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Emissions Minimization Plan

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

AB&I Foundry
District Site #62
7825 San Leandro Street,
Oakland, California, 94621

Table of Contents

Management Approval.....	3
Designation of Confidential Business Information.....	4
Company Description.....	5
Company Organizational Chart.....	8
Schedule of Management Operators.....	9
Operations Subject to EMP and Schedule of Operations.....	11
Mold and Core Making Operations	12
Metal Management.....	19
Furnace Operations	27
Forging Operations.....	33
Casting and Cooling Operations	37
Shake Out Operations	45
Finishing Operations	50
Sand Reclamation	55
Dross and Slag Management	62
Technical Data	67
Fugitive Emissions Reductions Previously Realized	70
Schedule for the Implementation fo the EMP Elements	72
Compliance Schedule for the EMP	75
Appendix	78

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: *Kurt Winter*

Dated: 12-16-15

Kurt Winter, General Manager/EVP

Responsible Manager

Company Description

AB&I Foundry has been producing quality cast iron products for over a hundred years. AB&I was born in the shadows of the Great San Francisco Earthquake of 1906. At that time, the foundry's primary products were decorative light poles and iron & brass statuary. As the company evolved through time, so did our product offering. AB&I Foundry led the West Coast as the dominant producer of cast iron drain, waste and vent systems for decades. AB&I has also become a modern, highly-technological full-service provider of custom OEM gray iron castings for companies nationwide.

AB&I has long taken its social and environmental responsibilities very seriously and led the way in safety enhancements long before governmental regulations made them a requirement. Staying ahead of the curve is a strategy of ours and we continue to make an investment in new technologies that will continue to make the foundry cleaner and greener than ever – that's why our pipe and fittings are made from ~100% post-consumer recycled scrap iron.

We've had a strong foundation as a premier manufacturer of cast iron products for well over a century. Through a comprehensive program of water treatment, air pollution reduction, recycling, and solid-waste management, AB&I has set the standard for responsible foundry practices and policies.

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.

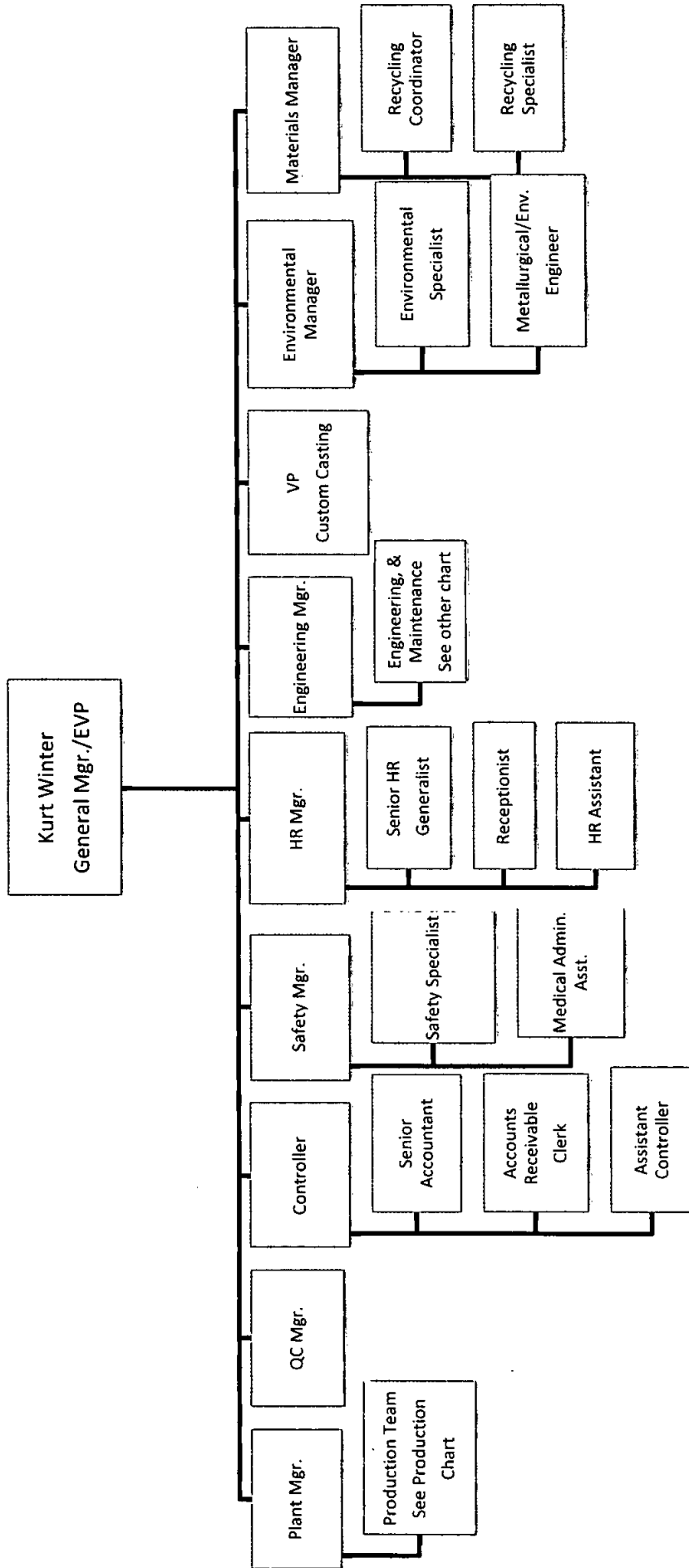
A. Company Organizational Chart



AB&I Management Team Organization Chart



8/12/14



B. Schedule of Management Operators

Onsite Responsible Manager(s)

Name: Kurt Winter
Title: General Manager/EVP
Phone: 510-632-3467
Email: kurt.winter@abifoundry.com
Schedule/Shift: Mon - Fri 8am - 4pm, DAY

Name: Mike Olvera
Title: Environmental Manager
Phone: 510-632-3467
Email: mike.olvera@abifoundry.com
Schedule/Shift: Mon - Fri 7am - 4pm, DAY

Onsite Alternate Contact(s)

Name: Rich Watson
Title: Plant Manager
Phone: 510-632-3467
Email: richard.watson@abifoundry.com
Schedule/Shift: Mon - Thurs 5:30am - 4:30pm, DAY

Name: Dave Robinson
Title: Engineering Manager
Phone: 510-632-3467
Email: dave.robinson@abifoundry.com
Schedule/Shift: Mon-Fri 7am - 4pm , DAY

Name: Michael Overton
Title: Production Supervisor
Phone: 510-632-3467
Email: michael.overton@abifoundry.com
Schedule/Shift: Mon-Thurs 4pm -2:00 am, SWING

Contents of the EMP

12-13-403

The owner or 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
<input checked="" type="checkbox"/> 402.1 Mold and Core Making Operations	Molding: Monday - Thursday, Day (5am - 4pm), Swing (9pm - 5am) Core Room: Monday - Friday, Day (5am-3:30pm), swing (3:30 pm-2am)
<input checked="" type="checkbox"/> 402.2 Metal Management	Monday - Friday, Day (5am-4pm)
<input checked="" type="checkbox"/> 402.3 Furnace Operations, including tapping and pouring	Monday - Thursday, Day (5am-4pm) and Swing Shift (4pm-2am)
<input type="checkbox"/> 402.4 Forging Operations	N/A
<input checked="" type="checkbox"/> 402.5 Casting and Cooling Operation	Monday - Friday, Day (5am-4pm) and Swing Shift (4pm-2am)
<input checked="" type="checkbox"/> 402.6 Shake Out Operations	Monday - Thursday, Day Shift (5am-4pm)
<input checked="" type="checkbox"/> 402.7 Finishing Operations	Monday - Friday, Day Shift (5am-4pm)
<input checked="" type="checkbox"/> 402.8 Sand Reclamation	Monday - Thursday, Swing Shift (9pm-5am)
<input checked="" type="checkbox"/> 402.9 Dross and Slag Management	Monday - Friday, Day Shift (5am-4pm)

402.1 Mold and Core Making Operations

B. Description of Operations - MOLD AND CORE MAKING OPERATIONS

#	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
1	No bake molding KLOSTER	52 63.7690(a)	Techniset F6000UN B (Part 1 & 2)	Duratherm 5G		Zip-slip LP781495	Techniset activator 17717	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A19 A21 A25 A20 A22	Pulse jet baghouse / Particulate Pulse jet baghouse / Particulate Pulse jet baghouse / Particulate Direct flame afterburner/VOHAP Direct flame afterburner/VOHAP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure (2-10 in H2O) Differential pressure (2-10 in H2O) Differential pressure (2-10 in H2O) Minimum temperature (1300 deg F) Minimum temperature (1300 deg F)
2	Disa 270	58 63.7690(a)(7)				Kwik Draw Hi Flash		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Building Capture Visible Emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
3	Disa 2013	59 63.7690(a)				Kwik Draw Hi Flash		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Building Capture Visible Emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
4	Shalco machines U180	N/A	ABI 60-3	Satin Kote		Zip-slip 109W		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	Exempt	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	Shalco 4-103A	N/A	Isoset 4304 & 4305 NS			Zip slip LR24B	Sulfur dioxide	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Scrubber pH	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	pH (7-14)
								<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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
1	Techniset F6000 UNB Part 1	55%	52	VOC CONTENT (%): 10-30 PHENOL CONTENT (%): 5-10
2	Techniset 6435 UNB Part 2	45%	52	VOC CONTENT (%): 10-30 PHENOL CONTENT (%): 0
3	Isoaset 4304 part 1	50%	Exempt	VOC CONTENT (%): 1.5-5 PHENOL CONTENT (%): 1.5-5
4	Isoaset 4305NS part 2	50%	Exempt	VOC CONTENT (%): 11.1 PHENOL CONTENT (%): 0
				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
1	Baghouse #5 (A21) GMD-630-10-6RA	Inspect magnehelic and settings Pulse Valve Inspection Bag break Detectors Response test Screw Conveyor Oil Check Fan Motor Megger Test Screw Conveyor Motor Inspection Fan Motor Grease Check Photohelic Gauge Adjustment Conveyor/ fan Belt Inspection Dust Wetter/Feeder Gauges and manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System	Daily Semi-annual Monthly Monthly Quarterly Quarterly Biennial Annual Monthly Monthly and annually Quarterly Quarterly Weekly and monthly
2	Fume Baghouse (A25) GMD 480-10-6R8	Bag break Detectors Response test Inspection of pressure readings/settings Fume Baghouse Lubrication Fume Baghouse Photohelic Inspection Fan Vibration Analysis	Monthly Daily Quarterly Quarterly Quarterly
3	Cupola Baghouse (A19) GMD 289-14-6WI	Inlet and Outlet Dampers Screw Conveyor Bearings Inspection of pressure readings/settings Bag break Detectors Response test Screw Conveyor Oil Check Bucket Elevator Thermocouple Inspection GMD Test Feeder Screw Conveyor Reducer Inspection Airlock and Motor Inspection Fan Motor Megger Test Fan Vibration Analysis Bucket Elevator Flue Gas Cooler Fan Belts Inspection Flue Gas Cooler Fans Lubrication Flue Gas Cooler Screw Conveyor grease and thermocouple Flue Gas Cooler Rotary Valve Gearbox Flue Gas Cooler Tube Inspection	Semi-Annual Bi-monthly weekly and monthly Monthly Monthly Monthly Monthly Semi-Annual Semi-Annual Monthly Quarterly Quarterly Quarterly Quarterly Semi-annual Tri-annual (4 months) weekly Quarterly Quarterly

4	Afterburner (A20, A22) Maxon 8 MMBTU/Hr	Inspection of flow rate, gauge readings, thermocouples, and all electrical and mechanical connections Oxygen Shutoff valves Quarterly inspection Afterburner system Oxygen shut off valves	Monthly Semi-annual Quarterly Semi-annual Weekly

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
1	Disa 270 Cyclone	Remove fugitives from machine exhaust	During all periods of operation
2	Disa 2013 Cyclone	Remove fugitives from machine exhaust	During all periods of operation
3	Core room clean up	Remove excess sand from work area	Daily

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 Iron	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal), spectrograph (for unknown sources)
2	Steel	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal)
3	Pig Iron	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal)
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> 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.

SCRAP SELECTION PLAN SOP 63.7700 (b) & 63.7700 (c)(1)(ii) (2) (3)

INCOMING SCRAP

- 1.1 Inspect incoming scrap to AB&I's Scrap Cast Iron Purchase Requirements.
- 1.2 Cupola Supervisor, Leadman or crane operator will inspect incoming scrap.
- 1.3 Visually inspect EACH scrap load for scrap specifications [Sec. 3] and environmental compliance [Sec.3.3]
 - a. MACT prohibited – lead, mercury, plastics and free liquids. Visually inspect the top surface of load prior to dumping (if accepted) with follow up visual inspection after the load has been dumped. Rejection criteria: >2 mercury switches; or >1 lead acid battery or >50 lead wheel weights, excessive plastics, free liquids other than rain water. If acceptable sign off the weight ticket, if not reject the load.
 - b. If scrap is found to be acceptable, enter car number, and other pertinent information on the Miscellaneous Incoming Materials Railroad book / radiation MACT form located in cupola office.

2. OPTIONS

- 2.1 Several options are available other than a total rejection of the load:
 - a. If the load has a lot of non-acceptable items that cannot be sorted out, or exceeds an acceptance criteria listed in #1, 3 paragraph reject the load. Inform Purchasing Agent and send load back to vendor.
 - b. If the load is by truck and items can be separated, return "Out of Spec" pieces to the truck.
 - c. If the load is by truck and driver has another load to pick up, either weigh or estimate "Out of Spec" pieces, separate, and take "Out of Spec" pieces to rejection pile. Call Purchasing Agent and instruct to deduct weight of "out of Spec" material from payment.
 - d. If the load is by railcar and has "Out of Spec" material in it, DO NOT unload until agreement has been made with shipper. If the load can be separated, estimate weight of "Out of Spec" material, time of unloading and separating, reloading and hauling back to charge yard. Call Purchasing Agent with dollar amount that is needed to unload railcar. If shipper agrees, separate "Out of Spec" pieces and put in rejection box.

3. SCRAP CAST IRON PURCHASE REQUIREMENTS

3.1 Cast scrap purchase for delivery to AB&I shall be clean cast iron, reasonably free of grease and dirt, free from steel and all non-ferrous attachments, and within the following weights and dimensions:

- a. WEIGHT: Not to Exceed 300 pounds
- b. LENGTH: Not to Exceed 24 inches
- c. WIDTH: Not to Exceed 18 inches
- d. THICKNESS: Not to Exceed 3 inches

3.2 Deliveries of straight (all one item) loads must be arranged in advance.

3.3 NON-ACCEPTABLE ITEMS:

The following items are not acceptable:

- | | |
|--|------------------------------------|
| Steel and malleable crankshafts | Car wheels |
| Connecting rods | Brake shoes |
| Transmission and rear end gears | Cast iron boring and turnings |
| Loose piston rings | Locomotive wheels and cylinders |
| Steam radiators | Burnt iron |
| Porcelain or enamel coated scrap | Steel |
| Disc brake assemblies | Master cylinders |
| Chrome plated items | Counter weights |
| Torque converters | Unstripped transmission |
| Valves with stems | Aluminum and all non-ferrous parts |
| Gates and risers | Mercury switches |
| Lead acid battery | Lead wheel weights |
| Lead pipe | Plastics |
| Malleable hard iron or chilled (white) iron | |
| Cast iron pipe (not to exceed 25% of any load) | |

C. Management Practices to Reduce Fugitive Emissions– Metal Management

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

Initial and periodic training for the Scrap Selection Plan through Environmental Management System (EMS) and/or Standard Operating Procedures (SOP) to ensure the plan is being followed.

Water hoses are used manually to minimize particulates as needed depending on the quality of the scrap. Every scrap load with excessive dirt and/or particulates typically is wetted during non-rain events.

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	Cupola	S1	<input checked="" type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Afterburners Pulse jet baghouse	A20 A22 A19	Thermal oxidation (VOHAP), particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature > 1300 F [A20, A22] Differential Pressure 2-10 in H2O [A19]
2	Automatic Pouring Furnace Liquimetrics (P2-P3)	S7 63.7690(b)(3)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
3	Automatic Pouring Furnace Liquimetrics (2013)	S8 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
4	Automatic Pouring Furnace Liquimetrics (P5-P6)	S9 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
5	Automatic Pouring Furnace Liquimetrics (270A)	S10 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
6	Holding Furnace Linemelt 60 Ton	S25 63.7690(b)(1)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse jet baghouse	A25	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> 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	Cupola Baghouse (A19) GMD 289-14-6WI	Inlet and Outlet Dampers Screw Conveyor Bearings Inspection of pressure reading/settings Bag break Detectors Response test Screw Conveyor Oil Check Bucket Elevator Thermocouple Inspection GMD Test Feeder Screw Conveyor Reducer Inspection Airlock and Motor Inspection Fan Motor Megger Test Fan Vibration Analysis Bucket Elevator Flue Gas Cooler Fan Belts Inspection Flue Gas Cooler Fans Lubrication Flue Gas Cooler Screw Conveyor grease and thermocouple Flue Gas Cooler Rotary Valve Gearbox Flue Gas Cooler Tube Inspection	Semi-annual Bi-monthly Weekly and monthly Monthly Monthly Monthly Monthly Semi-annual Semi-annual Monthly Quarterly Quarterly Quarterly Semi-annual Tri-annual Weekly Quarterly Quarterly
2	Afterburner (A20, A22) Maxon 8 MMBTU/Hr	Inspection of flow rate, gauge readings, thermocouples, and all electrical and mechanical connections Oxygen Shutoff valves Quarterly inspection Afterburner system Oxygen shut off valves	Monthly Semi-annual Quarterly Semi-annual Weekly
3	Fume Baghouse (A25) GMD 480-10-6R8	Bag break Detectors Response test Inspection of pressure reading/settings Fume Baghouse Lubrication Fume Baghouse Photohelic Inspection Fan Vibration Analysis	Monthly Daily Quarterly Quarterly Quarterly

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	Cleaning	General clean up of spilled iron and sand to reduce tracking	Daily
2	Inside furnace repair	Open and repair inside of furnace to assist in sealing.	Quarterly

402.4 Forging Operations

B. Description of Operations - FORGING OPERATIONS

Section #	Equipment Name and Manufacturer/ Model #	District # 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						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
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						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> 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 # 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	Pouring cooling shakeout Mouldmaking Disamatic 270	S-58, S-2 63.7690(a)(7)	20 minutes	PM Conveyor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse-jet baghouses, building capture	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag detector 0.01 mg/m3 Visible Emissions - Opacity
2	Pouring cooling shakeout Mouldmaking Disamatic 2013	S-59, S-2 63.7690(a)(7)	15 minutes	AM Conveyor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse-jet baghouses, building capture	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag detector 0.01 mg/m3 Visible Emissions - Opacity
3	No bake Molding Miscellaneous	S-52 63.7690(a)(7)	2-12 hours	No bake area	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse-jet baghouses, Afterburner, Building Capture	Particulates, organics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag detector 0.01 mg/m3 Temperature 1300 F Visible Emissions - Opacity
4	Pipe Machines ABI	S-53, S-54, S-55, S-56, S-57 N/A	10-20 seconds	Pipe Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building Capture	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> 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.

Per §63.7710(b)(6), AB&I is required to document the autoignitability determination of mold vents of sand mold systems in the Disa 2013 and Disa 270 pouring stations. Molds and sand/binder ratios are not typically modified on these pouring lines. The molds move on a conveyor through each pouring station. Molten iron is poured into the molds and the molds move down the conveyor line for cooling. Immediately after the molten iron is poured into the molds, 100 percent of the mold vents ignite automatically. The flame remains lit for at least 15 seconds.

Organic HAP are emitted from pouring areas and pouring, cooling, and shakeout lines when chemicals in sand molds and cores are vaporized or pyrolyzed by the heat of the molten metal. The most common control for organic HAP is ignition of mold offgas. After several minutes (roughly 5 to 10 minutes depending on the size of the mold and castings), the rate of gaseous release from the molds eventually subsides to the point that a flame cannot be supported by the mold vents. At this point, the flame goes out but the molds can continue to smolder and emit organic HAP as they continue to cool. Ignition of mold vents is believed to effectively reduce organic emissions immediately after pouring when the release of organic vapor from the molds is the highest.

To reduce tracking of molding sand:

Weekly:

Casting line (Disa 270) is emptied and cleaned weekly.

Daily (production):

Casting line (Disa 2013) is cleaned.

Pipe casting line is rinsed down.

No-bake casting area is cleaned.

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
1	A-14 Baghouse #2 4614-PT-120-6	Conveyor Belt Inspection Inspect magnehelic and settings Dust Wetter/Feeder Fan Belt Inspection Gauges and manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Blower Motor Grease Check Lubrication of Bearings and Gearbox Method 22	Monthly Daily Monthly and Annual Monthly Quarterly Quarterly Weekly Biennial Monthly Weekly
2	A-18 Baghouse #4 CV-561-10-6RA	Conveyor Belt Inspection Inspect magnehelic and settings Dust Wetter/Feeder Fan Belt Inspection Gauges and pulse manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Blower Motor Grease Check Lubrication of Bearings and Gearbox Method 22	Monthly Daily Monthly and Annual Monthly Quarterly Quarterly Weekly Biennial Monthly Weekly
3	A-20/A-22 Afterburners Maxon 8 MMBTU/Hr	Inspection of flow rate, gauge readings, thermocouples, and all electrical and mechanical connections Oxygen Shutoff valves Quarterly inspection Afterburner system Oxygen shut off valves	Monthly Semi-annual Quarterly Semi-annual Weekly
4	A-21 Baghouse #5 GMD-630-10-6RA	Inspect magnehelic and settings Pulse Valve Inspection Bag break Detectors Response test Screw Conveyor Oil Check Fan Motor Megger Test Screw Conveyor Motor Inspection Fan Motor Grease Check Photohelic Gauge Adjustment Conveyor/ fan Belt Inspection Dust Wetter/Feeder	Daily Semi-annual Monthly Monthly Quarterly Quarterly Biennial Annual Monthly Monthly and annual

		Gauges and pulse manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Check	Quarterly Quarterly Weekly and monthly

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
1	Cleaning	Disa 270 line - emptied and cleaned to reduce tracking of sand	Weekly
2	Cleaning	Disa 2013 line - emptied and cleaned to reduce tracking of sand	After every operational run
3	Cleaning	No-Bake - cleaned to reduce tracking of sand	After every operational day
4	Washing/Cleaning	Pipe - Rinse down machines and area to reduce fugitives.	After every operational day

402.6 Shake Out Operations

B. Description of Operations - SHAKE OUT OPERATIONS

#	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
1	Didion MD 300	S-2 N/A	Molding Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-18	Pulse-Jet baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
2	Didion MD 100	S-2 N/A	Molding Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-21	Pulse-Jet baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O Bagbreak detector 0.01mg/m3
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> 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
1	A-18, #4 Baghouse CV-561-10-6RA	Conveyor Belt Inspection Inspect magnehelic and settings Dust Wetter/Feeder Fan Belt Inspection Gauges and pulse manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Blower Motor Grease Check Lubrication of Bearings and Gearbox Method 22	Monthly Daily Monthly and annual Monthly Quarterly Quarterly Weekly Biennial Monthly Weekly
2	A-21, #5 Baghouse GMD 630-10-6R8	Inspection of pressure reading/settings Pulse Valve Inspection Bag break Detectors Response test Screw Conveyor Oil Check Fan Motor Megger Test Screw Conveyor Motor Inspection Fan Motor Grease Check Photohelic Gauge Adjustment Conveyor/ fan Belt Inspection Dust Wetter/Feeder Gauges and pulse manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System	Daily Semi-annual Monthly Monthly Quarterly Quarterly Biennial Annual Monthly Monthly and annual Quarterly Quarterly Weekly-monthly

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
1	Clean up the sand off the molding line	Remove spilled sand to avoid tracking throughout plant	Weekly
2	Process all sand mold on the molding line	Reduce sand handling during maintenance activities.	Weekly

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
1	<input checked="" type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:	S-49 N/A	Cast finishing	GRINDERS: 8 WELDERS: OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-14	Pulse-Jet Baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
2	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Shotblast	S-4, S-5, S-27, S-30 N/A	Cast finishing	GRINDERS: WELDERS: 4 OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-17	Pulse-Jet Baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
3	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Coating	S-34, S-35, S-36 N/A	Pipe Finishing	GRINDERS: WELDERS: 3 OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-35, A-36	Mist Eliminator	Asphalt Aerosol Emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-15 in H2O
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> 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
1	A-14, #2 Baghouse 4614-PT-120-6	Conveyor Belt Inspection Inspect magnehelic and settings Dust Wetter/Feeder Fan Belt Inspection Gauges and manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Blower Motor Grease Check Lubrication of Bearings and Gearbox Method 22	Monthly Daily Monthly and annual Monthly Quarterly Quarterly Weekly Biennial Monthly Weekly
2	A-17, #3 Baghouse 2614-PT-120-6	Conveyor Belt Inspection Inspect magnehelic and settings Dust Wetter/Feeder Fan Belt Inspection Gauges and manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System Blower Motor Grease Check Lubrication of Bearings and Gearbox Method 22	Monthly Daily Monthly and annual Monthly Quarterly Quarterly Weekly Biennial Monthly Weekly
3	A-35, Mist Eliminator 1 CECO/CMC-15000-C-F	Inspect Magnehelic and motor amps Grease outboard bearing Grease Inboard bearing, fan wheel inspection, drive alignment, inspect seals and bolts	Daily Bi-Weekly Semi-annual
4	A-36, Mist Eliminator 2 Blue Smoke Control/6S12C	Inspect Magnehelic and motor amps Grease outboard bearing Grease Inboard bearing, fan wheel inspection, drive alignment, inspect seals and bolts	Daily Bi-Weekly Semi-annual

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
1	Clean up shot blast media	Control particulate matter and tracking via mobile equipment	Daily
2	Sweeping Grinding dust	Control particulate matter	Daily

402.8 Sand Reclamation

B. Description of Operations - SAND RECLAMATION

#	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
1	No bake molding General Kinematics GK C-7203-1	S-52 63.7690(a)(7)	Mechanical	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-21	Pulse jet baghouse	Particulate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag 0.01 mg/m ³
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> 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
1	A-21 Baghouse #5 GMD 630-10-6R8	Inspect magnehelic and settings Pulse Valve Inspection Bag break Detectors Response test Screw Conveyor Oil Check Fan Motor Megger Test Screw Conveyor Motor Inspection Fan Motor Grease Check Photohelic Gauge Adjustment Conveyor/ fan Belt Inspection Dust Wetter/Feeder Gauges and pulse manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System	Daily Semi-annual Monthly Monthly Quarterly Quarterly Biennial Annual Monthly Monthly and annual Quarterly Quarterly Weekly-monthly

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
1	Concrete barriers under roof contain pile of no bake molding tailings	Control particulate matter	Daily
2	Clean up sand spills around sand reclamator	Control particulate matter and tracking of sand	Weekly

402.9 Dross and Slag Management

B. Description of Operations - DROSS AND SLAG MANAGEMENT

# Section	Material	Describe Location for Cooling of Material	Abated Source	#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters	Material Disposition
1	Dross	N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Offsite Recycling <input type="checkbox"/> Offsite Disposal <input type="checkbox"/> Onsite Reprocessing
2	Slag	Cupola department- Dry slagger air cooled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Offsite Recycling <input checked="" type="checkbox"/> Offsite Disposal <input type="checkbox"/> 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
	N/A		

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	Transport slag to storage building	Storage of slag in covered building	Twice a week

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 #	Description of Abatement
1	Baghouse #2	A-14	Sand preparation, Grinding	S-2, S-49	Pulse jet baghouse
2	Baghouse #3	A-17	Shotblast	S-4, S-5, S-27, S-30	Pulse jet baghouse
3	Baghouse #4	A-18	Shakeout, Didion	S-2	Pulse jet baghouse
4	Baghouse #5	A-21	Pouring and cooling, shakeout, No bake	S-2, S-52	Pulse jet baghouse
5	Cupola Baghouse	A-19	Cupola, no bake	S-1, S-52	Pulse jet baghouse
6	Fume Baghouse	A-25	Holding furnace	S-25	Pulse jet baghouse
7	Afterburners	A-20, A-22	Cupola, no bake	S-1, S-52	Thermal-oxidizer
8	Mist Eliminator 1	A-35	Pipe Finishing Dip Tank	S-34, S-35, S-36	Asphalt Aerosol
9	Mist Eliminator 2	A-36	Pipe Finishing Dip Tank	S-34, S-35, S-36	Asphalt Aerosol

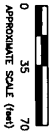
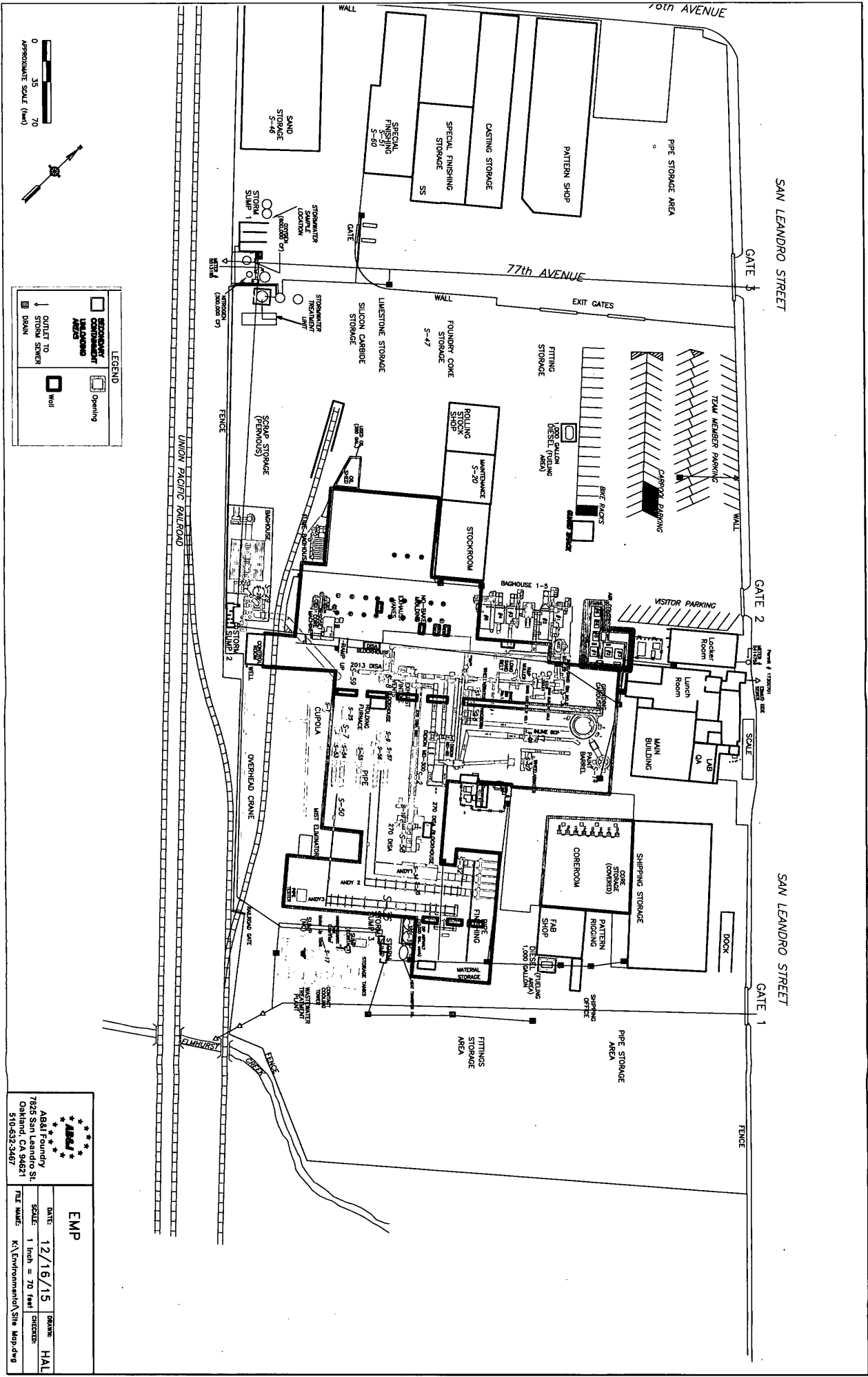
Technical Data

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

B. Facility Layout / Floor Plan



LEGEND

	Secondary Containment Landfill Area
	Opening
	Wall
	Outlet to Storm Sewer
	Drain

EMP

AB&I
7825 San Leandro St
Oakland, CA 94621
510-632-3467

EMP	DATE: 12/16/15	DRAWN: HAL
	SCALE: 1 inch = 70 feet	CHECKED:
	FILE NAME: K:\Environment\Site Map.dwg	

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	Finishing	Mist eliminators	08/2010	Reduce fugitive organic emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial Training
2	Finishing	Hot Dip	2010	Eliminate VOC from Asphalt Coating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial Training
3	Metal Management	Added concrete berms to various scrap areas	2012	Reduce tracking of fugitive particulates	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4	Shakeout	Replaced Didion	07/2014	Improve cleaning of castings - reduce fugitives	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	Mold and Core Making	Switched to lower VOC binder	2006-2007	Lower VOC emissions	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6	Furnace Operations	Replaced Fume Baghouse	2007-2008	Upgrade abatement device	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial Training
					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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
N/A					

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
	N/A				

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	Enclose pipe pouring and cooling areas.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Partial - Install siding on southwest side of Pipe and Pipe finishing department to reduce cross winds. [Completed AUG 2015]	Aug 2015	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Enclose mold pouring, cooling and shakeout areas and capture and abate emissions from these operations. Types of abatement to consider may include, but are not limited to, baghouses and carbon adsorption units.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Upgrade sand handling baghouse to 65,000 scfm unit. [Completed AUG 2015] Upgrade ductwork for Dijon lines, shakeout oscillators, and pouring areas for proper capture of fugitive emissions.	Aug 2016	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Enclose sand and slag storage areas.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Install bottom half of siding on sand storage building as well as roll up door for Maintenance area entry.	Dec 2016	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	As a future measure, consider including the asphalt coating operation as a source of fugitive emissions and identify measures to capture and control those emissions. Provide a description of the specific type of asphalt coating and additives used in the operation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Added coating operation and control measures to the EMP (page 41) and attached SDS information to the appendix section.	July 2015	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<p>Enclose shell/core molding area and capture and abate emissions from that operation. Types of abatement to consider may include, but are not limited to, baghouses and carbon adsorption units.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Partial - Adding new building for core machines. Evaluate abatement for fugitives after startup. <i>District Response: Please specify the new building location in the plant layout in the EMP.</i></p>	<p>July 2016</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>5</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Adding new building for core machines. Evaluate abatement for fugitive after startup. Enclosed updated plant layout.</p>	<p>July 2016</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>6</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Adding broken bag detector to #4 baghouse [Completed AUG 2015] Bag break detectors for 3 remaining baghouses will be added by Dec 2017.</p>	<p>Dec 2017</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>7</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Partial - Evaluate methods to reduce emissions coming from ladle transfer operations. <i>District Response: By July 1, 2016, identify and submit a list of methods to be evaluated by July 2017 to reduce emissions from ladle transfer operations.</i></p>	<p>July 2017</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>8</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Identify and retain a list of methods to be evaluated in 2017 to reduce emissions from ladle transfer operations.</p>	<p>July 2017</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Reduce and control fugitive emissions from loading operations where scrap metal and returns are loaded onto scale and into charging bucket. Similarly, reduce and control fugitive emissions where coke is loaded via the pay loader.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>N/A</p>	<p>Partial - Evaluate methods to reduce and control fugitive emissions from coke loading and scrap charging. <i>District Response: Please identify the methods that will be evaluated by July 2016 to reduce and control emissions from coke loading and scrap charging operations.</i></p>	<p>July 2016</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	N/A	Evaluate the following methods to reduce and control emissions from Coke loading and scrap charging: 1. Abatement device for coke loading 2. Enclose Charging area 3. Automate coke loading 4. Adding Coke storage hopper	July 2016	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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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.

Appendix #

Reference to Page # , Section #

MATERIAL SAFETY DATA SHEET

REV. DATE 3/17/2010

QUICK IDENTIFIER: PIPE COATING DIP
 MANUFACTURER'S NAME: PCT, INC.
 ADDRESS: 1001 MT. LEBANON RD.
 CEDAR HILL, TX 75104
 EMERGENCY 24 HR. TELEPHONE NUMBER: (972) 291-7474
 OTHER INFORMATION CALLS: (972) 291-7474

SECTION 1 - IDENTIFY

TRADE NAME AND SYNONYMS: SAPC - 100
 C.A.S. NUMBER: NONE, MIXTURE
 CHEMICAL NAME: SYNTHETIC ASPHALT
 CHEMICAL FAMILY: PETROLEUM HYDROCARBON
 FORMULA: VARIABLE MIXTURE

SECTION 2 - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS (CHEMICAL & COMMON NAMES)	%	THRESHOLD LIMIT VALUE (UNITS)
CONTAINS NO HAZARDOUS SARA INGREDIENTS		
ASPHALT, PETROLEUM	85 - 100	5.00 mg/m ³
SYNTHETIC WETTING AGENTS	0 - 10	
ODOR CONTROL	0- 5	

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

BOILING POINT: 2 n/a SPECIFIC GRAVITY (H20-1.00): 97 - 1.02
 VAPOR PRESSURE (mmHG): N/D VAPOR DENSITY (AIR @ 1): > 1
 PERCENT VOLATILE BY VOLUME: 0 EVAP. RATE (H20 = 1.00): 1
 APPEARANCE AND ODOR: HIGH VISCOSITY, SMOOTH BLACK LIQUID, SLIGHT ODOR

SECTION 4 - FIRE AND EXPLOSION

FLASH POINT: 625°F AUTO IGNITION TEMP: N/A
 FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER: N/A UPPER: N/A
 EXTINGUISHER MEDIA: ASPHALT STATE: SMALL FIRES, USE DRY CHEMICAL. CO2, HALON, WATER SPRAY OR STANDARD FOAM. LARGE FIRES USE WATER SPRAY, FOG OR STANDARD FOAM.
 (1987 EMERGENCY RESPONSE GUIDEBOOK, D.O.T. P5800.4 GUIDE NO. 27)
 SPECIAL FIRE FIGHTING PROCEDURES: ASPHALT STATE: MOVE VESSEL FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. COOL CONTAINERS THAT ARE EXPOSED TO FLAMES WITH WATER FROM THE SIDE UNTIL WELL AFTER THE FIRE IS OUT. STAY AWAY FROM ENDS OF TANK. FOR MASSIVE FIRE IN CARGO AREA. USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHDRAW FROM AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE.
 (1987 EMERGENCY RESPONSE GUIDEBOOK D.O.T. P5800.4 GUIDE NO. 27)

SECTION 5 - PHYSICAL HAZARDS

MATERIAL IS: STABLE
 CONDITIONS TO AVOID: NONE
 INCOMPATIBILITY (MATERIALS TO AVOID): NONE
 HAZARDOUS POLYMERIZATION WILL: NOT OCCUR

SECTION 6 - HEALTH HAZARDS

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN.
 IN COOL STATE ASPHALT EMULSIONS HAVE NOT BEEN FOUND TO BE CARCINOGENS.
 NAT. TOXICOLOGY PROGRAM NO
 OSHA YES
 I.A.R.C. *UNDETERMINED

OSHA PERMISSIBLE EXPOSURE LIMIT: (ASPHALT FUMES: 5mg/m³ MAX CEILING)

ACGIH THRESHOLD LIMIT VALUE: (ASPHALT FUMES: 5mg/m³ TWA)

OTHER EXPOSURE LIMIT USED: NONE

ROUTES OF EXPOSURE: PRIMARY - SKIN CONTACT
SECONDARY - INGESTION OR INHALATION

SIGNS AND SYMPTOMS OF EXPOSURE: SKIN - CONTACT WITH HOT PRODUCT MAY CAUSE THERMAL BURNS. PROLONGED OR REPEATED CONTACT WITH COOL PRODUCT MAY CAUSE IRRITATION.

INGESTION - ASPHALT MAY CAUSE NAUSEA AND IRRITATION OF GASTROINTESTINAL TRACT.

INHALATION - EXCESSIVE EXPOSURE TO FUMES, VAPORS OR MISTS MAY CAUSE SOME RESPIRATORY DISCOMFORT OF THE MUCOUS MEMBRANES. ASPHALT, WHEN HEATED, RELEASES VARIOUS CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS. H₂S IS AN EXTREMELY TOXIC AND FLAMMABLE GAS THAT AT LOW CONCENTRATIONS IS IRRITATING TO THE RESPIRATORY TRACT AND HAS A ROTTEN EGG ODOR. ODOR CAN NOT BE RELIED ON AS A MEANS OF DETECTION BECAUSE AT HIGHER CONCENTRATIONS OF 500 - 1000 ppm MAY LEAD TO UNCONSCIOUS, RESPIRATORY PARALYSIS AND DEATH.

EMERGENCY AND FIRST AID PROCEDURES: INHALATION - IF OVEREXPOSURE OCCURS, REMOVE INDIVIDUAL TO FRESH AIR. IF DISCOMFORT CONTINUES, SEEK MEDICAL ATTENTION.

EYES - FLUSH EYES IMMEDIATELY WITH COPIOUS AMOUNTS OF WATER AT LEAST 15 MINUTES OCCASIONALLY LIFTING THE UPPER AND LOWER EYE LIDS. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN - HOT PRODUCT SHOULD BE COOLED WITH WATER. CLEAN SKIN WATERLESS TYPE HAND CLEANER FOLLOWED BY SOAP AND WATER. IF IRRITATION OR BURN DEVELOPS, SEEK MEDICAL ATTENTION. COOL PRODUCT MAY BE CLEANED WITH WATERLESS TYPE HAND CLEANER.

INGESTION - IF MATERIAL IS SWALLOWED, DO NOT INDUCE VOMITING. TREAT SYMPTOMATICALLY AND GET MEDICAL ATTENTION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: UNKNOWN

SECTION 7 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NORMALLY NOT NEEDED, BUT IF CONDITIONS WARRANT USE ORGANIC VAPOR RESPIRATORS.

VENTILATION LOCAL EXHAUST: AS NEEDED TO REMOVE MISTS OR VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS COATING

EYE PROTECTION: CHEMICAL GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: APPROPRIATE CLOTHING TO PREVENT REPEATED OR PROLONGED CONTACT WITH SKIN.

SECTION 8 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: AVOID HEATED PRODUCT FUMES

OTHER PRECAUTIONS: OBSERVE GOOD PERSONAL HYGIENE. LAUNDRY CONTAMINATED CLOTHES BEFORE REUSE. DO NOT WEAR LEATHER SHOES OR BOOTS THAT HAVE BECOME SATURATED WITH PRODUCT.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CREATE DIKES OR PONDS AS SOON AS POSSIBLE. USE EARTH, SAWDUST OR SAND TO MAKE DIKES OR TO USE AS ABSORBENT. UPON ABSORPTION, MATERIAL WILL REVERT TO ASPHALT STATE AND CAN BE REMOVED WITH ABSORPTION MATERIAL.

WASTE DISPOSAL METHODS: EMULSION CAN BE MIXED WITH ANY STABILIZING MATTER (e.g., ROCK, GRAVEL OR SAND) IN ORDER TO CHANGE ITS STATE FROM A LIQUID INTO A SOLID. THIS MATERIAL CAN THEN BE DISPOSED OF AT AN APPROVED LANDFILL.

EXPLANATION OF ABBREVIATIONS:

N/D -	NOT DETERMINED
N/A -	NOT APPLICABLE
TLV -	THRESHOLD LIMIT VALUE
TWA -	TIME WEIGHTED AVERAGE

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