Emissions Minimization Plan

Regulation 12, Miscellaneous Standards of Performance, Rule 13 Foundry and Forging Operations

CASS, Inc.
Plant #146
2730 Peralta Street
Oakland, CA 94607

Table of Contents

BAAQMD Regulation 12 - Rule 13
Plant #A146

I, as the Responsible Manager of this facility, hereby certify that as of this date, this Emissions Minimization Plan contains all elements and information required of a complete EMP pursuant to District Regulation Section 12-13-403 and that the information contained in this EMP is accurate.

Certified by: _____ *Dated:* 12-21-15

Shaun Caughell, Furnace Manager

Responsible Manager

Designation of Confidential Business Information

Describe the information you designate as "CONFIDENTIAL" that are trade secret or otherwise exempt under law from public disclosure. Specify what is "CONFIDENTIAL" and include specific section(s) and corresponding page number(s).

Name of Section / Page Number(s)	Description of Confidential Information
Schedule of Management Operators and Appendix 1	The schedule of management operators and the organizational chart are designated as trade secret. The organizational structure and individual personnel of CASS, a privately held firm, have no bearing upon the air emissions produced by the facility, and are thus exempt from 6254.7(a).
Appendices 2-5	CASS considers diagrams depicting facility layout, aluminum material flow, and the concentrate sorting process as confidential information fitting under the definition of "trade secret" as defined in 6254.7(d) because the material flow and layout of the facility that CASS has developed provides for operational efficiencies. Public disclosure of this information could hurt the competitive advantage CASS has built over its competitors. CASS regards procedures and forms similarly, in that CASS has spent significant resources developing these documents and will be financially harmed if competitors are able to obtain the information. CASS does not regard a high-level description of the processes undertaken in the facility as such and thus has provided this detail in the appropriate sections.

Company Description

CASS, Inc. is a processor of scrap ferrous & nonferrous metals servicing the domestic and international markets since 1969. We take recycling one step further with aluminum; melting scrap and producing secondary aluminum ingots for customers who will turn our recycled material into new products. Our challenge is to be competitive in a global industry while setting best of class standards and protecting the environment in which we work and raise our families.

We are committed to being the leading recycling company through our focus on customer service, quality control, and environmental stewardship. We lead the industry in environmental responsibility with advanced techniques rare to our competitors. To this end, we do not use fluxes or binders in the manufacturing of aluminum ingots, preventing the release of volatile organic compounds and chlorine gas that result from the processes of many of our competitors. Among other environmental initiatives, we view aluminum concentrate, which could be called dross from conventional furnace operation, as a product and mechanically sort the concentrate to sell commercially. We have taken many steps in reducing particulate emissions, from upgrading our mobile sweeping system, to enclosing or covering more of our properties and installing several new dust collectors.

This Emissions Minimization Plan (EMP) has been prepared to address Bay Area Air Quality Management District (BAAQMD) Regulation 12, Rule 13 for Foundry and Forging Operations. We do not conduct shredding operations with rotors that spin hammers as defined in Regulation 6, Rule 4 for Metal Recycling and Shredding Operations, nor produce, receive, or process shredded metal. For this reason, we are exempt from preparing an EMP for the metal recycling and shredding operations but will maintain records of the annual scrap metal throughput as required under that regulation.

Company Organizational Chart and Schedule of Management Operators
12-13-403.1.3

A. *Company Organizational Chart-* Attach a copy of the organizational chart of the company, which describes the business structure and includes the name of the facility's Responsible Official.

B. *Schedule of Management Operators* - Provide the names and contact information of the Onsite Responsible Manager(s) and Onsite Alternate Contact(s) and their duty schedule.

A. Company Organizational Chart

Appendix 1

B. Schedule of Management Operators

Onsite Responsible Manager(s)

Name:
Title:
Phone:
Email:
Schedule/Shift:

Name:
Title:
Phone:
Email:
Schedule/Shift:

Onsite Alternate Contact(s)

Name:
Title:
Phone:
Email:
Schedule/Shift:

Name:
Title:
Phone:
Email:
Schedule/Shift:

Name:
Title:
Phone:
Email:
Schedule/Shift:

Contents of the EMP

12-13-403

The owner of operator of the foundry or forge subject to Section 12-13-401 shall prepare a complete and accurate EMP that details the management practices, measures, equipment and procedures that are employed or scheduled to be implemented to minimize fugitive emissions of particulate matter and odorous substances for the operations subject to the EMP.

A. *Operations Subject to EMP and Schedule of Operations*

B. *Description of Operations* - Facilities with operations under 12-13-402 must list and provide description of all process equipment, material usages, abatement and control equipment and monitoring parameters to reduce fugitive emissions of particulates and odors. Please provide information for all the following operations that apply.

C. *Management Practices to Reduce Fugitive Emissions*- Facilities with operations under 12-13-402 must list and provide descriptions of all preventative maintenance activities, pollution prevention and source reduction measures to reduce fugitive emissions of particulates and odors. Provide schedules of activities conducted.

D. *Description of Abatement and Control Equipment*- Facilities must provide a comprehensive list of all abatement and control equipment for operations subject to 12-13-402 and name the source(s) of operation in which it abates.

A. Operations Subject to EMP and Schedule of Operations

The EMP shall address all of the following operations that are conducted at a foundry or forge per 12-13-402.

Please check all facility operations that apply and provide the schedule of operation.

Operation		Schedule of Operations
☐ 402.1	Mold and Core Making Operations	
☒ 402.2	Metal Management	Subject to market conditions, can operate 24 hours a day / 7 days a week in accordance with BAAQMD Permit to Operate conditions.
☒ 402.3	Furnace Operations, including tapping and pouring	Subject to market conditions, can operate 24 hours a day / 7 days a week in accordance with BAAQMD Permit to Operate conditions.
☐ 402.4	Forging Operations	
☒ 402.5	Casting and Cooling Operation	Subject to market conditions, can operate 24 hours a day / 7 days a week in accordance with BAAQMD Permit to Operate conditions.
☐ 402.6	Shake Out Operations	
☐ 402.7	Finishing Operations	
☐ 402.8	Sand Reclamation	
☒ 402.9	Dross and Slag Management	Subject to market conditions, can operate 24 hours a day / 7 days a week in accordance with BAAQMD Permit to Operate conditions.

402.1 Mold and Core Making Operations

B. Description of Operations - MOLD AND CORE MAKING OPERATIONS

Section #	Equipment Name and Manufacturer /Model #	District S# and Applicable NESHAPs Section	NAME OF MATERIALS USED IN MOLDING OPERATIONS					ABATEMENT					
			Binders	Coatings	Adhesives	Mold Release Agents	Other	Source abated	Abatement Required by Permit	A#	Type of Abatement and Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	N/A - No mold or core making operations							☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	
								☐ Yes ☐ No	☐ Yes ☐ No			☐ Yes ☐ No	

B. Description of Operations – MOLD AND CORE MAKING OPERATIONS

Provide information on binders used in mold and core making operations.

Section #	Name of Binder	Binder Mix Ratio	Name of Source(s) and/or District S# Where Binder Is Used	Product Specification per MSDS
	N/A - No mold or core making operations			VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):
				VOC CONTENT (%): PHENOL CONTENT (%):

C. Management Practices to Reduce Fugitive Emissions – MOLD AND CORE MAKING OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for core and mold making operations.

Section #	Name of Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A - No mold or core making operations		

C. Management Practices to Reduce Fugitive Emissions – MOLD AND CORE MAKING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A - No mold or core making operations		

402.2 Metal Management

B. Description of Operations - Metal Management

Section #	Name of Non-Exempt Metal or Metal Alloy Used for Production	Metal Type	Method of Verification for Determining Chemical Composition
1	Cast Aluminum	☐ Ferrous ☒ Non-Ferrous	CASS Scrap Inspection Training Program, referencing International Scrap Recycling Industry (ISRI) specifications
2	Aluminum Auto Wheels	☐ Ferrous ☒ Non-Ferrous	CASS Scrap Inspection Training Program, referencing ISRI specifications
3	Aluminum Sheet	☐ Ferrous ☒ Non-Ferrous	CASS Scrap Inspection Training Program, referencing ISRI specifications
4	Aluminum Ingot/Sows	☐ Ferrous ☒ Non-Ferrous	CASS Scrap Inspection Training Program, referencing ISRI specifications
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	
		☐ Ferrous ☐ Non-Ferrous	

B. Description of Operations - Metal Management

Describe the facility's metal inspection program, work practice standards and material acquisition plan/procedures upon receipt of scrap or unprocessed metal. Include any pollution prevention management practices and source reduction measures to ensure the metal received is clean.

To ensure CASS provides aluminum satisfying customer specifications, the facility has developed a collection of procedures to manage delivered and un-processed metal. A summary is below, and additionally an outline of documentation is provided in the aluminum process flow diagram provided in Appendix 2 with all referenced documents provided in Appendix 3.

Material is received from the general public with generally small volumes (< 8,000 lbs) to large commercial suppliers with long-term contracts in place. The purchasing process is described in the attached Procedure P0602. P0602 also contains a methodology for dismissal of suppliers if expectations of quality (possibly impacting processing and fugitive emissions) are not routinely met.

The characteristics of incoming material impact onsite processing, fugitive emissions, and ultimately product quality. For this reason, the facility has a well-defined process for handling material delivery detailed in P1002. Additionally, employees are trained for various activities at the facility (FM 006) to ensure procedures are implemented.

1. The Weighmaster weighs delivered metal and identifies the material type.

2. The driver unloads material at either the covered dock or the general yard.

    a. Yard personnel reject material not conforming to the acceptance policy (FM 196).

        i. To reduce waste generation, the facility does not accept items containing: radioactive material, PCBs, combustibles or explosive residue, mercury switches, or asbestos.

        ii. The facility also rejects metal powders, engine blocks with undrained oil pans, and closed cylinders.

    b. As specified in W07, yard personnel visually inspect all beverage containers and accept only aluminum beverage containers.

3. Each type of material is weighed separately, compared against a packing slip (if provided by the material supplier), and listed on the unloading sheet (FM 064).

4. Personnel inspect all received containers per P1005 accepting only open containers.

    a. Aluminum cylinders are inspected again prior to charging the furnace to ensure all cylinders are open.

5. After unloading and weighing, yard personnel complete an unloading sheet marking any comments on the condition of material (wet, clean or dirty). At this point all incoming material is assigned an electronic record as specified in P0801.

6. Aluminum material bound for remelting follows P1004.

a. If intended for direct consumption in the furnace, the Weighmaster may direct the driver to unload directly in the furnace area for inspection and grading by the Furnace Leadman.

b. If the amount of recoverable aluminum needs quantification, the Weighmaster may direct the driver to unload directly in the furnace area for inspection, grading, and photographing. Material is processed and stored separately from other material. After charging and casting, the amount of dross is raked out and weighed to determine the recoverable fraction of the delivered aluminum.

c. If immediate inspection is not available, material is stored at the facility until inspection by the Furnace Leadman is possible.

7. The driver returns to the scale for weighing by the Weighmaster.

a. Should a discrepancy arise between individual weights and the anticipated total weight, or other issues arise with the load, the Buyer or President/CEO resolves the discrepancy as follows:

i. Material is accepted.

ii. Material supplier resumes custody, removing the material from the facility.

b. While the discrepancy is investigated, material is placed aside and stored independently as specified in P1301. Material is tagged (FM 175) logged and tracked (FM 176).

Following acceptance, aluminum material is hand sorted to remove any materials that could contaminate the aluminum process. In the last few years the facility has made an active push to reduce torch cutting for size reduction, instead utilizing existing shearing equipment and purchasing new, heavy-duty equipment. This reduction in torch cutting has led to a significant reduction in exempt emissions.

Material is then stored in one of three ways: (1) placed into a container (ex. Supersack or container), (2) loosely piled in the main yard or near the furnace operation, or (3) baled to increase density and stacked in the main yard or near the furnace operation. To ensure cleanliness of the baled material, the bale operator double-checks all hand sorted material before baling as specified in W01. If baled material meets ISRI standards, the bale is tagged. At this point, material from any one of the processes may be sold and transported offsite. Inventory of unprocessed metal and ingots onsite are tracked through FM 237. All materials sold and shipped are weighed, photographed, and sealed if necessary following P1502 and W28 and documented in FM 112.

The facility carefully manages the transport of material following the Transfer Order Form (FM 109) to minimize material movement. Minimizing material handling decreases effort, reduces the chance of lost/unidentified material, and ultimately decreases fugitive emissions. To reduce transfers, the facility has well-established storage areas for aluminum material. Additionally, all loose aluminum piles lie below the top

of the respective property fence, with most areas covered by roofing. To reduce lost material and prevent fugitive emissions, smaller pieces of aluminum are generally stored in supersacks or bins.

Operation of the remelting furnaces for aluminum material is specified in W04. The Furnace Supervisor and Lead Person are responsible for recording and calculating the amount of aluminum necessary for pouring a full load and for maintaining the parameters of the melt to the customer's specifications. Packaged bundles of ingots are marked with a heat number indicating the alloy, the bundle weight, and the specific furnace melt ID as described in W05. Ingots cast from the initial pour, and any additional ingots deemed not in specification, are tagged as discrepant following P1301. Ingots meeting specifications are tagged with unique heat numbers as described in P0801. CASS has a checklist (FM 168) for the Leadman to use while overseeing remelting to ensure temperatures of the afterburner and baghouse are within operational limits and to record several parameters including the time shaking occurs in the baghouse. This form requires the Leadman to sign a statement certifying no melting of aluminum material occurred in the Sidewall or Sweat furnaces during shaking of the baghouse. Forms have been created to record the daily pressure at the baghouse both prior to and after shaking (FM 166), to preventatively check furnace equipment on a weekly basis (FM 206), and to transfer information pertaining to furnace status between shifts (FM 270).

The dross resulting from the furnace is considered by many competitors to be a waste stream. Since CASS does not use chlorine or fluxes for aluminum production, the byproduct of the furnace operation can be used to create aluminum concentrate product. CASS has developed the Gardner process (diagramed in Appendix 4, permitted as S7) to mechanically sort dross for packaging and sale. Due to the fine size of dross, the facility actively focuses on reducing fugitive emissions. Dross is stored in separate areas with three fixed walls and a movable curtain preventing disturbance by any errant wind, with the storage areas also controlled by a Torit Dust Collector (permitted as A6). Dross purchased by the facility is delivered in sacks or bins reducing fugitive releases. The Gardner screening equipment is enclosed with direct vents to another Torit Dust Collector (permitted as A5). To support this, a form has been developed (FM 248) to ensure proper control of the Gardner process.

The facility deploys a mechanical sweeper with misting capabilities for daily sweeping of accessible property and roadways near the facility. The mechanical sweeper is operated throughout the business day with records maintained in the sweeping log (FM 185). This policy ensures not only control of fugitives from operations, but also reduces windblown dust created by the release of dust or other materials from vehicles queuing to deliver metal.

The facility takes pride in operating a clean workplace. The facility has developed several procedures for preventative maintenance (FM 199 for duct work, FM 200 on the lime injector, FM 255 for the Triboguard II Sensor Probe) and has formal training programs to discuss compliance and preventative maintenance (example logs attached as FM 006 and FM 002 provide documentation). The developed procedures and work practices ensure fugitive emissions from the aluminum process are minimal.

C. Management Practices to Reduce Fugitive Emissions– Metal Management

Describe control measures to minimize fugitive emissions from scrap or unprocessed metal.

CASS has a clear rejection policy for non-conforming materials including metal powders.

In the last few years the facility has made an active push to reduce torch cutting for size reduction, instead utilizing existing shearing equipment and purchasing new, heavy-duty equipment. This reduction in torch cutting has led to a significant reduction in exempt emissions.

The facility carefully manages the transport of material following the Transfer Order Form (FM 109) to minimize material movement. Minimizing material handling decreases effort, reduces the chance of lost/unidentified material, and ultimately decreases fugitive emissions. To reduce transfers, the facility has well-established storage areas for material.

All loose aluminum material piles lie below the top of the respective property fence, with most areas covered by roofing. To reduce lost material and prevent fugitive emissions, smaller pieces of aluminum are generally stored in supersacks or bins.

The facility deploys a mechanical sweeper with misting capabilities for daily sweeping of accessible property and roadways near the facility. This practice ensures not only control of fugitives from operations, but also reduces windblown dust created by the release of dust or other materials from vehicles queuing to deliver metal.

402.3 Furnace Operations

B. Description of Operations - FURNACE OPERATIONS

Section #	Furnace Name and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Type of Operation	Source abated	Type of Abatement Device	District A#	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Aluminum Holding Furnace / High Temp Equipment Custom Built	S1 40 CFR 63 Subpart RRR	☒ Melting ☐ Heat Treating	☒ Yes ☐ No	Afterburner	A4	To reduce emissions of dioxins & furans	☒ Yes ☐ No	Maintain rolling 3-hour average operating temperature in exceedance of 1600 degrees Fahrenheit with a design residence time of no less than 0.8 seconds; other requirements listed in 40CFR 63.1510(g) (FM 199; FM 206).
2	Aluminum Holding Furnace / High Temp Equipment Custom Built	S1	☒ Melting ☐ Heat Treating	☒ Yes ☐ No	Baghouse Pangborn 1963	A3	To reduce emissions of particulate matter	☒ Yes ☐ No	Calibrate, maintain, and operate triboguard-leak detector according to 40CFR 63.1510 (f)(1) at maximum 3-hour rolling temperature of 224 degrees Fahrenheit; additional PM checklists (FM 206; FM 200; FM 255).
3	Aluminum Sweat Furnace / High Temp Equipment Custom Built	S2 40 CFR 63 Subpart RRR	☒ Melting ☐ Heat Treating	☒ Yes ☐ No	Afterburner	A4	To reduce emissions of dioxins & furans	☒ Yes ☐ No	Maintain rolling 3-hour average operating temperature in exceedance of 1600 degrees Fahrenheit with a design residence time of no less than 0.8 seconds; other requirements listed in 40CFR 63.1510(g) (FM 199; FM 206).
4	Aluminum Sweat Furnace / High Temp Equipment Custom Built	S2	☒ Melting ☐ Heat Treating	☒ Yes ☐ No	Baghouse Pangborn 1963	A3	To reduce emissions of particulate matter	☒ Yes ☐ No	Calibrate, maintain, and operate triboguard-leak detector according to 40CFR 63.1510 (f)(1) at maximum 3-hour rolling temperature of 224 degrees Fahrenheit; additional PM checklists (FM 206; FM 200; FM 255).
5	Aluminum Sidewell Furnace Custom Built	S6 40 CFR 63 Subpart RRR	☒ Melting ☐ Heat Treating	☒ Yes ☐ No	Baghouse Pangborn 1963	A3	To reduce emissions of particulate matter	☒ Yes ☐ No	Calibrate, maintain, and operate triboguard-leak detector according to 40CFR 63.1510 (f)(1) at maximum 3-hour rolling temperature of 224 degrees Fahrenheit; additional PM checklists (FM 206; FM 200; FM 255).
			☐ Melting ☐ Heat Treating	☐ Yes ☐ No				☐ Yes ☐ No	
			☐ Melting ☐ Heat Treating	☐ Yes ☐ No				☐ Yes ☐ No	
			☐ Melting ☐ Heat Treating	☐ Yes ☐ No				☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions- FURNACE OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for furnace operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	Afterburner (A4) / CASS - Custom Built	Check cyclone ports; inspect UV scanner; abide by all EPA and BAAQMD emergency compliance reporting requirements	Weekly (FM 206) Monthly (FM 199)
2	Baghouse (A3) / Pangborn 1963	Inspection of fans, belts, and ducts; abide by all EPA and BAAQMD emergency compliance reporting requirements; shaken only when pouring from S1 (i.e. after sweating is completed in S2) or S6 to ensure minimal emissions	Weekly (FM 206) Monthly (FM 200, FM 255)

C. Management Practices to Reduce Fugitive Emissions - FURNACE OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
1	Mechanical and manual sweeping	Eliminate fugitive dust	Every 8 hours or once per shift (FM 185)
2	Oversized hoods on charging sweat furnace (S2)	Controls dust generated and furnace emissions released during charging of sweat furnace	Continuously when furnace is in operation
3	Sweat furnace burners on low-fire mode when charging	When doors are opened during furnace charging, burner automatically operates in low-fire mode to reduce energy use and emissions	Continuously when doors open and furnace firing
4	Charge table modified to fit under hood	Allow hood to fully cover charge table, reduces fugitive emissions during charging process	Continuously when furnace is in operation
5	Dross rake out controlled by oversized hood	Oversized hood reduces likelihood of fugitive releases	Continuously when furnace is in operation
6	Connection between sweat and holding furnace is enclosed	Design of furnace reduces energy loses and prevents emissions during transfer of metal from sweat to holding furnace	Continuously when furnace is in operation

402.4 Forging Operations

B. Description of Operations - FORGING OPERATIONS

Section #	Equipment Name and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Description of Use	Name of Lubricants and/or Oils	Other Materials Used	Source abated	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	N/A					☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	
						☐ Yes ☐ No			☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions - FORGING OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for forging operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A		

C. Management Practices to Reduce Fugitive Emissions - FORGING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

402.5 Casting and Cooling Operations

B. Description of Operations - CASTING AND COOLING OPERATIONS

Section #	Name of Pouring and Cooling Operations and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Cooling Time of Product or Source	Designated Locations of Cooling Operation	Source Abated	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Custom casting operation	N/A	Cooling time depends on the ambient temperatures and proximity to other ingots or sows, but is approximately at 8-10 hours for ingots, 12-15 hours for sows.	Covered warehouse	☐ Yes ☒ No	N/A	District rules do not require abatement. Poured metal meets purity exemption in 12-13-103.1.	☐ Yes ☒ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	
					☐ Yes ☐ No			☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS

Describe the method to verify adequate cooling times are achieved to ensure minimization of fugitive emissions of particulates and odors prior to commencing shake out operations.

CASS finds no emissions of odors or particulates during pouring and cooling. Ingots and sows are poured into metallic or ceramic molds; there is no casting of custom parts. No fluxes are used in the melt, nor binders in the molds, so there is no off gassing.

Ingots and sows are cooled until they can be safely transported, generally to a temperature moderate to the human touch. Sows and ingots are stacked near the casting area under the cover of the roofing. Ingots are stacked in a way to encourage air flow for more immediate cooling.

C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for casting and cooling operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A		

C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

402.6 Shake Out Operations

B. Description of Operations - SHAKE OUT OPERATIONS

Section #	Name of Shakeout Operations and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Describe Location of Shake Out Operation	Source Abated	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	N/A			☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions - SHAKE OUT OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for shake out operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A		

C. Management Practices to Reduce Fugitive Emissions- SHAKE OUT OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

402.7 Finishing Operations

B. Description of Operations - FINISHING OPERATIONS

Section #	Type of Operation	District S# and Applicable NESHAPs Section	Describe Location of Finishing Operation	Number of Machines	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	☐ Grinding ☐ Welding ☐ Other:	N/A		GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	
	☐ Grinding ☐ Welding ☐ Other:			GRINDERS: WELDERS: OTHER:	☐ Yes ☐ No				☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions- FINISHING OPERATIONS

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for finishing operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A		

C. Management Practices to Reduce Fugitive Emissions - FINISHING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

402.7 Sand Reclamation

B. Description of Operations - SAND RECLAMATION

Section #	Name of Sand Reclamation Equipment and Manufacturer/Model #	District S# and Applicable NESHAPs Section	Describe Type of Sand Reclamation Equipment	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	N/A			☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	
				☐ Yes ☐ No				☐ Yes ☐ No	

C. Management Practices to Reduce Fugitive Emissions - SAND RECLAMATION

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for sand reclamation making operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
	N/A		

C. Management Practices to Reduce Fugitive Emissions - SAND RECLAMATION

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

402.9 Dross and Slag Management

B. Description of Operations - DROSS AND SLAG MANAGEMENT

Section #	Material	Describe Location for Cooling of Material	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters	Material Disposition
1	Dross	1) Cooled below all furnace doors and under hoods for 30 minutes 2) Stored in controlled S7 storage area 3) Dross is sorted by size in the aluminum concentrate sorting area (S7) and packaged for sale	☒ Yes ☐ No	1) A3 2) A5 3) A6	1) Baghouse Pangborn 1963 2) Torit Dust Collector / DFT-24 3) Torit Dust Collector / DFT-12	Reduce particulate emissions	☒ Yes ☐ No	Calibrate, maintain, and operate triboguard-leak detector according to 40CFR 63.1510 (f)(1) at maximum 3-hour rolling temperature of 224 degrees Fahrenheit; additional PM checklists (FM 206; FM 200; FM 255).	☐ Offsite Recycling ☐ Offsite Disposal ☒ Onsite Reprocessing
2	Slag	1) Raked off surface of melt, and cooled under hoods 2) Stored in bins in S7 storage area Note no chlorine or flux is used in the furnace	☒ Yes ☐ No	1) A3	1) Baghouse Pangborn 1963	Reduce particulate emissions	☒ Yes ☐ No	Calibrate, maintain, and operate triboguard-leak detector according to 40CFR 63.1510 (f)(1) at maximum 3-hour rolling temperature of 224 degrees Fahrenheit; additional PM checklists (FM 206; FM 200; FM 255).	☐ Offsite Recycling ☐ Offsite Disposal ☒ Onsite Reprocessing

C. Management Practices to Reduce Fugitive Emissions - DROSS AND SLAG MANAGEMENT

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for dross and slag operations.

Section #	Abatement Device and Manufacturer/ Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	Torit Dust Collector (A5) / DFT-24	Measuring pressure drop across dust collector, checking for particulate breakthrough and plugging of cartridges	Daily (FM 248)
2	Torit Dust Collector (A6) / DFT-12	Measuring pressure drop across dust collector, checking for particulate breakthrough and plugging of cartridges	Daily (FM 248)
3	Baghouse (A3) / Pangborn 1963	Inspection of fans, belts, and ducts; abide by all EPA and BAAQMD emergency compliance reporting requirements; shaken only when pouring from S1 (i.e. after sweating is completed in S2) or S6 to ensure minimal emissions	Weekly (FM 206) Monthly (FM 200, FM 255)

C. Management Practices to Reduce Fugitive Emissions - DROSS AND SLAG MANAGEMENT

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
1	Sweeping	Reduction of fugitive dust	Every 8 hours, once per shift (FM 185)
2	Curtains	Prevent indoor airflow from disturbing furnace dross	Curtains to remain closed at all times unless transporting material in/out
3	Dross rake-out controlled by oversized hood	Oversized hood reduces likelihood of fugitive releases	Continuously when furnace is in operation
4	Aluminum concentrate processing conveyors covered	Covered conveyors reduce generation of pariculate emissions	Continuously when furnace is in operation

D. Description of Abatement and Control Equipment

Provide a comprehensive list of all abatement and control equipment for operations subject to 12-13-402 and identify the source(s) of operation in which it abates. If the abatement equipment abates multiple sources, provide a detailed description of how the abatement is designated to those sources.

Section #	Name of Abatement Equipment	District A#	Names of Source(s) Abated	District S#	Description of Abatement
1	Afterburner	A4	Aluminum Sweat Furnace, Holding Furnace	S1, S2	Eliminates dioxins and furans
2	Baghouse Pangborn 1963	A3	Aluminum Sweat Furnace, Holding Furnace, Sidewell Furnace	S1, S2, S6	Reduces emissions of particulate matter
3	Torit Dust Collector / DFT3-24	A5	Aluminum Concentrate Material Processing	S7	Reduces emissions of particulate matter
4	Torit Dust Collector / DFT2-12	A6	Aluminum Concentrate Material Processing	S7	Reduces emissions of particulate matter

Technical Data

12-13-403.1

A. *Process Flow Diagram* – Facilities must indicate all operations in Section 12-13-402, the flow of materials used and identify all monitoring of processes, abatement and controls to minimize emissions beginning from material receipt to achievement of final product. Identify all abatement and control devices by District source numbers according to District Permit or as exempt from District Permit.

B. *Facility Layout / Floor Plan* - Facilities must indicate all relative locations of processing equipment and monitoring and controls, all permitted and exempt sources identified in the process flow diagram per Section 12-13-403.1.1 and any other source(s) that may contribute to particulates and odors. Include all building walls, partitions, doors, windows, vents and openings and indicate all areas that have abatement for particulates and odors. Identify all metal melting and processing equipment by District source numbers according to District Permit or as exempt from District Permit.

A. Process Flow Diagram

Appendices 2 and 4

B. Facility Layout / Floor Plan

Appendix 5

Fugitive Emissions Reductions Previously Realized

12-13-403.2

Facilities must provide a description of the equipment, processes and procedures installed or implemented within the last five years to reduce fugitive emissions. Include the purpose for implementation and detail any employee training that was conducted for that equipment, process or procedure and the frequency of any ongoing training.

12-13-403.2 FUGITIVE EMISSIONS PREVIOUSLY REALIZED

Section #	Identify Type of Operation per Section 12-13-402	Description of Equipment, Processes or Procedures Previously Realized	Implementation Date	Purpose of Implementation	Employee Training Conducted	Description of Employee Training and Frequency of Training
1	Furnace Operation	- Replace wall and roof at furnace processing area - Pour new concrete pad to minimize fugitive dust	August 2010	Reduce windblown dust generation and allow for clean sweeping of facility floor	☒ Yes ☐ No	Training recorded on FM 006 & completed annually
2	Metal Management	- Enclose scrap storage areas and add additional roofing	September 2010	Aid in scrap inspection and sorting of furnace charge, reduces windblown dust generation	☐ Yes ☒ No	
3	Furnace Operation	- Replace combustion system (S1)(S2)(A4) to reduce NOx emissions to under 10 pounds per day (new low NOx burners) - Reline furnace; replace walls and floor; repair and replace steel work	January 2012	Reduce NOx to under 10lb/day, increasing furnace efficiency to minimize emissions	☐ Yes ☒ No	
4	Furnace Operation	- Install rare earth magnet to stir molten metal	April 2012	Reduce energy usage and amount of time access door must be open, reducing emissions	☐ Yes ☒ No	
5	Metal Management	- Purchase mechanical sweeper with misting capabilities to reduce generation of fugitive dust	January 2013	Reduce fugitive emissions from facility property and adjacent roadways	☐ Yes ☒ No	
6	Furnace Operation	- Increase air flow pressure readings and flow through ducts - Replace all baghouse bags ahead of schedule (1,300 bags)	October 2013	Minimize fugitive emissions by increasing capture velocity at furnace hoods; early replacement of bags to increase system efficiency and reduce risk of bag failure	☐ Yes ☒ No	
7	Furnace Operation	- Replace door lift system with new, faster cycle time, open/close system - New sweat furnace (S2) door hood - New furnace door seals for reduced fugitive emission leakage	November 2013	Reduce time furnace door is open to reduce likelihood of emissions; replace seals to decrease leakage	☐ Yes ☒ No	
8	Metal Management / Furnace Operation	- Sweeper unit with misting capability	2014	Minimize fugitive emissions by sweeping pavement throughout the facility; misting capability to further reduce release of fugitives	☒ Yes ☐ No	Operator training conducted prior to equipment use
					☐ Yes ☐ No	

Schedule for the Implementation of the EMP Elements

12-13-403.3

A. Provide a list of existing or current EMP elements in place pursuant to and under a District Authority to Construct as of the initial date of EMP submittal (on or before May 1, 2014). Include a description, the purpose and schedule of the element(s).

B. Provide a list of new or future EMP elements to be implemented following APCO approval of the EMP. Include a description, the purpose and schedule of the element(s) to be implemented.

A. 12-13-403.3.1 SCHEDULE FOR THE IMPLEMENTATION OF THE EMP ELEMENTS (on or before May 1, 2014)

Section #	Identify Type of Operation per Section 12-13-402	List Specific Elements to be Implemented on or before May 1, 2014	Implementation Date	Description of Elements to be Implemented	Purpose of Implementation
1	Dross	- Implemented aluminum concentrate sorting system - Installed dust collectors A5 and A6	November 2013	Reduce waste associated with furnace activities, capture fugitive emissions generated during the storage and processing of dross	Develop aluminum concentrate sorting system to transform waste stream to marketable products. Installation of dust collectors to reduce fugitive emissions associated with storage and sorting of dross.
2	Slag	- Recycling of slag	November 2013	Reduce waste associated with furnace activities, this effort was concurrent with the development of the dross sorting process	Reduce waste generation resulting in greater aluminum yield with less waste and fugitives resulting from waste handling.

B. 12-13-403.3.2 NEW OR FUTURE EMP ELEMENTS TO BE IMPLEMENTED

Section #	Identify Type of Operation per Section 12-13-402	List Specific Elements to be Implemented Following APCO Approval of the EMP	Implementation Date	Description of Elements to be Implemented	Purpose of Implementation
1	Metal Management	Enclose as much of the operation as economically feasible	TBD	CASS is actively working with the City of Oakland to relocate the entire operation to the North Gateway with the goal of bringing all operations under one roof.	Enclosing will aid in operational efficiency and reduce fugitive emissions.

Compliance Schedule for the EMP

12-13-404

A. *APCO Recommendations to EMP and Determination of Approvability–* Acknowledge acceptance or rejection of each of the APCO's recommendations. For each of the accepted recommendations, describe the measures to be implemented and include the date of proposed implementation. If the facility rejects a recommendation, provide a detailed basis for that rejection.

A. APCO Recommendations to EMP and Determination of Approvability (12-13-405)

Date of EMP: **5/19/15**

Provide determination of acceptance to APCO recommendations. Include the determination of acceptance by the facility's Responsible Manager and the basis for rejecting any APCO recommendations. If recommendation is accepted, include measures to implement APCO recommendation and the proposed date of implementation.

Section #	(FOR APCO USE ONLY) APCO Recommendation	Acceptance of APCO Recommendation	If NO: Basis for Rejecting APCO Recommendation	If YES: Measures to Implement Recommendation	Proposed Date of Implementation	(APCO USE ONLY) APCO Approval of Response
1	Pave and enclose metal scrap storage areas.	☒ Yes ☐ No		Entire facility is paved and most areas are covered. Covering all scrap storage areas of the facility is not ecomically feasible at the current location. CASS is actively working to move to a new facility that ideally will have all areas paved and covered. Timing and configuration is uncertain as dependent upon negotiations with many organizations (City of Oakland, Port of Oakland, East Bay Municipal Utility District, railroads, among others).	Already implemented to indeterminante depending on the location.	☒ Yes ☐ No
2	Provide onsite staff with training through the California Air Resource Board (CARB) to obtain and maintain a visible emissions evaluation (VEE) certification in accordance with US EPA Method 9.	☐ Yes ☐ No	CASS currently has baghouses or dust collectors on all emissions points and they are equipped with leak detection devices and alarms to prevent inadvertent emissions without notification. VEE certification in accordance with USEPA Method 9 requires three days of training plus one day of recertification every six months. For a small facility with limited staff, it is difficult to commit the necessary resources internally. However, we will engage in an on-call contract with an outside testing firm with certified VEEs on staff. If the need arises, we will be able to access a certified VEE. ***District Response:*** *Please specify the schedule and procedures to ensure that an offsite VEE certified consultant is able to conduct timely VEE testing when necessary.*			☐ Yes ☒ No
		☐ Yes ☐ No	Update December 2015: CASS has spoken with an outside testing firm who maintains at minimum three certified VEE on staff locally and we will enter into an on-call contract with them. As they are based in the Bay Area, we anticipate that based on availability, a certified VEE could be at the facility within two hours during regular business hours and within four hours at			☒ Yes ☐ No

			other times. As there are multiple people with this certification, there is redundancy so that at least one individual will be able to travel to the site when necessary.			

Appendix

If additional information are to be included in the EMP, identify the associated Appendix # as "*#*" in the text box of the specific table.

In the table below, note the Appendix # and provide the Page # and Section # of the EMP where the material references.

Appendix #	Reference to Page # and Section # of EMP
1	Page #7, Section # 403.1
2	Page #18, Section # 402.2
3	Page #18, Section # 402.2
4	Page #54, Section # 403.1
5	Page #55, Section # 403.1
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
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	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #

Appendix #	Reference to Page # and Section # of EMP
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
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	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #

Appendix #

Reference to Page # , Section #