Throughput and Emissions Related Limits
Pacific Steel Casting Co-Plant #2

The owner/operator of Pacific Steel Casting facility (Plant 22605) shall not allow the facility to exceed any of the throughputs, emission factors, and/or emissions specified in these conditions. All data and assumptions contained in these conditions shall be considered enforceable limits.

The owner/operator of the facility shall demonstrate compliance with the emission limits listed in this condition by using the following equations:

Captured emissions = throughput x emission factor x capture efficiency x (1 - control efficiency)

Fugitive emissions = throughput x emission factor x (1 - capture efficiency)

Total emissions = captured emissions + fugitive emissions

The following tables list maximum throughputs, emission factors, and emissions as well as the minimum required capture and control efficiencies for Pacific Steel Casting Plant # 2 sources. These assumptions constitute Synthetic Minor Operating limits as specified in Condition 20207 Part 2.

Source No.2001, SAND SILO LOADING ELEVATOR abated by A-2005
Max. Annual throughput = 5,175 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.08E+01 | 2.79E+02 | 2.90E+02 |

Source No. 2002, SAND SILO #1 abated by A-2005
Max. Annual throughput = 2,588 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.41E+00 | 1.40E+02 | 1.45E+02 |

Source No. 2003 SAND SILO #2 abated by A-2005
Max. Annual throughput = 2,587 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.41E+00 | 1.40E+02 | 1.45E+02 |

Source No. 2004 BUCKET ELEVATOR abated by A-2005
Max. Annual throughput = 5,175 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.08E+01 | 2.79E+02 | 2.90E+02 |

Source No. 2005 RESIN TANK (LIQUI-BIN)
Max. Annual throughput = 80,000 gallons organic liquid

| Pollutants | Unabated Emissions Factor (lb/lb) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 5.91E-04 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 4.72E+01 | 0.00E+00 | 4.72E+01 |

Source No. 2006 SAND HEATER abated by A-2004
Max. Annual throughput = 37,318 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 99.57% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 3.66E+02 | 0.00E+00 | 3.66E+02 |
| CO | 3.07E+02 | 0.00E+00 | 3.07E+02 |
| VOC | 2.01E+01 | 0.00E+00 | 2.01E+01 |
| $PM_{10/2.5}$ | 1.20E-01 | 0.00E+00 | 1.20E-01 |
| $SO_2$ | 2.20E+00 | 0.00E+00 | 2.20E+00 |

Source No. 2006 SAND HEATER abated by A-2004
Source No. 2007 SAND COATING abated by A-2004
Source No. 2008 COATED SAND PUG MILL abated by A-2004
Source No. 2009 COATED SAND VIBRATING SCREEN abated by A-2004
Source No. 2010 BUCKET ELEVATOR abated by A-2004
Source No. 2011 COOLING TOWER, COATED SAND abated by A-2004
Source No. 2012 BUCKET ELEVATOR abated by A-2004
Max. Annual throughput = 5,175 tons sand combined

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| CO | 4.80E-01 | 100.00% | 0.00% |
| VOC | 1.36E+01 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |
| $SO_2$ | 4.80E+00 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| CO | 2.48E+03 | 0.00E+00 | 2.48E+03 |
| VOC | 7.04E+04 | 0.00E+00 | 7.04E+04 |
| $PM_{10/2.5}$ | 1.20E+01 | 0.00E+00 | 1.20E+01 |
| $SO_2$ | 2.48E+04 | 0.00E+00 | 2.48E+04 |

Source No. 2013 CORE MOLDING MACHINE

Source No. 2014 CORE MOLDING MACHINE
Source No. 2015 CORE MOLDING MACHINE
Source No. 2016 CORE MOLDING MACHINE
Source No. 2017 CORE MOLDING MACHINE
Source No. 2018 CORE MOLDING MACHINE
Max. Annual throughput = 493 tons sand combined

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.53E-02 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 1.74E+01 | 0.00E+00 | 1.74E+01 |
| $PM_{10/2.5}$ | 2.66E+02 | 0.00E+00 | 2.66E+02 |

Source No. 2013 CORE MOLDING MACHINE
Max. Annual throughput = 6,841 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 6.71E+01 | 0.00E+00 | 6.71E+01 |
| CO | 5.63E+01 | 0.00E+00 | 5.63E+01 |
| VOC | 3.69E+00 | 0.00E+00 | 3.69E+00 |
| $PM_{10/2.5}$ | 5.10E+00 | 0.00E+00 | 5.10E+00 |
| $SO_2$ | 4.02E-01 | 0.00E+00 | 4.02E-01 |

Source No. 2014 CORE MOLDING MACHINE
Max. Annual throughput = 6,841 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 6.71E+01 | 0.00E+00 | 6.71E+01 |
| CO | 5.63E+01 | 0.00E+00 | 5.63E+01 |
| VOC | 3.69E+00 | 0.00E+00 | 3.69E+00 |
| $PM_{10/2.5}$ | 5.10E+00 | 0.00E+00 | 5.10E+00 |
| $SO_2$ | 4.02E-01 | 0.00E+00 | 4.02E-01 |

Source No. 2015 CORE MOLDING MACHINE
Max. Annual throughput = 12,265 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.20E+02 | 0.00E+00 | 1.20E+02 |
| CO | 1.01E+02 | 0.00E+00 | 1.01E+02 |
| VOC | 6.61E+00 | 0.00E+00 | 6.61E+00 |
| $PM_{10/2.5}$ | 9.14E+00 | 0.00E+00 | 9.14E+00 |
| $SO_2$ | 7.21E-01 | 0.00E+00 | 7.21E-01 |

Source No. 2016 CORE MOLDING MACHINE
Max. Annual throughput = 12,265 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/year) | Total Emissions (lb/year) |
|---|---|---|---|
| $NO_X$ | 1.20E+02 | 0.00E+00 | 1.20E+02 |
| CO | 1.01E+02 | 0.00E+00 | 1.01E+02 |
| VOC | 6.61E+00 | 0.00E+00 | 6.61E+00 |
| $PM_{10/2.5}$ | 9.14E+00 | 0.00E+00 | 9.14E+00 |
| $SO_2$ | 7.21E-01 | 0.00E+00 | 7.21E-01 |

Source No. 2017 CORE MOLDING MACHINE
Max. Annual throughput = 12,265 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/year) | Fugitive Emissions (lb/year) | Total Emissions (lb/year) |
|---|---|---|---|
| $NO_X$ | 1.20E+02 | 0.00E+00 | 1.20E+02 |
| CO | 1.01E+02 | 0.00E+00 | 1.01E+02 |
| VOC | 6.61E+00 | 0.00E+00 | 6.61E+00 |
| $PM_{10/2.5}$ | 9.14E+00 | 0.00E+00 | 9.14E+00 |
| $SO_2$ | 7.21E-01 | 0.00E+00 | 7.21E-01 |

Source No. 2018 CORE MOLDING MACHINE
Max. Annual throughput = 12,265 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.20E+02 | 0.00E+00 | 1.20E+02 |
| CO | 1.01E+02 | 0.00E+00 | 1.01E+02 |
| VOC | 6.61E+00 | 0.00E+00 | 6.61E+00 |
| $PM_{10/2.5}$ | 9.14E+00 | 0.00E+00 | 9.14E+00 |
| $SO_2$ | 7.21E-01 | 0.00E+00 | 7.21E-01 |

Source No. 2019, COATED SAND BIN
Max. Annual throughput = 5,175 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.20E+01 | 0.00E+00 | 1.20E+01 |

Source No. 2020 SHELL MOLDING MACHINE, SINGLE w/ mold adhesive operation
Max. Annual throughput = 40,427 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 3.96E+02 | 0.00E+00 | 3.96E+02 |
| CO | 3.33E+02 | 0.00E+00 | 3.33E+02 |
| VOC | 2.18E+01 | 0.00E+00 | 2.18E+01 |
| $PM_{10/2.5}$ | 3.01E+01 | 0.00E+00 | 3.01E+01 |
| $SO_2$ | 2.38E+00 | 0.00E+00 | 2.38E+00 |

Source No. 2020 SHELL MOLDING MACHINE, SINGLE w/ mold adhesive operation
Max. Annual throughput = 818 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.53E-02 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 2.89E+01 | 0.00E+00 | 2.89E+01 |
| $PM_{10/2.5}$ | 4.42E+02 | 0.00E+00 | 4.42E+02 |

Source No. 2021 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 68,229 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 6.69E+02 | 0.00E+00 | 6.69E+02 |
| CO | 5.62E+02 | 0.00E+00 | 5.62E+02 |
| VOC | 3.68E+01 | 0.00E+00 | 3.68E+01 |
| $PM_{10/2.5}$ | 5.08E+01 | 0.00E+00 | 5.08E+01 |
| $SO_2$ | 4.01E+00 | 0.00E+00 | 4.01E+00 |

Source No. 2021 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 2,740 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.53E-02 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 9.67E+01 | 0.00E+00 | 9.67E+01 |
| $PM_{10/2.5}$ | 1.48E+03 | 0.00E+00 | 1.48E+03 |

Source No. 2022 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 68,229 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 90.00% | 0.00% |
| CO | 8.24E-03 | 90.00% | 0.00% |
| VOC | 5.39E-04 | 90.00% | 90.50% |
| $PM_{10/2.5}$ | 7.45E-04 | 90.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 90.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 6.02E+02 | 6.69E+01 | 6.69E+02 |
| CO | 5.06E+02 | 5.62E+01 | 5.62E+02 |
| VOC | 3.15E+00 | 3.68E+00 | 6.82E+00 |
| $PM_{10/2.5}$ | 4.58E+01 | 5.08E+00 | 5.08E+01 |
| $SO_2$ | 3.61E+00 | 4.01E-01 | 4.01E+00 |

Source No. 2022 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 2,740 tons sand
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| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.92E-02 | 90.00% | 90.50% |
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 9.19E+00 | 1.07E+01 | 1.99E+01 |
| $PM_{10/2.5}$ | 1.33E+03 | 1.48E+02 | 1.48E+03 |

Source No. 2023 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 68,229 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 90.00% | 0.00% |
| CO | 8.24E-03 | 90.00% | 0.00% |
| VOC | 5.39E-04 | 90.00% | 90.50% |
| $PM_{10/2.5}$ | 7.45E-04 | 90.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 90.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 6.02E+02 | 6.69E+01 | 6.69E+02 |
| CO | 5.06E+02 | 5.62E+01 | 5.62E+02 |
| VOC | 3.15E+00 | 3.68E+00 | 6.82E+00 |
| $PM_{10/2.5}$ | 4.58E+01 | 5.08E+00 | 5.08E+01 |
| $SO_2$ | 3.61E+00 | 4.01E-01 | 4.01E+00 |

Source No. 2023 SHELL MOLDING MACHINE, TWIN w/ mold adhesive operation
Max. Annual throughput = 2,740 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.92E-02 | 90.00% | 90.50% |
| $PM_{10/2.5}$ | 5.40E-01 | 90.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 9.19E+00 | 1.07E+01 | 1.99E+01 |
| $PM_{10/2.5}$ | 1.33E+03 | 1.48E+02 | 1.48E+03 |

Source No. 2024 SHELL MOLDING MACHINE, SINGLE w/ mold adhesive operation
Max. Annual throughput = 40,427 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 3.96E+02 | 0.00E+00 | 3.96E+02 |
| CO | 3.33E+02 | 0.00E+00 | 3.33E+02 |
| VOC | 2.18E+01 | 0.00E+00 | 2.18E+01 |
| $PM_{10/2.5}$ | 3.01E+01 | 0.00E+00 | 3.01E+01 |
| $SO_2$ | 2.38E+00 | 0.00E+00 | 2.38E+00 |

Source No. 2024 SHELL MOLDING MACHINE, SINGLE w/ mold adhesive operation
Max. Annual throughput = 818 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.53E-02 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 2.89E+01 | 0.00E+00 | 2.89E+01 |
| $PM_{10/2.5}$ | 4.42E+02 | 0.00E+00 | 4.42E+02 |

Source No. 2025, ABRASIVE BLASTER, CORE AREA abated by A-206
Max. Annual throughput = 263 lbs steel shot

| Pollutants | Unabated Emissions Factor (lb/lb steel shot | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 8.63E-03 | 80.00% | 90.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 1.81E-01 | 4.54E-01 | 6.35E-01 |

Source No. 2026 LARGE LADLE HEATER
Max. Annual throughput = 74,635 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 90.50% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 99.85% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 7.32E+02 | 0.00E+00 | 7.32E+02 |
| CO | 6.15E+02 | 0.00E+00 | 6.15E+02 |
| VOC | 3.82E+00 | 0.00E+00 | 3.82E+00 |
| $PM_{10/2.5}$ | 8.34E-02 | 0.00E+00 | 8.34E-02 |
| $SO_2$ | 4.39E+00 | 0.00E+00 | 4.39E+00 |

Source No. 2027 ELECTRIC ARC FURNACE abated by A-2003
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 2.00E-01 | 97.50% | 0.00% |
| CO | 1.80E+00 | 97.50% | 0.00% |
| VOC | 3.50E-01 | 97.50% | 0.00% |
| $PM_{10/2.5}$ | 5.06E+01 | 97.50% | 99.57% |
| $SO_2$ | 7.00E-01 | 97.50% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.36E+03 | 3.48E+01 | 1.39E+03 |
| CO | 1.22E+04 | 3.13E+02 | 1.25E+04 |
| VOC | 2.37E+03 | 6.08E+01 | 2.43E+03 |
| $PM_{10/2.5}$ | 1.47E+03 | 8.79E+03 | 1.03E+04 |

| | | | |
|---|---|---|---|
| $SO_2$ | 4.74E+03 | 1.22E+02 | 4.87E+03 |

Source No. 2028 EAF LADLE STATION W/CANOPY HOOD abated by A-2001
Source No. 2029 SHELL MOLD POURING STATION abated by A-2001
Source No. 2031 SHAKEOUT & TRAY SANDING abated by A-2001
Max. Annual throughput = 6,950 tons steel combined

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 8.33E-02 | 90.00% | 90.50% |
| $PM_{10/2.5}$ | 1.61E+01 | 89.00% | 99.85% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 4.95E+01 | 5.79E+01 | 1.07E+02 |
| $PM_{10/2.5}$ | 1.49E+02 | 1.23E+04 | 1.25E+04 |

Source No. 2030 CAST MOLD COOLING ROOM abated by A-2002
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 7.20E-02 | 99.99% | 90.50% |
| CO | 6.0E+00 | 99.99% | 0.00% |
| $PM_{10/2.5}$ | 2.57E-01 | 99.99% | 99.85% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 4.75E+01 | 5.00E-02 | 4.76E+01 |
| CO | 4.17E+04 | 4.17E+00 | 4.17E+04 |
| $PM_{10/2.5}$ | 2.68E+00 | 1.79E-01 | 2.86E+00 |

Source No. 2032 ROTOBLAST abated by A-2002
Max. Annual throughput = 13,500 tons steel

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 3.96E-02 | 100.00% | 99.85% |
| $PM_{2.5}$ | 3.96E-03 | 100.00% | 99.85% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 8.02E-01 | 0.00E+00 | 8.02E-01 |
| $PM_{2.5}$ | 8.02E-02 | 0.00E+00 | 8.02E-02 |

Source No. 2033 through 2036: ABRASIVE CUT-OFF SAW abated by A-2005
Source No. 2037 through 2040: GRINDER abated by A-2005
Max. Annual throughput = 13,500 tons steel combined

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.70E+00 | 90.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 8.88E+01 | 2.30E+03 | 2.38E+03 |

Thermal Sand Recycling System
Source No. 2044 (R-1), Sand Storage Silo abated by A-2010
Source No. 2045 Lump Breaker abated by A-2010
Source No. 2046 Flow Bin (Rejected Material) abated by A-2010
Source No. 2047 Sand Cooler/Air Bed #1 (C-1) Abated by A-2010
Source No. 2048 Material Handling Equipment abated by A-2010
Source No. 2049 (R-1), Thermal Recycling Unit abated by A-2010
Max. Annual throughput = 10,000 tons sand

| Pollutants | Unabated Emissions Factor (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 4.85E-02 | 99.00% | 0.00% |
| $PM_{10/2.5}$ | 8.55E+00 | 99.00% | 99.57% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 4.80E+02 | 4.85E+00 | 4.85E+02 |
| $PM_{10/2.5}$ | 3.64E+02 | 8.55E+02 | 1.22E+03 |

Thermal Sand Recycling System
Source No. 2044 (R-1), Sand Storage Silo abated by A-2010

Source No. 2045 Lump Breaker abated by A-2010
Source No. 2046 Flow Bin (Rejected Material) abated by A-2010
Source No. 2047 Sand Cooler/Air Bed #1 (C-1) Abated by A-2010
Source No. 2048 Material Handling Equipment abated by A-2010
Source No. 2049 (R-1), Thermal Recycling Unit abated by A-2010
Max. Annual throughput = 186,588 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 100.00% | 0.00% |
| CO | 8.24E-03 | 100.00% | 0.00% |
| VOC | 5.39E-04 | 100.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 100.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 100.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.83E+03 | 0.00E+00 | 1.83E+03 |
| CO | 1.54E+03 | 0.00E+00 | 1.54E+03 |
| VOC | 1.01E+02 | 0.00E+00 | 1.01E+02 |
| $PM_{10/2.5}$ | 1.39E+02 | 0.00E+00 | 1.39E+02 |
| $SO_2$ | 1.10E+01 | 0.00E+00 | 1.10E+01 |

Source No. 32000 Miscellaneous Minor Combustion Sources [exempt]
Max. Annual throughput = 37,318 therms

| Pollutants | Unabated Emissions Factor (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 0.00% | 0.00% |
| CO | 8.24E-03 | 0.00% | 0.00% |
| VOC | 5.39E-04 | 0.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 0.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 0.00% | 0.00% |

| Pollutants | Captured and/or abated Emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 0.00E+00 | 3.66E+02 | 3.66E+02 |
| CO | 0.00E+00 | 3.07E+02 | 3.07E+02 |
| VOC | 0.00E+00 | 2.01E+01 | 2.01E+01 |
| $PM_{10/2.5}$ | 0.00E+00 | 2.78E+01 | 2.78E+01 |
| $SO_2$ | 0.00E+00 | 2.20E+00 | 2.20E+00 |

Standards for Baghouses

Baghouses A-2001 and A-2002, Abating S-2026, S-2209, S-2030, S-2031, S-2032
Emission Limit: 0.0045 gr/dscf
Maximum Flow: 40,903 dscfm
Annual Operating Hours: 5263 hours/year

Baghouse A-2003 Abating S-2027
Emission Limit: 0.0013 gr/dscf
Maximum Flow: 22,053 dscfm
Annual Operating Hours: 5263 hours/year

Baghouse A-2004 Abating S-2006, S-2007, S-2008, S-2009, S-2010, S-2011, S-2012, and S-2019
Emission Limit: 0.01 gr/dscf
Maximum Flow: 5,902 dscfm
Annual Operating Hours: 4380 hours/year

Baghouse A-2005 Abating S-2033, S-2034, S-2035, S-2036, S-2037, S-2038, S-2039, and S-2040
Emission Limit: 0.0045 gr/dscf
Maximum Flow: 14,170 dscfm
Annual Operating Hours: 5500 hours/year

Baghouse A-2006 Abating S-2025
Emission Limit: 0.01 gr/dscf
Annual Operating Hours: 8760 hours/year

Baghouse A-2010 Abating S-2044, S-2045, S-2046, S-2047, S-2048, and S-2049
Emission Limit: 0.0013 gr/dscf
Maximum Flow: 10,217 dscfm
Annual Operating Hours: 4992 hours/year

***End of Conditions***

**Plant Name: Pacific Steel Casting Company LLC**
**Synthetic Minor Operating Permit**
**Condition No. 24547 Plant No. 22605 Application No. 14029**

Maximum Operating Throughput and Emissions Related Limits
Pacific Steel Casting Plant #3

The owner/operator of Pacific Steel Casting facility (Plant 22605) shall not allow the facility to exceed any of the throughputs, emission factors, and/or emissions specified in these conditions. All data and assumptions contained in these conditions shall be considered enforceable limits.

The owner/operator of the facility shall demonstrate compliance with the emission limits listed in this condition by using the following equations:

Captured emissions = throughput x emission factor x capture efficiency x (1 - control efficiency)

Fugitive emissions = throughput x emission factor x (1 - capture efficiency)

Total emissions = captured emissions + fugitive emissions

The following tables list maximum throughputs, emission factors, and emissions as well as the minimum required capture and control efficiencies for Pacific Steel Casting Plant # 3 sources. These assumptions constitute Synthetic Minor Operating limits as specified in Condition 20207 Part 2.

Source No. 3001, Electric Arc Furnace abated by A-3001
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 2.00E-01 | 97.50% | 0.00% |
| CO | 1.80E+00 | 97.50% | 0.00% |
| VOC | 3.50E-01 | 97.50% | 0.00% |
| $PM_{10/2.5}$ | 1.03E+02 | 97.50% | 99.57% |
| $SO_2$ | 7.00E-01 | 97.50% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 1.36E+03 | 3.48E+01 | 1.39E+03 |
| CO | 1.22E+04 | 3.13E+02 | 1.25E+04 |
| VOC | 2.37E+03 | 6.08E+01 | 2.43E+03 |
| $PM_{10/2.5}$ | 3.01E+03 | 1.79E+04 | 2.09E+04 |
| $SO_2$ | 4.74E+03 | 1.22E+02 | 4.87E+03 |

Source No. 3002, Ladle Heater
Max. Annual throughput = 105,120 therms

| Pollutants | Unabated Emissions Factors (lb/therm) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 0.00% | 0.00% |
| CO | 8.24E-03 | 0.00% | 0.00% |
| VOC | 5.39E-04 | 0.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 0.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 0.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 0.00E+00 | 1.03E+03 | 1.03E+03 |
| CO | 0.00E+00 | 8.66E+02 | 8.66E+02 |
| VOC | 0.00E+00 | 5.67E+01 | 5.67E+01 |
| $PM_{10/2.5}$ | 0.00E+00 | 7.83E+01 | 7.83E+01 |
| $SO_2$ | 0.00E+00 | 6.18E+00 | 6.18E+00 |

Source No. 3004, Casting Mold Shake Out Station abated by A-3003
Source No. 3019, Casting Mold Shake Out Station abated by A-3003
Max. Annual throughput = 6,950 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 8.18E+00 | 99.00% | 90.50% |
| CO | 6.00E+00 | 99.00% | 0.00% |
| $PM_{10/2.5}$ | 1.8E-02 | 99.00% | 65.00% |
| Condensable $PM_{10/2.5}$ | 1.09E-02 | 99.00% | 65.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 5.35E+03 | 5.69E+02 | 5.92E+03 |
| CO | 4.13E+04 | 4.17E+02 | 4.17E+04 |
| $PM_{10/2.5}$ | 4.34E+01 | 1.25E+00 | 4.46E+01 |
| Condensable $PM_{10/2.5}$ | 2.61E+01 | 7.54E-01 | 2.69E+01 |

Source No. 3004, Casting Mold Shake Out Station abated by A-3003
Source No. 3019, Casting Mold Shake Out Station abated by A-3003
Max. Annual throughput = 37,800 tons sand combined

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 4.48E-02 | 99.00% | 65.00% |
| Condensable $PM_{10/2.5}$ | 3.49E-02 | 99.00% | 65.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.87E+02 | 1.69E+01 | 6.04E+02 |
| Condensable $PM_{10/2.5}$ | 4.57E+02 | 1.32E+01 | 4.71E+02 |

Source No. 3005, Blast Table
Max. Annual throughput = 12,150 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 3.30E-02 | 100.00% | 99.57% |
| $PM_{2.5}$ | 3.30E-03 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 1.72E+00 | 0.00E+00 | 1.72E+00 |
| $PM_{2.5}$ | 1.72E-01 | 0.00E+00 | 1.72E-01 |

Source No. 3006 Tumble Blast
Max. Annual throughput = 12,150 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10}$ | 3.30E-02 | 100.00% | 99.57% |
| $PM_{2.5}$ | 3.30E-03 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10}$ | 1.72E+00 | 0.00E+00 | 1.72E+00 |
| $PM_{2.5}$ | 1.72E-01 | 0.00E+00 | 1.72E-01 |

Source No. 3007, New Sand Silo #1 abated by A-3004
Max. Annual throughput = 3,366 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 7.82E+00 | 0.00E+00 | 7.82E+00 |

Source No. 3009, Sand Cooler Classifier abated by A-3004
Max. Annual throughput = 37,800 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 8.78E+01 | 0.00E+00 | 8.78E+01 |

Source No. 3010, Sand Conditioning Unit #1 abated by A-3004
Max. Annual throughput = 18,900 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 4.39E+01 | 0.00E+00 | 4.39E+01 |

Source No. 3011 Sand Conditioning Unit #2 abated by A-3004
Max. Annual throughput = 18,900 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 4.39E+01 | 0.00E+00 | 4.39E+01 |

Source No. 3012 Return Sand Bin #1 abated by A-3004
Max. Annual throughput = 37,800 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 8.78E+01 | 0.00E+00 | 8.78E+01 |

Source No. 3013 Reclaimed Sand Bin #2 abated by A-3004
Max. Annual throughput = 34,020 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 7.90E+01 | 0.00E+00 | 7.90E+01 |

Source No. 3014 Sand Mixer w/Techniset F6000/17712/17717 Binder abated by A-3003 and A-3007
Source No. 3018, Mold Coating Operation abated by A-3003 and A-3007
Max. Annual throughput = 37,800 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 8.50E-02 | 75.00% | 90.50% |

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|---|---|---|---|
| $PM_{10/2.5}$ | 6.00E-03 | 75.00% | 99.85% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 2.29E+02 | 8.03E+02 | 1.03E+03 |
| $PM_{10/2.5}$ | 2.55E-01 | 5.67E+01 | 5.70E+01 |

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Source No. 3015 New Sand Receiving Bucket Elevator #1
Max. Annual throughput = 3,366 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 7.82E+00 | 0.00E+00 | 7.82E+00 |

Source No. 3016 Bucket Elevator #2 Returned Sand
Max. Annual throughput = 37,800 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 8.78E+01 | 0.00E+00 | 8.78E+01 |

Source No. 3017 Bucket Elevator #3 Reclaimed Sand
Max. Annual throughput = 34,020 tons sand

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 5.40E-01 | 100.00% | 99.57% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 7.90E+01 | 0.00E+00 | 7.90E+01 |

Source No. 3018, Mold Coating Operation abated by A-3003 and A-3007
Max. Annual throughput = 1,200 gallons

| Pollutants | Unabated Emissions Factors (lb/gal) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 3.69E+00 | 75.00% | 90.50% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 3.15E+02 | 1.11E+03 | 1.42E+03 |

Source No. 3020 Holcote 578 CCD
Max. Annual throughput = 1,200 gallons mold coating

| Pollutants | Unabated Emissions Factors (lb/gal) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| VOC | 1.00E-01 | 75.00% | 90.50% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| VOC | 8.55E+00 | 3.00E+01 | 3.86E+01 |

Exempt Source: Heat Treat Furnaces
Max. Annual throughput = 102,664 therms

| Pollutants | Unabated Emissions Factors (lb/therm | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $NO_X$ | 9.80E-03 | 0.00% | 0.00% |
| CO | 8.24E-03 | 0.00% | 0.00% |
| VOC | 5.39E-04 | 0.00% | 0.00% |
| $PM_{10/2.5}$ | 7.45E-04 | 0.00% | 0.00% |
| $SO_2$ | 5.88E-05 | 0.00% | 0.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $NO_X$ | 0.00E+00 | 1.01E+03 | 1.01E+03 |
| CO | 0.00E+00 | 8.45E+02 | 8.45E+02 |
| VOC | 0.00E+00 | 5.54E+01 | 5.54E+01 |
| $PM_{10/2.5}$ | 0.00E+00 | 7.65E+01 | 7.65E+01 |
| $SO_2$ | 0.00E+00 | 6.04E+00 | 6.04E+00 |

Exempt Source: Finishing Room cleaning and grinding
Max. Annual throughput = 12,150 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.70E+00 | 90.00% | 50.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 9.29E+03 | 2.07E+03 | 1.14E+04 |

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Exempt Source: Finishing Room Arc Air Booth/Welding
Max. Annual throughput = 12,150 tons steel

| Pollutants | Unabated Emissions Factors (lb/ton) | Capture Efficiency Required | Control Efficiency Required |
|---|---|---|---|
| $PM_{10/2.5}$ | 1.00E-03 | 100.00% | 50.00% |

| Pollutants | Captured and/or abated emissions (lb/yr) | Fugitive Emissions (lb/yr) | Total Emissions (lb/yr) |
|---|---|---|---|
| $PM_{10/2.5}$ | 6.08E+00 | 0.00E+00 | 6.08E+00 |

Emissions from stacks/baghouses:

Baghouse A-3001, Abating S-3001
Required Emissions Limits: 0.0014 gr/dscf
Maximum Flow Rate: 41,768 dscfm
Operation Hour: 6000 hours/year

Baghouses A-3002 and A-3006, Abating: S-3005 and S-3006
Required Emissions Limits: 0.0013 gr/dscf

Maximum Flow Rate: 56,362 dscfm
Maximum Operation Hour: 7200 hours/year

Baghouses A-3003 and A-3007, Abating: S-3004, S-3014, S-3018, and S-3019
Required Emissions Limits: 0.0013 gr/dscf
Maximum Flow Rate: 9,618 dscfm
Maximum Operation Hour: 8760 hours/year

Baghouse A-3004, Abating: S-3007, S-3008, S-3009, S-3010, S-3011, S-3012, S-3013, S-3014, S-3015, S-3016, and S-3017
Required Emissions Limits: 0.01 gr/dscf
Maximum Flow Rate: 11,062 dscfm
Maximum Operation Hour: 7200 hours/year

***End of Conditions***