

# Emissions Minimization Plan

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

United States Pipe & Foundry Company, LLC  
District Site # A0083  
1295 Whipple Road  
Union City, CA 94587

PUBLIC COPY  
September 23, 2014

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*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: 9/24/2014

David A. Hiestand  
Plant 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
B. Schedule of Management Operators, Names and cell phone numbers, page 8	Schedule of Management Operators is a CBI because its disclosure can give an economic advantage to our competitors, and also for security reasons.
A. Operations Subject to EMP and Schedule of Operations, page 10	Schedule of Operations is a CBI because its disclosure can give an economic advantage to our competitors.
B. Description of Operations-Mold and Core Making Operations, page 12	Name of Binders and Product Code is CBI because its disclosure can give an economic advantage to our competitors.
B. Description of Operations-Mold and Core Making Operations, page 13	Name of Binders and Product Code is CBI because its disclosure can give an economic advantage to our competitors.
A. Process Flow Diagram, page 53	Process Flow Diagram is a CBI because its disclosure can give an economic advantage to our competitors.
B. Facility Layout/Floor Plan, page 54	Facility layout/Floor Plan is a CBI for security reasons.
Appendix #1, page 65	Scrap Receiving Form is a CBI because its disclosure can give an economic advantage to our competitors.

# Company Description

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United States Pipe and Foundry Company, LLC (US Pipe) owns and operates an iron foundry in Union City, California (UC) for the production of ductile iron pipe. Iron scrap is melted in a cupola furnace and the molten metal is cast into pipe using reusable molds.

US Pipe is classified as a Large Foundry and is subject to air emission regulations described in the Code of Federal Regulations, Title 40 of the Code of Federal Regulations, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries Area Sources, Part 63, Subpart ZZZZZ.

The facility is also subject to the newly promulgated Bay Area Air Quality Management District (BAAQMD) Regulation 12-13: Miscellaneous Standards of Performance for Foundry and Forging Operations. The purpose of this Rule is to require the development of and compliance with Emissions Minimization Plans designed to minimize the fugitive emissions of particulate matter and odorous substances from foundries and forges operating within the District.

As part of Regulation 12-13 requirements, the facility reported to the BAAQMD the list of the operations, processes, and equipment used for its Metal Melting, Tapping and Mold and Core Making Operations which are subject to 40 CFR Part 63, Subpart ZZZZZ: NESHAP for Iron and Steel Foundries Area Sources, Section 63.10895(b). In addition, this facility submitted to the BAAQMD a copy of its written Operation and Maintenance Plan that was required by the US EPA Administrator pursuant to 40 CFR Part 63, Subpart ZZZZZ: NESHAP for Iron and Steel, Section 63.10896.

This Emission Minimization Plan (EMP) is developed pursuant to Regulation 12-13. This EMP details the management practices, measures, equipment and procedures that are employed or are scheduled to be implemented to minimize fugitive emissions of particulate matter and of odorous substances, as prescribed in the regulations, particularly in Sections 12-13-402 and 403.

As stipulated in the regulation, this EMP has to be reviewed by the BAAQMD Air Pollution Control Officer (APCO) for completeness. Once deemed complete, the APCO shall make the complete Plan available for public comment. Thus, this EMP must also be revised accordingly based on comments received from the public and APCO's recommendations, if any, for additional processes and procedures to further reduce or prevent fugitive emissions from the foundry based on technical and economic feasibility, and made in consideration of worker health and safety.

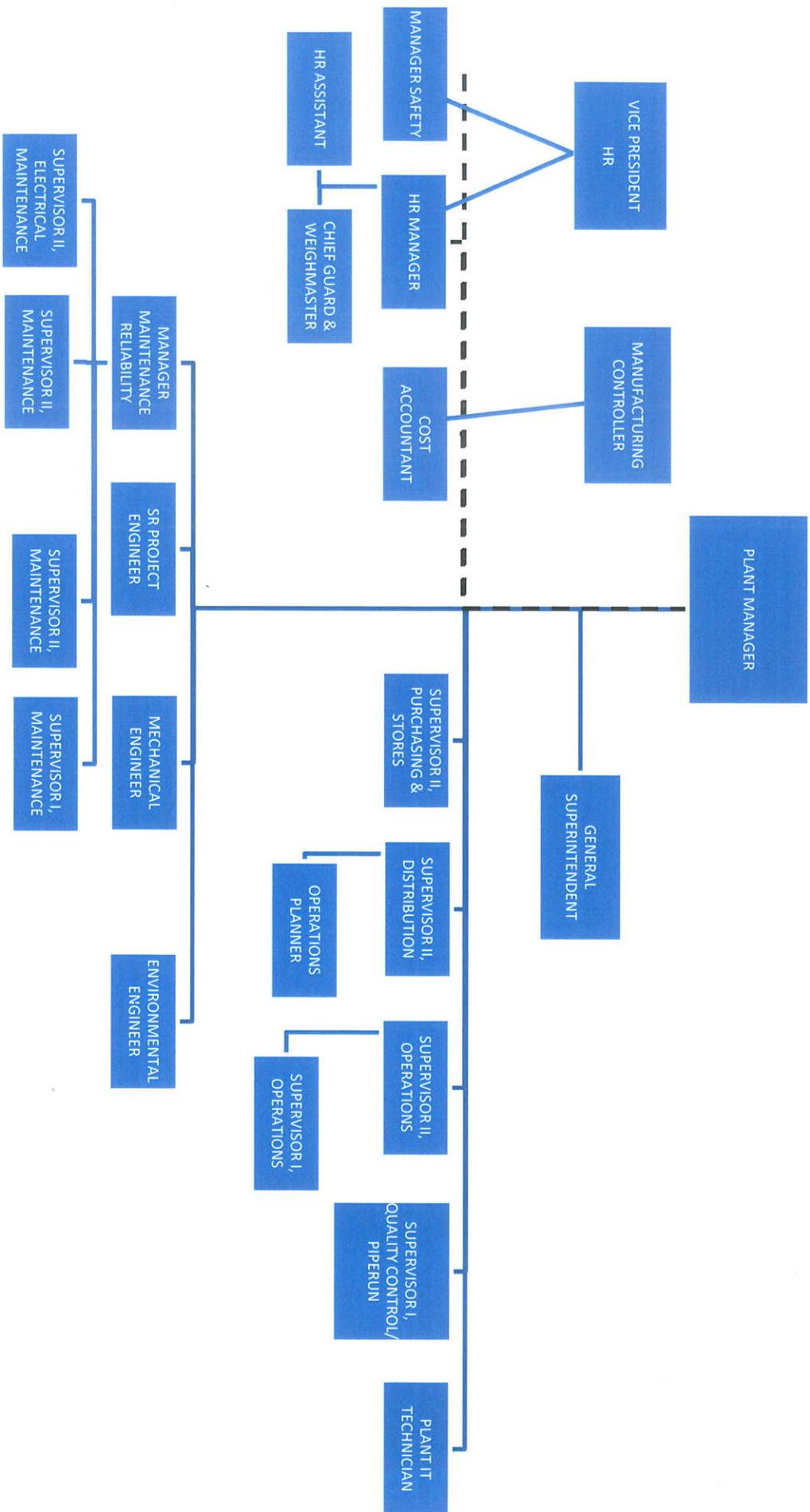
# Company Organizational Chart and Schedule of Management Operators

## 12-13-403.1.3

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- 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**  
**UNITED STATES PIPE & FOUNDRY COMPANY, LLC**



Regulation 12, Rule 13: Foundry and Forging Operations  
 Emissions Minimization Plan

## B. Schedule of Management Operators

### Onsite Responsible Manager(s)

Name:  
Title: Plant Manager  
Phone: 510-441-5810  
Email:  
Schedule/Shift:

Name:  
Title: Plant Superintendent  
Phone: 510-441-5810  
Email:  
Schedule/Shift:

### Onsite Alternate Contact(s)

Name:  
Title: Plant Superintendent  
Phone: 510-441-5810  
Email:  
Schedule/Shift:

Name:  
Title: Supervisor II, Operations (Melting)  
Phone: 510-441-5810  
Email:  
Schedule/Shift:

Name:  
Title: Environmental Engineer  
Phone: 510-441-5810  
Email:  
Schedule/Shift:

# Contents of the EMP

## 12-13-403

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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	
<input checked="" type="checkbox"/> 402.2    Metal Management	
<input checked="" type="checkbox"/> 402.3    Furnace Operations, including tapping and pouring	
<input type="checkbox"/> 402.4    Forging Operations	
<input checked="" type="checkbox"/> 402.5    Casting and Cooling Operation	
<input type="checkbox"/> 402.6    Shake Out Operations	
<input checked="" type="checkbox"/> 402.7    Finishing Operations	
<input type="checkbox"/> 402.8    Sand Reclamation	
<input checked="" type="checkbox"/> 402.9    Dross and Slag Management	

## 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
1	RJ Machinery Co. Inc Model#2436	FS-53 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2	RJ Machinery Co. Inc Model#2436	FS-54 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3	RJ Machinery Co. Inc Model#1826	FS-55 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4	RJ Machinery Co. Inc Model#1220	FS-56 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	RJ Machinery Co. Inc Model#1220	FS-57 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6	RJ Machinery Co. Inc Model#1220	FS-81 (Exempt) N/A		None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7	Core Coating Model# Unknown	FS-58 (Exempt) N/A	None	None	None	None	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		None	<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	Resin Coated Sand		FS-53 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
2	Resin Coated Sand		FS-54 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
3	Resin Coated Sand		FS-55 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
4	Resin Coated Sand		FS-56 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
5	Resin Coated Sand		FS-57 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
6	Resin Coated Sand		FS-81 (Exempt)	VOC CONTENT (%): 0.002% PHENOL CONTENT (%): 0.006%
				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	None		
2	None		
3	None		
4	None		
5	None		
6	None		
7	None		



## 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	Scrap metals: Cut plate & structural steel; Foundry steel Busheling steel; Motor blocks less transmissions; Shredded auto bodies (frag).	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Once scrap metals have been melted and become a molten iron, cup samples are taken and analyzed for the metal chemistry in an Spectro machine.
		<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.**

US Pipe Union City Pipe Plant has a metallic scrap broker (MS Services, Ltd (MSS) chosen as the exclusive agent for procuring scrap at U.S. Pipe's Union City plant. A Materials Acquisition Program has been developed that requires scrap to be free, to the extent practicable, of organics (such as plastics and petroleum-based oils) and HAP metals (such as mercury and lead).

For organics, the scrap supplier shall, to the extent practicable, remove plastics and ensure scrap materials are drained free of liquids. For HAP metals, the scrap supplier shall, to the extent practicable, remove accessible mercury switches from trunks and hoods of automotive bodies and also, to the extent practicable, remove lead components such as batteries and lead wheel weights.

Facility has no scrap certification program but has a scrap inspection and scrap materials acquisition program. U.S. Pipe representatives responsible for the handling and processing of scrap materials and familiar with scrap quality (melting supervisors, crane operators, crane followers, etc.) shall do a visual inspection on each shipment of scrap materials that arrives at U.S. Pipe plant in Union City. The U.S. Pipe inspectors shall use the Scrap Receiving Form in conducting their visual inspections prior to receiving the scrap delivery (see Appendix 1).

In addition, the scrap broke (MSS) shall perform visual inspections of a representative portion of all incoming scrap shipments to ensure scrap materials meet the requirements of both MSS's Materials Acquisition Program and US Pipe Scrap Selection and Inspection Program. MSS inspections shall consist of a visual observation of random scrap shipments to ensure that the scrap material, to the extent practicable, does not contain free flowing liquids, visible mercury switches, visible lead wheel weights, or visible battery parts.

Scrap materials containing free-flowing liquids, visible mercury switches, visible lead wheel weights, or visible battery parts are rejected.

Scrap broker is not on site during business hours when scrap is delivered. Scrap selection and inspection program by MSS has the same scope as that of facility representatives' inspections.

If US Pipe representative's inspection warrants a scrap rejection, US Pipe will call the scrap broker about the rejection and the reasons for the rejection.

US Pipe employees are given verbal instructions (training) once a year to ensure they know and understand work practice standards and metal management procedures. A review of procedures with the employees is also done whenever there is a change in scrap specifications (e.g., a change in spec's for scrap sizes).

Sampling and analyzing of scrap metal as per delivery is not conducted; however, once scrap metals have been melted and become a molten iron, cup samples are taken and analyzed for the metal chemistry in an Spectro

machine. If metal chemistry problem is encountered and the scrap metal delivered is the suspect, a sample is taken from the scrap pile to be analyzed for metal chemistry in an Spectro machine.

### **C. Management Practices to Reduce Fugitive Emissions– Metal Management**

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

1. Footprint of the scrap metal pile has been reduced and scrap materials are stockpiled close to S-1 Cupola charging area. This measure eliminates the double movements of the scrap metal thus, reducing fugitive emissions from the extra movement of the scrap material from one pile to another pile.
2. Scrap delivery is limited to times between 6:00 AM and 2:00 PM only. By curtailing the scrap delivery time, the duration of fugitive emission during deliveries is reduced to eight hours only, instead of more than eight hours.
3. A water truck is used routinely for dust control at least once a month, or whenever the roads become dusty.
4. A street sweeper vehicle is used routinely to sweep the yard at least once a week, or whenever the roads become dusty.

## 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	S-1 NESHAP for Iron and Steel Foundries Area Sources, Section 63.10895 et seq	<input checked="" type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Afterburner Cupola Baghouse Ductile Baghouse	A-3, A-13 A-10	Combust carbon monoxide; combust any trace amounts of VOC or oil from engine blocks and scrap metals; control particulate matter emissions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Continuous temperature monitor; A-3 Afterburner temperature at 1550 deg F whenever S-1 Cupola is in operation  Daily A-13 visible emission monitoring (Method 22); Ringelmann No.1 opacity <= 3 minutes aggregated in any hour  Continuous A-13 Baghouse differential pressure monitor; maintain pressure differential between 0.25 to 8 inches of water column  Daily preventive maintenance records for A-13  Monthly inspection of A-13 baghouse (NESHAP)  Semi-annual opacity testing (Method 9) for fugitive emissions from furnace building (NESHAP)  Weekly preventive maintenance records for A-10  Weekly A-10 visible emission monitoring (Method 22); Ringelmann No.1 opacity <= 3 minutes aggregated in any hour  A-13 Source test for Particulate Matter every five years
2	Annealing Oven	S-15 None	<input type="checkbox"/> Melting <input checked="" type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None			<input type="checkbox"/> Yes <input type="checkbox"/> No	Monthly visible emission monitoring (Method 22); Ringelmann No.1 opacity <= 3 minutes aggregated in any hour
			<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	Afterburner-North American 214-8A	Clean/scrape dust buildup  Replace thermocouples as needed	Clean every eight weeks
2	Baghouse-GMD Model #289-14-6WI  Baghouse has no broken bag leak detectors	Baghouse inspection Baghouse cleaning cycles and bag changes Clean/empty hoppers	Daily inspection of the double flap airlocks for continuous operations; checking of screw conveyor if working; checking for system air leaks; checking for static pressure and baghouse differential pressure; checking the smokestack for any visibles;  The baghouse cleaning cycle is based on baghouse differential pressure. Baghouse will start cleaning when the preset diffrentail pressure (3 IWC) is attained,  Daily cleaning/emptying of baghouse hoppers; sweeping of the floors and cleaning the area
3	Baghouse-Harsell Baghouse (Custom Built)  Baghouse has no broken bag leak detectors	Baghouse Inspection Clean/empty hoppers	Weekly inspection of the baghouse; checking if dampers open and close; checking for compressed air leak; checking for excessive ID fan vibration; visual inspection of shakers;checking

			<p>baghouse differential pressure.</p> <p>The baghouse cleaning cycle is based on timer. Baghouse will start cleaning at preset times: 3 seconds shake for one section and 10 minutes break; then 3 second shake for the second section and 10 minutes break, etc. (Drum Switch Cycle).</p> <p>Clean/empty at least once a year.</p>



## 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
						<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	





## 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	Casting Machine #171 (Model- Custom Built)	FS-44 District Exempt  No Applicable NESHAPs	25 secs	Main Manufacturing Building - Casting Area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Casting Machine #172 (Model-Custom Built)	FS-45 District Exempt  No Applicable NESHAPs	25 secs	Main Manufacturing Building - Casting Area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None		<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Casting Machine #173 (Model-Custom Built)	FS-46 District Exempt  No Applicable NESHAPs	27 secs	Main Manufacturing Building - Casting Area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Casting Machine #174 (Model-Custom Built)	FS-47 District Exempt  No Applicable NESHAPs	35 secs	Main Manufacturing Building - Casting Area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None		<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 - 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.

Our casting is done inside steel molds in the casting machines. The bell-shape-end of the pipe is the only part made of core sand mold. This sand mold is broken when the cast pipe is pulled out from the casting machine by means of a mechanical pipe puller at the end of the casting cycle. There is no shake-out operations.

Our casting machines have a cooling cycle by design and we do not have to wait an extra time to cool the sand mold. As soon as casting machine goes downhill after spinning the molten iron to make it hard enough, the cast pipe is pulled out from the steel mold by the mechanical pipe puller.



**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	Sweeping/cleaning of the casting machines area	Clean the area to reduce dust and fugitives	Daily: Once a day at the end of production.

## 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
				<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	





## 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 type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Cutting	S-12 (District Exempt) NESHAP Not Applicable	Main Manufacturing Building - Pipe Run Area	GRINDERS: WELDERS: OTHER: 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-7	Baghouse	Capture particulate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pressure Drop Monitor. Bags are cleaned when pressure reaches 5.12 inches of water column.
2	<input checked="" type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:	S-13 (District Exempt) NESHAP Not Applicable	Main Manufacturing Building - Pipe Run Area	GRINDERS: 1 WELDERS: OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-8	Baghouse	Capture particulate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None. Bags are cleaned manually at end of production whenever this baghouse is used.
3	<input checked="" type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:	S-14 (District Exempt) NESHAP Not Applicable	Main Manufacturing Building - Pipe Run Area	GRINDERS: 1 WELDERS: OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-18	Baghouse	Capture particulate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pressure Drop Monitor. Bags are cleaned when pressure reaches 6 inches of water column.
4	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Cutting	S-30 (District Exempt) NESHAP Not Applicable	Main Manufacturing Building - Pipe Run Area	GRINDERS: WELDERS: OTHER: 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-8	Baghouse	Capture particulate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None. Bags are cleaned manually at end of production whenever this baghouse is used.
5	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Sand Blasting	S-7 NESHAP Not Applicable	Main Manufacturing Building - near Casting Area	GRINDERS: WELDERS: OTHER: 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-5	Baghouse	Capture particulate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None. Bags are cleaned continuously during production and hopper is emptied daily at the end of production.
6	<input checked="" type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:	FS-59 (District Exempt) NESHAP Not Applicable	TR Flex Building	GRINDERS: 1 WELDERS: OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	FA-22	Dust Collector	Capture particulate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None. Settling chamber is cleaned once a day at the end of production. Filters are cleaned once a week at the end of production.
	<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-7 Baghouse-Donaldson Model # DFT2-4  Baghouse has no broken bag leak detectors	Baghouse cleaning cycles and filter bag change	Bags are cleaned when pressure reaches 5.12 inches of water column
2	A-8 Baghouse- Model LMC FSD-258  Baghouse has no broken bag leak detectors	Baghouse cleaning and filter bag change	Bags are cleaned manually at end of the day when baghouse is used.
3	A-18 Baghouse-Torit Downflo Model # DFT2-4  Baghouse has no broken bag leak detectors	Baghouse cleaning cycles and filter bag change,	Bags are cleaned when pressure reaches 6 inches of water column.
4	A-8 Baghouse- Model LMC FSD-258  Baghouse has no broken bag leak detectors	Baghouse cleaning and filter bag change	Bags are cleaned manually at end of the day when baghouse is used.
5	A-5 Baghouse- Rees Model #3-700  Baghouse has no broken bag leak detectors	Baghouse cleaning and filter bag change	Bags are cleaned continuously during production and hopper is emptied daily at the end of production.
6	FA-22 Dust Collector-Torit Model #84  Dust collector has no broken bag leak detectors	Dust collector chamber and filter cleaning	Dust settling chamber is cleaned once a day at the end of production. Filters are cleaned once a week at the end of production..

**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	Cleaning of the Finishing area that includes the floors of the pipe grinders, pipe cutters and sand blaster.	The area is cleaned to reduce the amount of potential airborne material from the area	Monthly: Once a month.

## 402.8 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
				<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	
				<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	





## **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	Dross-Not applicable	<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	<p>Cupola slag is a by-product material that comes out on top of the molten iron as it comes out from the Cupola after melting.</p> <p>The Cupola slag is skimmed off from a through by gravity and drops to a conveyor that conveys the slag into the ground outside the Melting building. The Cupola slag conveyor has a water hose that is used to cool the slag and to minimize dust. The cupola slag that accumulates on the ground is then stockpiled and sprinkled with water to further cool the slag and to minimize dust, as required.</p> <p>The desulfurization slag is another by-product material that comes out on top of the molten iron after the molten iron is treated with lime to remove the sulfur.</p> <p>The desulfurization slag is skimmed off from the treating ladle by gravity and drops to an open vessel inside the Melting building where it is cooled with ambient air. No water is used for the desulfurization slag. The vessel is then emptied outside the Melting building to further cool the slag with ambient air prior to its offsite shipment.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" 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 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	Use of water spray and water sprinkler	To cool the slag and to reduce dust	Daily: Once a day during operation
2	Stock piling of slag material.	To organize slag material into one pile prior to its offsite shipment. This reduces the size of the slag footprints by keeping one pile instead of several piles of materials.	Daily: Once a day during operation
3	Shipping of slag material offsite.	To maintain low inventory of slag material thus reducing the amount of potential airborne material	Daily: Shipping of the slag material daily when truck volume is attained and the material is no longer hot.

#### 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-North American 214-8A	A-3	Cupola	S-1	Afterburner has a combustion chamber that burns carbon monoxide and other volatile organics or trace amount oil from scrap materials.
2	Baghouse-REES Model #3-700	A-5	Mold Sandblast	S-7	Captures sand blasting particulates
3	Baghouse-Donalson Model #DFT2-4	A-7	Abrasive Cut-off Saw	S-12	Captures particulates
4	Baghouse-LMC Model FSD-258	A-8	Bevel and O.D. Grinder	S-13 & S-30	Captures particulates
5	Baghouse-Harsell Model	A-10	Ductile Treating	S-4	Captures particulates
6	Baghouse-GMD Model #289-14=6WI	A-13	Cupola	S-1	Captures particulates
7	Baghouse-Torit Downflo Model #DFT2-4	A-18	O.D. Grinder	S-14	Captures particulates
8	Baghouse-Saunco Model #S10-108-1449	A-20	Bell Blow Out Dust Collector	S-8	Captures particulates
9	Dust Collector-Torit Model #84	FA-22	TRF O.D. Grinder Dust Collector	FS-50	Captures particulates

# Technical Data

## 12-13-403.1

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- 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

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## B. Facility Layout / Floor Plan

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# Fugitive Emissions Reductions Previously Realized

## 12-13-403.2

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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	Metal Management and Slag Management	Use of Street Sweeper-Purchased Tenant Model 9484 Street Sweeper	Dec 2012	Reduce fugitive emissions	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2	Metal Management and Slag Management	Use of Water Truck to wet down trafficked surfaces-Purchased Ford Model 800 2000-gal water truck	Nov 2011	Control dust	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3	Slag Management	Use of Slag Conveyor-Purchased and installed conveyor	2012	Minimize fugitive dust from cupola slag	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4	Metal Management and Slag Management	Use of Inventory Control- Control of scrap metal piles and waste slag inventory piles to the extent of possible minimum sizes.	2010	Minimize fugitive dust from scrap metals and cupola slag and desulfurization slag	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5	Metal Management and Slag Management	Use of concrete pavement, rails and berms for storing scrap materials and slags.  Cleaning more frequently the concrete pad to minimize dust buildups.	2013	Minimize fugitive dust from scrap metals and cupola slag and desulfurization slag	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6	Furnace Operations	Installed new GMD negative pressure Pulse Jet Baghouse	Dec 2011	Meet with the 0.006 gr/DSCF Particulate Matter standard; reduces fugitive dust by using drop down hoses into supersacks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Employees are trained on baghouse operation and inspection once a year.
7	Metal Management and Slag Management	Use of tire shaker to remove dirt from vehicle tires.  Use of speed bumps for vehicles entering and exiting the plant.	May 2013	Minimize fugitive dust and dirt from vehicle tires	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
8	Slag Management	Use of water spray/water sprinkler system	Oct 2013	Minimize fugitive dust from cupola slag	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
9	Slag Management	Replaced calcium carbide with calcium oxide (lime) as desulfurizing agent in ductile treating metal	April 2010	Minimize odor	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

# Schedule for the Implementation of the EMP Elements

## 12-13-403.3

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- 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.



**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	402.2 Metal Management	Replace old concrete pavement in the yard.	September 2014	Replace concrete pavement in the yard between cupola baghouse and shipping area.	Reduce fugitive dust coming from the crevices of the old pavement.

# Compliance Schedule for the EMP

12-13-404

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- 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: \_\_\_\_\_

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 #	Date of APCO Recommendation	(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) Implementation Verified by APCO
			<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

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

Date of EMP: \_\_\_\_\_

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 #	Date of APCO Recommendation	(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) Implementation Verified by APCO
			<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





Appendix # 1

Reference to Page #18, Section # B1

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