

Bay Area Air Quality Management District

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**Permit Evaluation
and
Statement of Basis
for
RENEWAL of**

MAJOR FACILITY REVIEW PERMIT

for

**U.S. Pipe and Foundry Company
Facility #A0083**

Facility Address:

1295 Whipple Road
Union City, CA 94587

Mailing Address:

1295 Whipple Road
Union City, CA 94587

October 2012

Application Engineer: Jimmy Cheng
Site Engineer: Jimmy Cheng

Application: 21335

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the “potential to emit,” as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. Some of these requirements are federally enforceable and others are enforceable under state law. All applicable requirements are described in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0083.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of applicability determinations for all sources, including those that have been modified or permitted since the issuance of the initial Major Facility Review Permit. The review also included an assessment of all monitoring in the permit for sufficiency to determine compliance.

This facility received its initial Title V permit on July 1, 1997. A minor revision was made to the permit on May 7, 2002. The facility received its Title V renewal permit on June 8, 2005. This application is for a permit renewal. Although the current permit expired on May 31, 2010, it continues in force until the District takes final action on the permit renewal. The standard sections of the permit have changed since June 8, 2005. The proposed permit shows all changes to the permit in strikeout/underline format.

B. Facility Description

U.S. Pipe and Foundry manufactures ductile iron pressure pipe in sizes 6 inch to 24 inch in 18-ft length from ferrous scrap metal. Typically, the pipes are coated with a rust-preventive asphalt coating.

The major pollutants emitted at the facility are particulate matter, sulfur dioxide, and nitrogen oxides emitted during operations at sources used to melt, hold, and treat scrap metal. The major source of particulate matter, sulfur dioxide, and nitrogen oxides at the facility is the cupola that burns coke to melt the scrap metal. The resulting molten iron is then poured into molds to form

the ductile iron pressure pipe. Another major source of nitrogen oxides is the annealing oven that burns natural gas and is used to heat treat the cast pipes. Particulate matter is also emitted from the mold forming process and two abrasive blasting units that are used to finish the cast iron pipes. Other minor combustion sources include two standby generator diesel engines rated less than 500 HP and two abrasive blasting units that are used to finish the pipe. The primary source of volatile organic compound emissions is the surface coater that is used to apply asphalt coating to the pressure pipe.

Since the District issued the renewal Title V permit to U.S. Pipe and Foundry on 6/8/2005, the facility has submitted four new source review applications, one of which was cancelled (Application 22321, not listed below). The Title V permit has been revised twice since the initial permit was issued.

1. Application 13920 was submitted on 12/7/05 for a change in permit conditions for S-1 Cupola to include definitions of each operating mode of S-1 (On-Blast/Reduced Blast, Off-Blast, No-Blast) and to establish the minimum required combustion chamber temperature of A-3 Afterburner (which abates S-1) during each operating mode. There is no increase in emissions for this application because the change in permit conditions only served to clarify the existing permit conditions.
2. Application 14931 was submitted on 7/24/06 for Desulfurization Slag Staging Area (S-53). Regulation 2-1-103 exempts this source from permitting requirements because there are no emissions from this source.
3. Title V Application 23315 was submitted on 5/2/11 for a minor modification to the Title V permit. This application was to replace all references of A-12 Cupola Baghouse with A-13 Baghouse, to remove all references of S-32 Pneumatic Dust Transport System and A-19 Dust Collector, and add the requirements of 40 CFR 63 Subpart ZZZZZ in the Title V permit. A separate permit revision will not be issued to address these changes. Rather, the changes covered by this application will be reflected in the proposed renewal Title V permit.
4. Application 23180 was submitted on 3/17/11 to replace the existing Cupola Baghouse (A-12) with A-13 Baghouse to ensure that this facility will be in compliance with the emission standards for iron and steel foundries area sources in 40 CFR 63 Subpart ZZZZZ. The new baghouse is more efficient, and thus there is no increase in emissions associated with this application.

C. Permit Content

The legal and factual bases for the permit follow. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into

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the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

Changes to permit:

The dates of adoption of the rules listed in section I.A have been updated to reflect recent rule revisions.

BAAQMD Regulation 2, Rule 5 - New Source Review of Toxic Air Contaminants and SIP Regulation 2, Rule 6 - Permits, Major Facility Review have been added to Standard Condition 1.A.

Standard Condition I.B.12, which requires the permit holder to comply and certify compliance of all conditions of the permit, has been added because it was previously omitted in error.

The basis BAAQMD Regulation 3 has been deleted from Standard Conditions I.E and I.F.

The following correction was made to Standard Condition I.G: "The certification period will be July 1st ~~to~~through June 30th."

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V renewal permit and the permit proposal date:

Devices Removed from Service and Archived since Application was submitted:

Note: When a permitted source is removed from service, its status in the District database is changed from "current" to "archived" because it is no longer an active permitted source.

S-32 Pneumatic Dust Transport System, archived, removed from service

S-51 Standby Generator Diesel Engine, archived, removed from service

A-12 Cupola Baghouse, archived, removed from service

A-19 Dust Collector, archived, removed from service

Devices Permitted Since Application was submitted:

A-13 Baghouse, added per application 23180

Devices with Changed Permit Status:

None

District permit applications not included in this proposed permit:

None

Corrections to Devices Shown in Application:

None

Changes to permit:

The title of Section II has been changed from "Equipment List" to "Equipment"

Changed BAAQMD Regulation 6 references to BAAQMD Regulation 6-1 references

Clarified that BAAQMD Regulation 6-1-301 limits Ringelmann 1 emissions to a period or periods aggregating less than or equal to 3 minutes per hour

A-12 Cupola Baghouse, deleted, removed from service

A-13 Baghouse, added per application 23180

Added minimum pressure drop limit to the operating parameters column for A-20 Bell Blowout Dust Collector

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Regulations listed in this section potentially apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1, Sections 103 through 128. They may, however, be specifically described in a Title V permit if they are considered *significant sources* pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

Changes to permit:

Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting or soil-vapor extraction equipment.

The web address for the SIP standards has been revised in this section.

Table III has been updated by adding the following rules and standards to conform to current practice:

- SIP Regulation 2-1-429, Federal Emissions Statement
- BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. The BAAQMD rule is technically not federally enforceable, although the requirements are identical. This change is also reflected in the Section IV and VII
- SIP Regulation 8, Rule 2, Miscellaneous Operations
- BAAQMD Regulation 8, Rule 15, Emulsified and Liquid Asphalts

- SIP Regulation 8, Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- SIP Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 9, Rule 1, Inorganic Gaseous Pollutants — Sulfur Dioxide
- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- California Health and Safety Code Title 17, Section 93116, Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- 40 CFR Part 82, Protection of Stratospheric Ozone
- Subpart F, 40 CFR 82.156, Leak Repair
- Subpart F, 40 CFR 82.161, Certification of Technicians
- Subpart F, 40 CFR 82.166, Records of Refrigerant

The dates of adoption or approval of the rules and their "federal enforceability" status in Table III have also been updated.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

NESHAPs

One of the goals of the federal Clean Air Act is to reduce the emission of Hazardous Air Pollutants (HAPs). The reduction of HAPs is achieved through the promulgation of, and compliance with, emission standards for categories of sources that emit HAPs. The United States Environmental Protection Agency (EPA) identified 30 HAPs that pose the greatest threat to public health in urban areas. The U.S. EPA has identified categories of sources that account for 90 percent of the release of these particular HAPs and is now promulgating standards to reduce their emissions. These federal standards are referred to as the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The four NESHAPs (in 40 CFR, Part 63) pertinent to this facility are:

Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZZ- National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources

Subpart ZZZZ applies to both major and area sources of HAPs, and Subpart ZZZZZ applies to only area sources of HAPs. A major source of HAPs is one in which the maximum plant-wide potential to emit of all HAPs (including fugitive emissions) is greater than or equal to 10 tons per year of a single HAP or HAP compound category, or is greater than or equal to 25 tons per year of aggregated HAPs or HAP compound categories. An area source of HAPs is one that is not a major source of HAPs (that is, one that is a minor source of HAPs).

As demonstrated in Appendix C, this facility is an area source of HAPs. Total plant-wide potential to emit of all HAPs is 7.384 TPY.

Subpart ZZZZ consists of four standards, or four rules. The standards were developed with the first rule, promulgated in 2004, regulating RICE rated greater than 500 HP at only the major sources of HAPs. In 2008, the second rule incorporated RICE rated less than or equal to 500 HP at major sources, as well as area sources with RICE greater than 500 HP. The last two rules finalizing the Subpart ZZZZ were promulgated in 2010 and expanded those regulated by adding RICE rated less than or equal to 500 HP at area sources. The area source requirements in Subpart ZZZZ apply to the reciprocating internal combustion engine (RICE) at this facility: S-52 Standby Generator Diesel Engine. Applicable requirements for Subpart ZZZZ and Subpart A (General Provisions) have been included in the proposed Title V permit, including the future effective dates.

Subpart ZZZZZ contains emission standards based on generally available control technology (GACT) for the control of Urban HAPs (consisting of chromium, lead, manganese, and nickel) that are emitted from metal melting furnaces at large area sources. Subpart ZZZZZ also established pollution prevention management practices based on GACT that apply to all area source foundries. The pollution prevention management practices reduce HAP emissions of organics, metals, and mercury generated from furnace charge materials and prohibit the use of methanol as a component of binder formulations in certain applications. The requirements are specific to the size classification of the foundry: small or large. An existing foundry with metal

melt production equal to or less than 20,000 tons is considered small, while those with production exceeding 20,000 tons are considered large. The requirements for existing large foundries in Subpart ZZZZZ apply to this facility because its metal melt production exceeds 20,000 tons per year. Applicable requirements for Subpart ZZZZZ and Subpart A (General Provisions) have been included in the proposed Title V permit.

Applicability of 40 CFR, Part 64, Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) regulation in 40 CFR, Part 64 was developed to provide assurance that facilities comply with applicable emissions limitations by adequately monitoring control devices. The CAM rule was effective on November 21, 1997. However, most facilities are not affected by CAM requirements until they submit applications for Title V permit renewal. CAM applies to a source of criteria pollutant or hazardous air pollutant (HAP) emissions if all the following requirements are met:

- The source is located at a major source for which a Title V permit is required; and
- The source is subject to a federally enforceable emission limitation or standard for a criteria pollutant or HAP; and
- The source uses a control device to comply with the federally enforceable emission limitation or standard; and
- The source has potential pre-control emissions of the regulated pollutant that are equal to or greater than the major source threshold for the pollutant (in BAAQMD, the major source thresholds are 100 tons per year for each criteria pollutant, 10 tons per year for a single HAP, and 25 tons per year for two or more HAPs); and
- The source is not otherwise exempt from CAM.

The applicability of 40 CFR, Part 64, Compliance Assurance Monitoring, was reviewed for the sources at this facility that use control devices to comply with federally enforceable emission limitations or standards.

A-9 Pneumatic Cement Transport Baghouse, abating S-16 Pneumatic Cement Transport

A-10 Ductile Treater Baghouse, abating S-4 Ductile Treating Units

A-13 Baghouse, abating S-1 Cupola and S-5 Ladle Lancing

A-20 Bell Blowout Dust Collector, abating S-8 Bell Blowout

A-9, A-10, A-13, and A-20 are required to comply with the federally enforceable emissions limits for filterable particulate (FP) of 0.15 gr/dscf and 40 lb/hr. Additionally, A-13 is required to comply with the federally enforceable emissions limits for PM of 0.8 pounds of PM per ton of metal charged, and for TSP of 0.006 gr/dscf. For A-10 and A-20, pressure drop monitoring are the existing monitoring requirements in the respective District Permit Conditions. For A-13, continuous temperature and daily pressure drop monitoring are the existing monitoring requirements in the District Permit Conditions.

A-9, which abates S-16, does not currently have any monitoring requirements, and no new monitoring requirements will be imposed. A-9 functions differently than the other baghouses in that A-9 is a passive baghouse, has no motive force, and is used only during cement deliveries. Unlike a typical baghouse, A-9 is not powered by a blower that sends particulate matter through its filters. Rather, it is a passive filter that abates particulate matter that is emitted through the cement silo roof

vent. It filters the air inside the silo that is displaced by cement during deliveries. Therefore, CAM does not apply for PM to S-16 because no monitoring is required for A-9.

For S-1, S-4, S-5, and S-8, CAM applies for PM because each of these sources has potential pre-control emissions of PM greater than 100 tons per year. However, the facility has agreed to accept enforceable permit conditions (in Condition #1783 for S-4 and Condition #2212 for S-8) to limit the throughput of material processed at S-4 and S-8 in order for potential pre-control PM emissions to be less than 100 tons per year for S-4 and for S-8.

The District has determined that in order to render the current permit conditions equivalent to CAM for A-13 (which abates S-1 and S-5), additional permit conditions are necessary that would provide further assurance of ongoing compliance with the existing District baghouse pressure drop limits. These permit conditions include specific requirements, such as equipment investigations and corrective actions, in the case of an excursion of the baghouse pressure drop limits. Condition #2274 (for S-1 and S-5) has been revised to include such CAM-equivalent permit conditions, and applicable requirements for CAM have been included in the proposed Title V permit.

Based upon the emissions calculations shown in **Appendix B**, the post-control device emissions of PM for S-1 and S-5 are each less than 100 tons per year.

Therefore, pursuant to 40 CFR 64.3(b)(4)(iii), the minimum frequency of data collection is at least once per 24-hr period. The permit conditions for S-1 and S-5 require that the baghouse pressure drop be monitored at least once per day.

Other Control Devices

CAM does not apply to any of the other abated sources at this facility. Appendix B summarizes the pre-control device emissions for these sources. The pre-control device emissions calculations are based on maximum source throughput rates or permitted throughput limits, emission factors/rates, and total annual operating hours, which are taken from District permit evaluations and data forms for this facility. In the absence of permitted throughput limits, maximum source throughput rates were used for the pre-control device emission calculations.

Changes to permit:

The address of the EPA website that provides the full language of SIP standards has been updated.

Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. The BAAQMD rule is technically not federally enforceable, although the requirements are identical. This change is also reflected in the Section IV and VII tables.

The following changes were made to Table IV-A, S-1 Cupola:

- Added BAAQMD Regulation 6-1-601 since it was previously omitted
- Added SIP Regulation 6-601 since it was previously omitted
- Added 40 CFR 63 Subpart ZZZZZ

- References to A-12 Baghouse changed to A-13 Baghouse in descriptions of BAAQMD Condition #2274
- Added BAAQMD Condition #2274, parts 10, 11, 12, and 13 per application 23180
- Added BAAQMD Condition #2274 parts 14 through 19 per CAM

The following changes were made to Table IV-G, S-17 Surface Coater:

- Corrected the federal enforceability of BAAQMD Regulation 8-19-501 from “N” to “Y” since the current version of the regulation has been SIP-approved

The following changes were made to Table IV-H, S-26 Paint Storage Tank #1 and S-27 Paint Storage Tank #2:

- Changed description of BAAQMD Regulation 8-5-302 to reflect current regulation
- Changed the federal enforceability of BAAQMD Regulation 8-5 from “Y” to “N” since the current version of the regulation has not been SIP-approved
- Added SIP Regulation 8-5 since BAAQMD Regulation 8-5 is no longer federally enforceable

The following changes were made to Table IV-I, S-32 Pneumatic Dust Transport System:

- Deleted Table IV-I because S-32 is permanently out of service

The following tables have been renumbered:

- Table IV-J renumbered to Table IV-I
- Table IV-K renumbered to Table IV-J
- Table IV-L renumbered to Table IV-K
- Table IV-M renumbered to Table IV-L
- Table IV-N renumbered to Table IV-M
- Table IV-O renumbered to Table IV-N

The following changes were made to Table IV-I, S-33 Gasoline Dispensing Facility (Non-Retail):

- Deleted BAAQMD Regulation 8-7-301.4 to reflect current regulation
- Changed the federal enforceability of BAAQMD Regulation 8-7-301 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Changed the federal enforceability of BAAQMD Regulation 8-7-302 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Changed the federal enforceability of BAAQMD Regulation 8-7-307 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Changed the federal enforceability of BAAQMD Regulation 8-7-316 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Changed the federal enforceability of BAAQMD Regulation 8-7-406 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Changed the federal enforceability of BAAQMD Regulation 8-7-503 from “N” to “Y” since the current version of the regulation has been SIP-approved
- Removed 6/1/94 version of SIP Regulation 8, Rule 7 because BAAQMD Regulation 8-7 is now federally enforceable

The following changes were made to Table IV-J, S-40 Portable Abrasive Blasting Unit #1:

- Corrected the federal enforceability of BAAQMD Regulation 12-4-301 from “N” to “Y” since the current version of the regulation has been SIP-approved

The following changes were made to Table IV-K, S-41 Portable Abrasive Blasting Unit #2:

- Corrected the federal enforceability of BAAQMD Regulation 12-4-301 from “N” to “Y” since the current version of the regulation has been SIP-approved

The following changes were made to Table IV-L, S-42 Cold Cleaner #2 and S-43 Cold Cleaner #3:

- Corrected the federal enforceability of BAAQMD Regulation 8-16-122 from “N” to “Y” since the current version of the regulation has been SIP-approved

The following changes were made to Table IV-M, S-52 Standby Generator Diesel Engine:

- Deleted S-51 Standby Generator Diesel Engine from description of table
- Deleted BAAQMD Condition #20974 because BAAQMD Condition #22850 now applies
- Added California Health and Safety Code Title 17, Section 93115
- Added 40 CFR 63 Subpart ZZZZ
- Added BAAQMD Condition #22850

The following changes were made to Table IV-O, Facility:

- Deleted Table IV-O because this facility is not a major facility of HAPs

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and, except as noted below, **has no records of ongoing compliance problems at this facility during the past year**. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

However, because of the replacement of A-12 Cupola Baghouse with A-13 Baghouse, S-1 Cupola must undergo a source test to demonstrate initial compliance with Regulation 11-1-301, AB2588, and 40 CFR Part 63, Subpart ZZZZZ. Therefore, a requirement for a source test has been added to the Schedule of Compliance.

VI. Permit Conditions

During the initial Title V permit development in 1996, the District reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting requirements were added to the permit.

All changes to existing permit conditions for this renewal are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO that limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- **Offsets:** This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- **PSD:** This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- **TRMP:** This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District’s Toxic Risk Management Policy.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes to permit:

Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. The BAAQMD rule is technically not federally enforceable, although the requirements are identical. Regulation 6 references in the permit conditions have been changed to Regulation 6-1 where applicable.

Condition #1783, part 5 that limits the pressure drop across the bags at A-10 Baghouse, has been revised to include the minimum pressure drop requirement of 1/4 inch water column, and to require the owner/operator to take prompt and proper corrective action if the pressure drop is outside of the required range. The minimum pressure drop requirement and requirement for corrective action were added in order to further ensure proper operation of A-10 Baghouse.

Condition #1783, part 8, that limits the daily grey iron throughput processed at S-4, has been added in order for pre-control PM emissions to be less than 100 tons per year for S-4. Please refer to the section entitled "Applicability of 40 CFR, Part 64, Compliance Assurance Monitoring" for further details.

Condition #1783, part 9, that specifies recordkeeping requirements for the daily grey iron throughput processed at S-4, has been added in order to ensure compliance with Condition#1783, part 8.

Condition #2212 has been revised to replace references to A-17 Baghouse with A-20 Baghouse. The reference to A-17 was a typographical error; there was no A-17.

Condition #2212, part 2 that limits the pressure drop across the bags at A-20 Baghouse, has been revised to include the minimum pressure drop requirement of 1/4 inch water column, and to require the owner/operator to take prompt and proper corrective action if the pressure drop is outside of the required range. The minimum pressure drop requirement and requirement for corrective action were added in order to further ensure proper operation of A-20 Baghouse.

Condition #2212, part 5, that limits the annual core sand throughput processed at S-8, has been added in order for pre-control PM emissions to be less than 100 tons per year for S-8. Please refer to the section entitled "Applicability of 40 CFR, Part 64, Compliance Assurance Monitoring" for further details.

Condition #2212, part 6, that specifies recordkeeping requirements for the annual core sand throughput processed at S-8, has been added in order to ensure compliance with Condition#2212, part 5.

Condition #2274 has been revised to change all references to A-12 to A-13, per application 23180.

Condition #2274 has been reworded in “owner/operator” format to clarify that the owner/operator shall comply with this permit condition.

Condition #2274, part 3 that specifies the combustion chamber temperature requirement for A-3 Afterburner, has been revised per Applications #13920 and 23180 to include definitions of each operating mode of S-1 (On-Blast/Reduced Blast, Off-Blast, No-Blast) and to establish the minimum required combustion chamber temperature of A-3 Afterburner (which abates S-1) during each operating mode.

Condition #2274, part 4 that limits the pressure drop across the bags at A-13 Baghouse, has been revised to change the maximum pressure drop requirement from 6 to 8 inches water column, to include the minimum pressure drop requirement of 1 inch water column, and to require the owner/operator to take prompt and proper corrective action if the pressure drop is outside of the required range. The minimum pressure drop requirement and requirement for corrective action were added in order to further ensure proper operation of A-13 Baghouse.

Condition #2274, part 6 that specifies the recordkeeping requirements for S-1, has been revised per application 23180 to require daily pressure readings at A-13, to ensure compliance with the pressure drop limits in Condition #2274, part 4.

Condition #2274, part 10 that specifies the requirement for an initial source test on S-1 to demonstrate compliance with Regulation 11-1-301 and satisfy the requirements of AB2588, has been revised, per application 23180. The owner/operator is required to conduct the source test within 90 days of installation of A-13 baghouse, rather than 120 days as originally required. Language has been added to clarify that this source test will demonstrate initial compliance. The basis has been revised to include a reference to AB2588.

Condition #2274, part 11 was added to the permit, per application 23180. This part specifies the outlet grain loading requirement for A-13 baghouse and the required initial source tests to demonstrate compliance.

Condition #2274, part 12 was added to the permit, per application 23180. This part specifies that the owner/operator ensure that S-1 complies with the requirements of 40 CFR 63 Subpart ZZZZZ.

Condition #2274, part 13 has been added per application #23180 to include the requirement for a pressure differential gauge for A-13 Baghouse. This requirement was previously omitted.

Condition #2274 has been revised to include Compliance Assurance Monitoring conditions for S-1 Cupola.

Condition #13321 has been revised to clarify in the description that the condition applies to both S-40 Portable Abrasive Blasting Unit #1 and S-41 Portable Abrasive Blasting Unit #2.

Permit Evaluation and Statement of Basis: Site #A0083, U.S. Pipe and Foundry Company, 1295 Whipple Road, Union City CA 94587

Condition #13321, part 1 has been revised to clarify that the gross abrasive blast media (sand) throughput at S-40 Portable Abrasive Blasting Unit #1 shall not exceed 900 pounds during any calendar day.

Condition #13321, part 2 has been revised to replace “United States Pipe and Foundry” with “owner/operator” and to correct a typographical error by replacing “in” with “when.”

Condition #13321, part 4 has been revised to clarify that the gross abrasive blast media (aluminum oxide grit) throughput at S-41 Portable Abrasive Blasting Unit #1 shall not exceed 1000 pounds during any calendar day.

Condition #13321, part 5 has been revised to replace “United States Pipe and Foundry” with “owner/operator” and to correct a typographical error by replacing “in” with “when.”

Condition #14989 has been revised to change the A-12 references to A-13.

Condition #16938, part 3 has been corrected to clarify that all records shall be retained on-site for a minimum of two years from the date of entry of the records.

Condition #2676 has been deleted because S-32 Pneumatic Dust Transport System is permanently out of service.

BAAQMD Condition #20974, that applies to S-52 Standby Generator Diesel Engine, has been deleted because BAAQMD Condition #22850 now applies.

BAAQMD Condition #22850 has been added to the permit. This condition requires S-52 Standby Generator Diesel Engine to comply with the applicable requirements of the Stationary Diesel Engine ATCM.

Condition #20671, part 3 has been revised to clarify that all records shall be retained on-site for a minimum of two years from the date of entry of the records.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes to permit:

The following changes have been made to the tables where applicable:

- BAAQMD Regulation 6 standards have been updated to Regulation 6-1 to reflect current BAAQMD Rules.

- SIP Regulation 6 has been added because BAAQMD Regulation 6-1 is technically not federally enforceable, although the requirements are identical.
- Clarified that BAAQMD Regulation 6-1-301 limits Ringelmann 1 emissions to a period or periods aggregating less than or equal to 3 minutes per hour
- Clarified that BAAQMD Regulation 6-1-303.1 limits Ringelmann 2 emissions to a period or periods aggregating less than or equal to 3 minutes per hour

The following changes were made to Table VII-A, S-1 Cupola:

- Corrected typographical error in the monitoring requirement citation for BAAQMD Regulation 6-1-301. The requirement for visible emission monitoring is in BAAQMD Condition #2274, Part 9 rather than Part 8. Monitoring frequency has been corrected, from “weekly” to “daily”
- Added monitoring requirement citation from 40 CFR 63 Subpart ZZZZZ for the use of a bag leak detector to demonstrate compliance with the opacity limit in BAAQMD Regulation 6-1-301 and SIP Regulation 6-301
- Added monitoring requirement citation from 40 CFR 63 Subpart ZZZZZ for the use of a bag leak detector to demonstrate compliance with the filterable particulate grain loading limit in BAAQMD Regulation 6-1-310 and SIP Regulation 6-310
- Added monitoring requirement citation from 40 CFR 63 Subpart ZZZZZ for the use of a bag leak detector to demonstrate compliance with the hourly filterable particulate limit in BAAQMD Regulation 6-1-311 and SIP Regulation 6-311
- Added BAAQMD Regulation 9-1-304 because it was previously omitted
- Added PM and HAP emission limits from 40 CFR 63.10895(c)
- Added “On-Blast/Reduced Blast” to the description of the afterburner temperature limit to distinguish the temperature limit for the on-blast/reduced blast operating mode from the temperature limit for the off-blast operating mode
- Added afterburner temperature limit for the off-blast operating mode, established under Application #13920
- Added baghouse pressure drop limits because it was previously omitted
- Added outlet grain loading limit for TSP, established under Application #23180

The following changes were made to Table VII-B, S-4 Ductile Treating Station:

- Changed description of “Bag cleaning or replacement limit” to “Baghouse Pressure Drop,” and added minimum baghouse pressure drop limit

The following changes were made to Table VII-C, S-5 Ladle Lancing:

- Added “FP” as the Type of Limit for BAAQMD Regulation 6-1-310, SIP Regulation 6-310, BAAQMD Regulation 6-1-311, and SIP Regulation 6-311 because it was previously omitted

The following changes were made to Table VII-D, S-8 Bell Blowout:

- Changed description of “Bag cleaning or replacement limit” to “Baghouse Pressure Drop,” and added minimum baghouse pressure drop limit

The following changes were made to Table VII-H, S-32 Pneumatic Dust Transport System:

- Deleted Table VII-H because S-32 is permanently out of service

The following tables have been renumbered:

- Table IV-I renumbered to Table IV-H
- Table IV-J renumbered to Table IV-I
- Table IV-K renumbered to Table IV-J
- Table IV-L renumbered to Table IV-K
- Table IV-M renumbered to Table IV-L

The following changes were made to Table VII-L, S-52 Standby Generator Diesel Engine:

- Deleted S-51 Standby Generator Diesel Engine from description of table
- Added the limit of 50 hours per year on reliability-related operations, effective 1/1/12

The District has reviewed all monitoring requirements and has determined the existing monitoring is adequate with the following exceptions.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of existing monitoring requirements, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Cupola, S-4 Ductile Treating Station, and S-15 Annealing Oven	BAAQMD 9-1-301	Ground level concentrations of SO ₂ shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
S-4 Ductile Treating Station, and S-15 Annealing Oven	BAAQMD 9-1-302	300 ppm (dry)	None
S-52 Standby Generator Diesel Engine	BAAQMD 9-1-304	Sulfur content of liquid fuel ≤ 0.5% by weight	Fuel Certification

SO₂ Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This facility does not have equipment that emits large amounts of SO₂ and therefore is not required to have ground level monitoring by the APCO.

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB entitled "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP" EPA has agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely. Therefore, no monitoring is necessary for this requirement for the S-15 Annealing Oven since it is fired exclusively on natural gas and LPG.

The District has performed source tests on S-1 Cupola to determine the SO₂ emission rate. Because the source test results indicate that the SO₂ emission rate is very low (< 25 ppm), S-1 is not expected to violate the emission limitations of Regulation 9-1-301. Therefore, additional monitoring is not necessary for this source.

S-52 Standby Generator Diesel Engine will be fired exclusively on "California diesel fuel" that has a maximum sulfur content of 500 ppmw (0.05% by weight) compliance with Regulation 6-304 is expected. Per the CAPCOA/ARB/EPA agreement of 6/24/99 entitled "Periodic Monitoring Recommendations For Generally Applicable Requirements in SIP" compliance with liquid fuel sulfur limits in BAAQMD Regulation 9-1-304 will be assured by certification of the sulfur content by the fuel supplier for each fuel delivery. Therefore, no additional monitoring is necessary for this source.

PM Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout	BAAQMD Regulation 6-1-301	Ringelmann 1.0	Baghouse pressure drop monitor
S-1 Cupola, S-4 Ductile Treating Unit, S-5 Ladle Lancing	BAAQMD Regulation 6-1-301	Ringelmann 1.0	Baghouse preventive maintenance records
S-1 Cupola, S-4 Ductile Treating Unit, S-5 Ladle Lancing, S-8 Bell Blowout, S-15 Annealing Oven, S-16 Pneumatic Cement Transport System	BAAQMD Regulation 6-1-301	Ringelmann 1.0	Visible emissions monitoring
S-52 Diesel Engine	BAAQMD Regulation 6-1-301	Ringelmann 1.0	None
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout,	BAAQMD Regulation 6-1-305	Fallout of visible particles	Baghouse pressure drop monitor
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout	BAAQMD Regulation 6-1-310	0.15 gr/dscf of PM	Baghouse pressure drop monitor
S-52 Diesel Engines	BAAQMD Regulation 6-1-310.3	0.15 gr/dscf of PM at 6% O ₂	None
S-5 Ladle Lancing, S-15 Annealing Oven, S-16 Pneumatic Cement Transport System	BAAQMD Regulation 6-1-310	0.15 gr/dscf of PM	None
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout,	BAAQMD Regulation 6-1-311	4.10P ^{0.67} lb/hr of PM, where P is process weight, ton/hr	Baghouse pressure drop monitor
S-5 Ladle Lancing, S-15 Annealing Oven, S-16 Pneumatic Cement Transport System	BAAQMD Regulation 6-1-311	4.10P ^{0.67} lb/hr of PM, where P is process weight, ton/hr	None
S-40 and S-41 Portable Abrasive Blasting Units	BAAQMD Regulation 12-4-301	Ringelmann No. 1.0	None
S-40 and S-41 Portable Abrasive Blasting Units	BAAQMD Regulation 12-4-302	Ringelmann No. 2.0	None

PM Discussion:

BAAQMD Regulation 6 “Particulate Matter and Visible Emissions”

Visible Emissions

BAAQMD Regulation 6-1-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods of 3 minutes or less in any hour). Normally, visible emissions are not associated with combustion of gaseous fuels, such as natural gas or LPG.

As shown in the table above, baghouse pressure drop monitoring, periodic qualitative emissions monitoring, and preventive maintenance records have been imposed on S-1 Cupola, S-4 Ductile Treating Unit, S-5 Ladle Lancing, S-8 Bell Blowout, S-15 Annealing Oven, and S-16 Pneumatic Cement Transport System to insure on-going compliance with the visible emissions standard of Regulation 6.

No monitoring has been required for S-52 Diesel Engine because visible emissions violations are not expected for properly tuned engines.

Particulate Weight Limitation

BAAQMD Regulation 6-1-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from “heat transfer operations” to 0.15 gr/dscf @ 6% O₂. These are the “grain loading” standards.

As shown in the table above, baghouse pressure drop monitoring has been imposed on S-1 Cupola, S-4 Ductile Treating Unit, and S-8 Bell Blowout to insure on-going compliance with the grain loading standard of Regulation 6.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Because S-15 is used to heat treat pipes, essentially all of its particulate matter emissions are attributed to the combustion of fuel used to heat the oven. Source S-15 Annealing Oven burns natural gas exclusively, therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP" no monitoring is required to assure compliance with this limit for this source.

As shown below, the following sources comply with the grain loading limit based upon the maximum PM10 emission rate of each source. Therefore, no monitoring is required to assure compliance with this limitation for these sources.

S-5 Ladle Lancing Oven:

Because S-5 is abated by A-13 Baghouse at all times, it is expected to easily comply with the grain loading limit of 0.15 gr/dscf.

S-15 Annealing Oven:

As stated earlier, the primary source of particulate matter emissions from the annealing oven can be attributed to the combustion of natural gas since S-15 is used for the heat treating of pipes.

S-16 Pneumatic Cement Transport System:

Maximum throughput rate: 1.3 ton/hr
PM10 emission factor: 20 lb/ton
A-9 Baghouse Efficiency: 99.8% by weight
A-9 exhaust gas flow rate: 11.5 dscfm

$$\begin{aligned} \text{Grain loading} &= (1.3 \text{ ton/hr})(20 \text{ lb/ton})(1 - 0.998)(\text{hr}/60 \text{ min})/(11.5 \text{ dscfm}) \\ &= 0.00008 \text{ gr/dscf} \end{aligned}$$

S-52 Diesel Engine:

Engine hp: 134 bhp
PM10 Emission Factor: 2.2E-03 lb/bhp-hr
(AP-42, Table 3.3-1, "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines")
Exhaust gas flow rate: 600 dscfm

$$\begin{aligned} \text{Grain loading} &= (2.2\text{E-}03 \text{ lb/bhp-hr})(134 \text{ bhp})(\text{hr}/60 \text{ min})(7000 \text{ gr/lb})/(600 \text{ scfm}) \\ &= 0.06 \text{ gr/dscf} \end{aligned}$$

Allowable Rate of Emissions Based on Process Weight Rate

BAAQMD Regulation 6-1-311 limits the particulate matter mass emission rate from a subject source as a function of process weight. As shown below, the following sources comply with this requirement based upon the maximum hourly processing rate of each unit. Therefore, no monitoring is required to assure compliance with this limitation.

S-5 Ladle Lancing Oven:

Maximum Process Weight: 40 ton/hr
Allowable Emission Rate: 40 lb/hr

Particulate matter emission factor: 20.7 lb/ton
 A-13 Baghouse Abatement efficiency: 99.9% (wt)

$$\begin{aligned} \text{Max. Hourly Emission rate} &= (40 \text{ ton/hr})(20.7 \text{ lb/ton})(1 - 0.999) \\ &= 0.83 \text{ lb/hr} \end{aligned}$$

S-15 Annealing Oven

Because this source is used for the heat treating of pipes, there are no significant particulate matter emissions other than those produced by the combustion of the natural gas used to heat the oven. Therefore, compliance with this standard is expected.

S-16 Pneumatic Cement Transport System:

Maximum Process Weight: 32.5 ton/hr
 Allowable Emission Rate: 40 lb/hr
 Particulate matter emission factor: 20 lb/ton
 A-9 Baghouse Abatement efficiency: 99.8% (wt)

$$\begin{aligned} \text{Max. Hourly Emission rate} &= (32.5 \text{ ton/hr})(20 \text{ lb/ton})(1 - 0.998) \\ &= 1.3 \text{ lb/hr} \end{aligned}$$

Lead Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1 Cupola	BAAQMD 11-1-301	6.75 kg/day (15 lb/day)	None
	BAAQMD 11-1-302	1.0 g/m ³ averaged over 24 hours	None

Following are detailed citations of the lead standards:

- 11-1-301 Daily Limitation:** A person shall not discharge any emission of lead, or compound of lead calculated as lead, from any emission point in excess of 6.75 kg (15 lbs) per day.
- 11-1-302 Ground Level Concentration Limit Without Background:** A person shall not discharge any emission of lead, or compound of lead calculated as lead, that will result in ground level concentrations in excess of 1.0 ug/m³ averaged over 24 hours.

These limits shall be compared with the potential to emit for lead from each emission point.

Compliance with 11-1-301

A survey of source tests of S-1 Cupola shows that the maximum lead emission rate from S-1 has ranged from 0.006 lb/hr to 1 lb/hr. Based upon typical 11 hour per day operation, the maximum

daily lead emissions from S-1 is $(11 \text{ hr/day})(1 \text{ lb/hr}) = 11 \text{ lb/day}$. Based upon 24 hr per day operation, the maximum daily lead emissions from S-1 is $(24 \text{ hr/day})(1 \text{ lb/hr}) = 24 \text{ lb/day}$.

Because the most recent lead source test for S-1 Cupola was conducted in 1993 and the maximum potential lead emissions exceed 15 lb/day based upon the highest source test result, a source test of S-1 will be required. The source test requirement has been added to the schedule of compliance in the Title V permit. Because the scrap metal melted at the S-1 Cupola is currently screened for lead containing materials, it is expected that the lead emission rate will be much lower than the 1993 emission rate when the scrap metal was not routinely screened. Therefore, compliance with Regulation 11-1-301 is likely to be demonstrated.

Compliance with 11-1-302

S-1 Cupola is abated by A-3 Afterburner and A-13 Baghouse. The lead concentration at the exhaust of A-13 Baghouse will be estimated using source test data. The hourly lead emission rate is from a source test conducted by Air Science Technologies in 2012.

A-13 exhaust gas flow rate: 141,000 acfm

Lead emission rate: $(0.00067 \text{ lb/hr})(\text{hr}/60 \text{ min}) = 1.117\text{E-}5 \text{ lb/min}$

Lead concentration:

$$[(1.117\text{E-}5 \text{ lb/min})(1000 \text{ g}/2.2 \text{ lb})]/[(35.315 \text{ ft}^3/\text{m}^3)(141,000 \text{ ft}^3/\text{min})] = 0.001 \text{ ug}/\text{m}^3$$

Since the lead concentration in the exhaust of A-13 Baghouse is less than the standard of 1.0 ug/m³, it is very unlikely that a ground level concentration in excess of 1.0 ug/m³ averaged over 24 hours will result from the operation of S-1 Cupola. Therefore, no monitoring is required to insure compliance with this limit.

Changes to permit:

A note has been added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that, in the case of a conflict between Sections I-VI and Section VII, the provisions of Section VI takes precedence.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to permit:

BAAQMD Regulation 6 standards have been updated to Regulation 6-1 to reflect current BAAQMD Rules.

The test methods for BAAQMD Condition #2274, part 11 were added.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

Note: This section will be revised to reflect the pending updated compliance review.

An office memorandum from the Director of Compliance and Enforcement to the Director of Permit Services, dated February 2, 2004, presents a review of the compliance record of U.S. Pipe and Foundry (Site # A0083). The Compliance and Enforcement Division staff has reviewed the records for U.S. Pipe and Foundry for the period of January 1, 2003 through December 31, 2003. This review was initiated as part of the District evaluation of an application by U.S. Pipe and Foundry for a Title V permit renewal. During the period subject to review, activities known to the District include:

- Two Notices of Violation were issued during this review period for not meeting the required temperature limit on their afterburner combustion chamber for the cupola. In both cases, the afterburner returned to compliance.
- Ten odor complaints were received alleging U.S. Pipe. One complaint was confirmed and nine were unconfirmed.
- The facility is not operating under a Variance or an Order of Abatement from the District Hearing Board.

- There were no breakdowns, inoperative monitors, or excesses.

The owner certified that all equipment was operating in compliance on December 12, 2001. Except as noted below, ongoing issues related to the compliance status of the facility have been identified to date. The District is currently processing a separate application for permit modification to revise a permit condition that was originally established on the basis of incomplete information and that the facility may not be able to comply with on a consistent basis.

F. Differences between the Application and the Proposed Permit:

The Title V permit renewal application was originally submitted on November 23, 2009. This version is the basis for the proposed renewal Title V permit. Revisions were made to the application 21135 as a result of changes at the facility that were made pursuant to permit applications 13920, 14931, 23180, and 23315. Changes to the permit include the following:

- S-6 Standby Diesel Fire Pump Engine, removed from service.
- S-32 Pneumatic Dust Transport System, removed from service
- S-51 Standby Generator Diesel Engine, removed from service
- A-12 Cupola Baghouse, removed from service
- A-19 Dust Collector, removed from service

APPENDIX A

BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

August 8, 2012

TO: JIM KARAS – ACTING DIRECTOR OF ENGINEERING 

FROM: BARBARA COLER – ACTING DIRECTOR OF COMPLIANCE AND ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

US PIPE AND FOUNDRY COMPANY;
(SITE # A0083)

Background

This review was initiated as part of the District evaluation of an application by US Pipe and Foundry Company (US Pipe) for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

US Pipe manufactures ductile iron pipe.

Compliance records were reviewed for the time period from June 8, 2005 through May 25, 2012. The results of this review are summarized as follows.

1. Violation History

Staff reviewed US Pipe. Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period US Pipe activities known to the District include:

District-issued one Notice of Violation:

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A10997	1-301	4/24/06	1	Public nuisance odors	Resolved Legal 5/27/07

REVIEW OF COMPLIANCE RECORD OF:
US Pipe And Foundry Company – SITE #A0083
Date: 8/08/12
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2. Complaint History

The District received 11 air pollution complaints alleging US Pipe as the source during the review period. All of the complaints alleged odors from the facility. The complaints were investigated by District staff and four were confirmed to US Pipe. Those complaints results in one violation.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, the District received no notifications for RCA to US Pipe.

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for US Pipe and Foundry during the review period.

Conclusion

Following its review of all available facility and District compliance records from June 8, 2005 through May 25, 2012, the District's Compliance and Enforcement Division has determined that US Pipe and Foundry was in compliance from the initial permit period through the present. US Pipe has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM₁₀

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO₂

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX C

Plant Emissions Calculations Including CM171 Pipe Puller 12/31/08

[A0083 PTE \(Revised 5-9-12\).xlsx](#)

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
S1	CUPOLA Coke	18333	tons of coke				
	Dioxins	18333	1.00E-05	0.000	0.0100	0.000	BAAQMD
	As	18333	2.50E-02	0.229	0.0100	0.002	&
	Cd	18333	3.98E-02	0.365	0.0100	0.004	AB2588 SOURCE TEST
	Cr	18333	8.80E-03	0.081	0.0100	0.001	
	Cr(VI)	18333	4.90E-03	0.045	0.0100	0.000	
	Cu	18333	3.31E-01	3.034	0.0100	0.030	
	Mn	18333	2.77E+01	253.912	0.0100	2.539	
	Hg	18333	8.80E-02	0.807	0.0100	0.008	
	Zn	18333	1.26E+01	115.498	0.0100	1.155	
	PAH'S	18333	1.84E-02	0.169	0.0100	0.002	
	Hydrogen Chloride	18333	4.25E-02	0.390	1.0000	0.390	
	SO2	18333	2.36E+01	216.329	1.0000	216.329	
	NOx	18333	1.40E+01	128.331	1.0000	128.331	
	CO	18333	6.00E-01	5.500	0.0100	0.055	
	Pb	18333	8.02E+00	73.515	0.0100	0.735	
	Iron	219000	tons of iron produced				
	PM	219000	3.50E+01	3832.500	0.0100	38.325	BAAQMD
	Be	219000	4.30E-05	0.005	0.0100	0.000	USP BUR Stack Test
	Ni	219000	5.40E-02	5.913	0.0100	0.059	USP BUR Stack Test
	Se	219000	3.20E-04	0.035	0.0100	0.000	USP BUR Stack Test
	Benzene	219000	9.09E-03	0.995	0.0100	0.010	FIRE
	VOC	219000	3.00E+01	3285.000	0.0100	32.850	USP BUR Stack Test
	Napthalene	219000	6.50E-03	0.712	0.0100	0.007	USP Cal Stack Test
	POM	219000	9.63E-03	1.054	0.0100	0.011	USP Cal Stack Test
	2,3,7,8 TCDD	219000	2.10E-09	0.000	1.0000	0.000	USP Cal Stack Test
Fugitive	Slag Trough	17520	tons of slag per	0.000			8% of Iron Produced
	PART	17520	5.60E-02	0.491	1.0000	0.491	DIPRA
	PM10	17520	2.80E-02	0.245	1.0000	0.245	DIPRA + AP42
Fugitive	Key Hole Trough	219000	tons of Iron	0.000			
	PART	219000	5.60E-02	6.132	1.0000	6.132	DIPRA
	PM10	219000	2.80E-02	3.066	1.0000	3.066	DIPRA + AP42
				0.000			
A3	AFTERBURNER			0.000			

Permit Evaluation and Statement of Basis: Site #A0083, U.S. Pipe and Foundry Company, 1295 Whipple Road, Union City CA 94587

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)							
SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
	PART	0	2.85E-01	0.000	0.0100	0.000	
	SO2	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
	Natural Gas	36207	mcft/yr of Nat. G	0.000			BAAQMD
	PART	36207	3.00E-03	0.054	0.0100	0.001	@ 21% USP GAS
	SO2	36207	6.00E-04	0.011	1.0000	0.011	CONSUMPTION
	NOx	36207	1.40E-01	2.534	1.0000	2.534	
	VOC	36207	5.80E-03	0.105	1.0000	0.105	
	CO	36207	3.50E-02	0.634	1.0000	0.634	
				0.000			
S4	DUCTILE TREATING STATION			0.000			
	Porous Plug Ladle	201480	tons of Iron	0.000			
	PM	201480	9.80E-01	98.725	0.0500	4.936	USP NJ Source Test
	PM10	201480	4.90E-01	49.363	0.0500	2.468	USP NJ Source Test
	As	201480	2.80E-05	0.003	0.0500	0.000	ACIPCO material balance
	Be	201480	1.60E-06	0.000	0.0500	0.000	ACIPCO material balance
	Cd	201480	2.80E-05	0.003	0.0500	0.000	ACIPCO material balance
	Cr	201480	1.80E-04	0.018	0.0500	0.001	ACIPCO material balance
	Pb	201480	9.80E-03	0.987	0.0500	0.049	ACIPCO material balance
	Mn	201480	7.40E-04	0.075	0.0500	0.004	ACIPCO material balance
	Ni	201480	1.40E-06	0.000	0.0500	0.000	ACIPCO material balance
	Se	201480	1.30E-06	0.000	0.0500	0.000	ACIPCO material balance
	Foreharth	219000	tons of Iron	0.000			
	PM	219000	5.60E-02	6.132	0.0100	0.061	DIPRA
	PM10	219000	2.80E-02	3.066	0.0100	0.031	DIPRA + AP42
	Magnesium Treatment	219000	Tons of Iron tre	0.000			
	PM-10	219000	2.50E-01	27.375	0.5050	13.824	McWane material balance
	TSP	219000	5.00E-01	54.750	0.5050	27.649	McWane material balance
	Mn	219000	6.58E-04	0.072	0.5050	0.036	USP NBM catch & analysis
	Pb	219000	2.66E-03	0.291	0.5050	0.147	USP NBM catch & analysis
	Cd	219000	6.25E-04	0.068	0.5050	0.035	USP Cal source test
	Co	219000	8.23E-06	0.001	0.5050	0.000	USP NBM catch & analysis
	Se	219000	1.78E-06	0.000	0.5050	0.000	USP NBM catch & analysis
	Ni	219000	7.00E-04	0.077	0.5050	0.039	USP Cal source test

Permit Evaluation and Statement of Basis: Site #A0083, U.S. Pipe and Foundry Company, 1295 Whipple Road, Union City CA 94587

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
Fugitive	Cr	219000	8.00E-04	0.088	0.5050	0.044	USP Cal source test
	Sb	219000	3.03E-05	0.003	0.5050	0.002	USP NBM catch & analysis
	As	219000	1.33E-04	0.015	0.5050	0.007	USP NBM catch & analysis
	Hg	219000	3.00E-04	0.033	0.5050	0.017	USP Cal source test
	2.5T Treated transfer Ladle	219000	tons iron / yr	0.000			
	PM	219000	5.60E-02	6.132	1.0000	6.132 ***	DIPRA
	PM10	219000	2.60E-02	3.066	1.0000	3.066 ***	DIPRA + AP42
S5	LADLE LANCING Lances	350400.0	tons of steel lar	0.000			
	PM	350400	2.07E+01	3626.640	0.0100	36.266	BAAQMD
S6	BRICK SAW	6	tons of bricks	0.000			
	PM10	6	1.70E+00	0.005	1.0000	0.005	BAAQMD
S7	MOLD SANDBLAST	3504.0	tons of sand	0.000			
	PART	3504	5.00E+01	87.600	0.0100	0.876	AP42 MRI Report
	PM10	3504	1.14E+01	19.973	0.0100	0.200	AP-42 MRI Report
S8	BELL BLOWOUT	5146.5	ton of core sand	0.000			
	PM	5147	2.00E+01	51.465	0.0500	2.573	BAAQMD
S9	CURING OVEN HTR. Natural Gas	460	mcf of nat. gas	0.000			
	PM	460	3.00E-03	0.001	1.0000	0.001	BAAQMD
	SOx	460	6.00E-04	0.000	1.0000	0.000	@ 0.267% USP GAS CONSUMPTION
	NOx	460	1.40E-01	0.032	1.0000	0.032	
	VOC	460	5.60E-03	0.001	1.0000	0.001	
	CO	460	3.50E-02	0.008	1.0000	0.008	
	LPG	0	mgal of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SO2	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage	X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions					
	365 days/year						
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
S10	CURING OVEN HTR.			0.000			
	Natural Gas		mcf of nat. gas	0.000			
	PM	460	3.00E-03	0.001	1.0000	0.001	BAAQMD
	SOx	460	6.00E-04	0.000	1.0000	0.000	@ 0.267% USP GAS
	NOx	460	1.40E-01	0.032	1.0000	0.032	CONSUMPTION
	VOC	460	5.80E-03	0.001	1.0000	0.001	
	CO	460	3.50E-02	0.008	1.0000	0.008	
	LPG	0	mgal of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SO2	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
S11	CURING OVEN HTR.			0.000			
	Natural Gas		mcf of nat. gas	0.000			
	PM	460	3.00E-03	0.001	1.0000	0.001	BAAQMD
	SOx	460	6.00E-04	0.000	1.0000	0.000	@ 0.267% USP GAS
	NOx	460	1.40E-01	0.032	1.0000	0.032	CONSUMPTION
	VOC	460	5.80E-03	0.001	1.0000	0.001	
	CO	460	3.50E-02	0.008	1.0000	0.008	
	LPG	0	mgal of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SO2	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
S12	ABRASIVE SAW		tons iron per ye	0.000			8% of Production
	PM	17520	2.50E-01	2.190	0.0200	0.044	USP BUR mass balance
S13	BEVEL GRINDER		tons iron per ye	0.000			8% of Production

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE	
Annual Usage ----- 365 days/year								
X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions								
S14	PM	17520	2.50E-01	2.190	0.0200	0.044	USP BUR mass balance	
	O.D. GRINDER	17520	tons iron per ye	0.000				
	PM	17520	2.50E-01	2.190	0.0200	0.044	8% of Production USP BUR mass balance	
S15	ANNEALING OVEN			0.000				
	Natural Gas	7708800	mcf of nat. gas	0.000				
	PM	7708800	3.00E-03	11.563	1.0000	11.563	BAAQMD @ 60% USP GAS CONSUMPTION	
	SO2	7708800	6.00E-04	2.313	1.0000	2.313		
	NOx	7708800	1.40E-01	539.616	1.0000	539.616		
	VOC	7708800	5.80E-03	22.356	1.0000	22.356		
	CO	7708800	3.50E-02	134.904	1.0000	134.904		
	LPG		0	mgal of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000		
	SO2	0	1.22E+00	0.000	1.0000	0.000		
NOx	0	1.17E+01	0.000	1.0000	0.000			
VOC	0	7.00E-01	0.000	1.0000	0.000			
CO	0	1.55E+00	0.000	1.0000	0.000			
S16	CEMENT TRANSPORT			0.000				
	Cement (dry)	284700	tons of dry cem	0.000				
	PM Pneu Transport	284700	2.16E+00	307.476	0.0020	0.615	AP-42 Concrete Batching 5th ed	
	PM Mixer Batching	284700	3.20E-01	45.552	1.0000	45.552	AP-42 Concrete Batching 5th ed	
	Sand (dry)	5426	tons of dry sand	0.000				
	PM sand elevator	5426	9.35E-02	0.254	1.0000	0.254	AP-42 Concrete Batching 5th ed	
S17	SURFACE COATER			0.000				
	Mineral Spirits	161200	gal/yr of minera	0.000			(DUE TO CLEANUP)	
	VOC	161200	2.33E+00	187.798	1.0000	187.798	BAAQMD	
	Coating Asphalt	161200	gal/yr of minera	0.000				
	VOC	161200	1.00E+00	80.600	1.0000	80.600	BAAQMD	
Fugitive	TRF Epoxy Coating	0	Gallons brushe	0.000				
	Xylene	0	1.92E+00	0.000	1.0000	0.000	MSDS Mass Balance	
	Methanol	0	4.80E-01	0.000	1.0000	0.000		
	VOC	0	2.40E+00	0.000	1.0000	0.000		

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage ----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions 365 days/year							
S20	PROPANE STORAGE	0 gal/yr		0.000			
	VOC	0	0.00E+00	0.000	1.0000	0.000	CALC.(7.5*40%) BAAQMD
S21	PROPANE STORAGE	0 gal/yr		0.000			
	VOC	0	0.00E+00	0.000	1.0000	0.000	BAAQMD
S22	PROPANE STORAGE	0 gal/yr		0.000			
	VOC	0	0.00E+00	0.000	1.0000	0.000	BAAQMD
S23	PROPANE STORAGE	0 gal/yr		0.000			
	VOC	0	0.00E+00	0.000	1.0000	0.000	BAAQMD
S25	DIESEL STORAGE	72 MGal/yr		0.000			
	VOC	72	1.30E+00	0.047	1.0000	0.047	BAAQMD
S26	PAINT STORAGE	85 MGal/yr		0.000			
	VOC	85	1.30E+00	0.055	1.0000	0.055	BAAQMD
S27	PAINT STORAGE	85 MGal/yr		0.000			
	VOC	85	1.30E+00	0.055	1.0000	0.055	BAAQMD
S30	ABR. CUT-OFF SAW	17520 tons of iron		0.000			
	PM	17520	2.50E-01	2.190	0.0200	0.044	8% of Production USP BUR mass balance
S32	DUST TRANS & PLANT			0.000			
	Baghouse Dust	5220 tons of dust		0.000			
	PM Dust Transport	5220	2.16E+00	5.637	0.0100	0.056	AP-42 Concrete Batching 5th ed
	PM Mixer Batching	5220	3.20E-01	0.835	0.0100	0.008	AP-42 Concrete Batching 5th ed
	Cement (dry)	0 Tons of dry cen		0.000			
	PM Cement Transport	0	2.16E+00	0.000	0.0100	0.000	AP-42 Concrete Batching 5th ed
	Kiln Dust (dry)	0 Tons of dry Kiln		0.000			
	PM Kiln Dust Transport	0	2.16E+00	0.000	0.0100	0.000	AP-42 Concrete Batching 5th ed
				0.000			
				0.000			

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage ----- 365 days/year							
X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
S33	SERVICE STATION	940	MGal/yr	0.000			
	VOC	940	9.40E+00	4.416	1.0000	4.416	CARB Doc PI no PII
	Benzene	940	1.80E-02	0.008	1.0000	0.008	CARB Doc PI no PII
				0.000			
S38*	COLD CLEANER	99	Gal/yr of Miner	0.000			
	VOC	99	6.51E+00	0.322	1.0000	0.322	BAAQMD
				0.000			
S40	P&G HAND SAND BLASTER	3241.2	tons/yr	0.000			
	PM	3241	5.00E+01	81.030	1.0000	81.030	AP-42 MRI Report
	PM10	3241	1.14E+01	18.475	1.0000	18.475	AP-42 MRI Report
				0.000			
S41	CLEMCO HAND ABRASIVE BLASTER	1971	tons/yr	0.000			
	PM	1971	5.00E+01	49.275	1.0000	49.275	AP-42 MRI Report
	PM10	1971	1.14E+01	11.235	1.0000	11.235	AP-42 MRI Report
				0.000			
S42	COLD CLEANER	15	Gal/yr of Miner	0.000			
	VOC	15	6.51E+00	0.049	1.0000	0.049	BAAQMD
				0.000			
S43	COLD CLEANER	15	Gal/yr of Miner	0.000			
	VOC	15	6.51E+00	0.049	1.0000	0.049	BAAQMD
				0.000			

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage ----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions 365 days/year							
FS44	*CAST. MACH. 171	54750	Tons cast per y	0.000			
	PM	54750	3.88E-01	10.622	1.0000	10.622	DIPRA
	PM10	54750	1.98E-01	5.420	1.0000	5.420	
	CaSiBar	54101	Pounds of CaS	0.000			
	Barium Compound	54101	1.00E-01	2.705	0.2500	0.676	TRI
FS45	*CAST. MACH 172	54750	Tons cast per y	0.000			
	PM	54750	3.88E-01	10.622	1.0000	10.622	DIPRA
	PM10	54750	1.98E-01	5.420	1.0000	5.420	
	CaSiBar	54101	Pounds of CaS	0.000			
	Barium Compound	54101	1.00E-01	2.705	0.2500	0.676	TRI
FS46	*CAST. MACH. 173	54750	Tons cast per y	0.000			
	PM	54750	3.88E-01	10.622	1.0000	10.622	DIPRA
	PM10	54750	1.98E-01	5.420	1.0000	5.420	
	CaSiBar	54101	Pounds of CaS	0.000			
	Barium Compound	54101	1.00E-01	2.705	0.2500	0.676	TRI
FS47	*CAST. MACH 174	54750	Tons cast per y	0.000			
	PM	54750	3.88E-01	10.622	1.0000	10.622	DIPRA
	PM10	54750	1.98E-01	5.420	1.0000	5.420	
	CaSiBar	54101	Pounds of CaS	0.000			
	Barium Compound	54101	1.00E-01	2.705	0.2500	0.676	TRI
FS48	*INTERNAL GRINDERS	17520	tons of pipe prc	0.000			8% of Production
	PM	17520	2.50E-01	2.190	0.0010	0.002	DIPRA

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
FS49	*PLASMA CUTTER PM	10 10	tons of pipe cut 2.50E+00	0.000 0.000 0.013		0.001	USP BUR Mass Balance 90% slagging
FS50	*CHARPY ABRS. SAW PM	17520	tons per year 2.50E-01	0.000 2.190	0.0200	0.044	DIPRA
FS51	*HAND GRIND PIPE PM	2 2	tons per year 1.70E+01	0.000 0.017	1.0000	0.017	AP-42 "D"
FS52	*PROD. SHIP/HANDLING			0.000			
	30 Ton Veh. Paved Rds PM	4127	miles traveled 5.42E+00	0.000 11.184	1.0000	11.184	AP-42 Paved Roads 5th ed
	PM-10	4127	1.06E+00	2.187	1.0000	2.187	AP-42 Paved Roads 5th ed
	10 Ton Veh. Unpaved Rds PM	1270	miles traveled 6.90E-01	0.000 0.438	1.0000	0.438	AP-42 Paved Roads 5th ed
	PM-10	1270	2.50E-01	0.159	1.0000	0.159	AP-42 Paved Roads 5th ed
	7 Ton Veh. Unpaved Rds PM	3810	miles traveled 6.70E-01	0.000 1.276	1.0000	1.276	AP-42 Paved Roads 5th ed
	PM-10	3810	2.40E-01	0.457	1.0000	0.457	AP-42 Paved Roads 5th ed

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						

	365 days/year						
							X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions
FS53	*CORE MACHINE #1			0.000			
	Sand	55480	tons per year	0.000			
	PM	55480	3.60E-01	9.986	1.0000	9.986	
	PM10	55480	1.30E-01	3.606	1.0000	3.606	AFS/SRI CEFM
	NH4	55480	1.54E-04	0.004	1.0000	0.004	4% RESIN CONTENT
	H2S	55480	4.00E-06	0.000	1.0000	0.000	IN CORE SAND
	NOx	55480	4.00E-05	0.001	1.0000	0.001	&
	SOx	55480	1.40E-04	0.004	1.0000	0.004	GAS CONSUMPTION
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	@ (5.5% USP USAGE)/6
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	m-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
FS54	*CORE MACHINE #2			0.000		0.000	
	Sand	55480	tons per year	0.000		0.000	
	PM	55480	3.60E-01	9.986	1.0000	9.986	AFS/SRI CEFM 4% RESIN CONTENT IN CORE SAND & GAS CONSUMPTION @ (5.5% USP USAGE)/6
	PM10	55480	1.30E-01	3.606	1.0000	3.606	
	NH4	55480	1.54E-04	0.004	1.0000	0.004	
	H2S	55480	4.00E-06	0.000	1.0000	0.000	
	NOx	55480	4.00E-05	0.001	1.0000	0.001	
	SOx	55480	1.40E-04	0.004	1.0000	0.004	
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	m-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
PM	0	2.85E-01	0.000	1.0000	0.000		
SOx	0	1.22E+00	0.000	1.0000	0.000		
NOx	0	1.17E+01	0.000	1.0000	0.000		
VOC	0	7.00E-01	0.000	1.0000	0.000		
CO	0	1.55E+00	0.000	1.0000	0.000		

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						
	----- X Emission Factor = Unabated Emissions						
	365 days/year X Abatement Factor = Abated Emissions						
FS55	*CORE MACHINE #3			0.000			
	Sand	55480	tons per year	0.000			
	PM	55480	3.60E-01	9.986	1.0000	9.986	AFS/SRI CEFM 4% RESIN CONTENT IN CORE SAND & GAS CONSUMPTION @ (5.5% USP USAGE)/6
	PM10	55480	1.30E-01	3.606	1.0000	3.606	
	NH4	55480	1.54E-04	0.004	1.0000	0.004	
	H2S	55480	4.00E-06	0.000	1.0000	0.000	
	NOx	55480	4.00E-05	0.001	1.0000	0.001	
	SOx	55480	1.40E-04	0.004	1.0000	0.004	
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	m-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						

	365 days/year						
							X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions
FS56	*CORE MACHINE #4			0.000			
	Sand	55480	tons of core sar	0.000			
	PM	55480	3.60E-01	9.986	1.0000	9.986	
	PM10	55480	1.30E+00	36.062	1.0000	36.062	AFS/SRI CEFM
	NH4	55480	1.54E-04	0.004	1.0000	0.004	4% RESIN CONTENT
	H2S	55480	4.00E-06	0.000	1.0000	0.000	IN CORE SAND
	NOx	55480	4.00E-05	0.001	1.0000	0.001	&
	SOx	55480	1.40E-04	0.004	1.0000	0.004	GAS CONSUMPTION
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	@ (5.5% USP USAGE)/6
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	M-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						

	365 days/year						
				0.000			
FS57	*CORE MACHINE #5			0.000			
	Sand	55480	tons per year	0.000			
	PM	55480	3.60E-01	9.986	1.0000	9.986	AFS/SRI CEFM
	PM10	55480	1.30E-01	3.606	1.0000	3.606	4% RESIN CONTENT
	NH4	55480	1.54E-04	0.004	1.0000	0.004	IN CORE SAND
	H2S	55480	4.00E-06	0.000	1.0000	0.000	&
	NOx	55480	4.00E-05	0.001	1.0000	0.001	GAS CONSUMPTION
	SOx	55480	1.40E-04	0.004	1.0000	0.004	@ (5.5% USP USAGE)/6
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	m-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						
	----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions						
	365 days/year						
FS??	*CORE MACHINE #6			0.000			
	Sand	55480	tons per year	0.000			
	PM	55480	3.60E-01	9.986	1.0000	9.986	AFS/SRI CEFM 4% RESIN CONTENT IN CORE SAND & GAS CONSUMPTION @ (5.5% USP USAGE)/6
	PM10	55480	1.30E-01	3.606	1.0000	3.606	
	NH4	55480	1.54E-04	0.004	1.0000	0.004	
	H2S	55480	4.00E-06	0.000	1.0000	0.000	
	NOx	55480	4.00E-05	0.001	1.0000	0.001	
	SOx	55480	1.40E-04	0.004	1.0000	0.004	
	Hydrocarbons	55480	8.97E-04	0.025	1.0000	0.025	
	Acrolien	55480	2.00E-06	0.000	1.0000	0.000	
	Benzene	55480	2.67E-04	0.007	1.0000	0.007	
	Formaldehyde	55480	1.00E-06	0.000	1.0000	0.000	
	H2CN	55480	4.21E-04	0.012	1.0000	0.012	
	m-Xylene	55480	2.30E-05	0.001	1.0000	0.001	
	Naphthalene	55480	2.00E-06	0.000	1.0000	0.000	
	o-Xylene	55480	5.00E-06	0.000	1.0000	0.000	
	Toluene	55480	1.12E-04	0.003	1.0000	0.003	
	Aromatic Amines	55480	9.40E-05	0.003	1.0000	0.003	
	C2-C5 Aldehydes	55480	2.30E-05	0.001	1.0000	0.001	
	Phenol	55480	9.80E-05	0.003	1.0000	0.003	
	Natural Gas	517	mcf/yr of Nat. g	0.000			
	PM	517	3.00E-03	0.001	1.0000	0.001	
	SOx	517	6.00E-04	0.000	1.0000	0.000	
	NOx	517	1.40E-01	0.036	1.0000	0.036	
	VOC	517	5.80E-03	0.001	1.0000	0.001	
	CO	517	3.50E-02	0.009	1.0000	0.009	
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
				0.000			

United States Pipe and Foundry Company Union City, CA Plant 83

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)				INFORMATION SOURCE
			EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	
Annual Usage		----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions					
365 days/year							
FS58	*CORE COATING			0.000			
	PM	18	tons/yr of black 1.00E-01	0.001	1.0000	0.001	BASED ON 10% AIRBORNE CARBON
FS59	*TRF O.D. GRINDER	17520	tons/yr	0.000			
	PM	17520	2.50E-01	2.190	0.0200	0.044	DIPRA
FS60	*TRF MiG WELDER	24	Thousand pour	0.000			
	PM-10	24	5.20E+00	0.062	1.0000	0.062	AP-42, Arc welding 5thed.
	Cr	24	1.00E-03	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
	Mn	24	3.18E-01	0.004	1.0000	0.004	AP-42, Arc welding 5thed.
	Ni	24	1.00E-03	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
FS63	*TROUGH WELDING	14	Thousand pou	0.000			
	PM-10	14	2.56E+01	0.179	1.0000	0.179	AP-42, Arc welding 5thed.
	CR	14	3.00E-03	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
	CR(IV)	14	1.00E-03	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
	Mn	14	9.98E-01	0.007	1.0000	0.007	AP-42, Arc welding 5thed.
	Ni	14	5.00E-03	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
FS65	*MOLD WELDING	16	thousand pound	0.000			
	PM-10	16	5.00E-02	0.000	1.0000	0.000	AP-42, Arc welding 5thed.
FS66	*BELL GRINDING	5	tons/yr	0.000			
	PM10	5	1.70E+00	0.004	1.0000	0.004	AP-42 "D"
FS67	*RADIAL ARM SAW (SHIPPING)			0.000			
	PM	1	TONS OF SAW 2.00E+00	0.001	1.0000	0.001	
FS68	*IRON SHEAR			0.000			
FS69	*EMERGENCY AIR COMPRESSOR			0.000			
	1 engine(s) excluded from Non-road engine definition 40 CFR 98.1			0.000			
	Diesel	20	GALLONS OF I	0.000			
	NOx	20	6.22E-01	0.006	1.0000	0.006	AP-42 Industrial Engine 5th ed.

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						
	----- X Emission Factor = Unabated Emissions						
	365 days/year						
	CO	20	1.34E-01	0.001	1.0000	0.001	AP-42 Industrial Engine 5th ed.
	SOx	20	4.09E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	PM-10	20	4.37E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Aldehydes	20	9.90E-03	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	TOC	20	5.08E-02	0.001	1.0000	0.001	AP-42 Industrial Engine 5th ed.
	Benzene	20	1.32E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Toluene	20	5.73E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Xylenes	20	4.02E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Propylene	20	3.64E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	1,3-Butadiene	20	5.51E-06	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Formaldehyde	20	1.66E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Actaldehyde	20	1.08E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Acrolien	20	1.00E-08	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Naphthalene	20	1.20E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Total PAH	20	2.01E-09	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
				0.000			
FS70	*EMERGENCY GENERATOR			0.000			
	1 engine(s) excluded from Non-road engine definition 40 CFR 98.1			0.000			
	Diesel	0	GALLONS OF	0.000			
	NOx	0	6.22E-01	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	CO	0	1.34E-01	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	SOx	0	4.09E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	PM-10	0	4.37E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Aldehydes	0	9.90E-03	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	TOC	0	5.08E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Benzene	0	1.32E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Toluene	0	5.73E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Xylenes	0	4.02E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Propylene	0	3.64E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	1,3-Butadiene	0	5.51E-06	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Formaldehyde	0	1.66E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Actaldehyde	0	1.08E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Acrolien	0	1.00E-08	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Naphthalene	0	1.20E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Total PAH	0	2.01E-09	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage	----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions					
	365 days/year						
FS71	*EMERGENCY GENERATOR			0.000			
	1 engine(s) excluded from Non-road engine definition 40 CFR 98.1			0.000			
	Diesel	0	GALLONS OF	0.000			
	NOx	0	6.22E-01	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	CO	0	1.34E-01	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	SOx	0	4.09E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	PM-10	0	4.37E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Aldehydes	0	9.90E-03	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	TOC	0	5.08E-02	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Benzene	0	1.32E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Toluene	0	5.73E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Xylenes	0	4.02E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Propylene	0	3.64E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	1,3-Butadiene	0	5.51E-06	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Formaldehyde	0	1.66E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Acetaldehyde	0	1.08E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Acrollen	0	1.00E-08	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Naphthalene	0	1.20E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Total PAH	0	2.01E-09	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
FS72	*BANDSAW (SHIPPING)	1	TONS OF SAW	0.000			
	PM	1	2.00E+00	0.001	1.0000	0.001	
FS73	*DRILL GRINDER	1	tons/yr	0.000			
	PM	1	2.50E-01	0.000	1.0000	0.000	DIPRA
FS79	*DIESEL WELDER			0.000			
	1 engine(s) excluded from Non-road engine definition 40 CFR 98.1			0.000			
	Diesel	1050	GALLONS OF	0.000			
	NOx	1050	6.22E-01	0.327	1.0000	0.327	AP-42 Industrial Engine 5th ed.
	CO	1050	1.34E-01	0.070	1.0000	0.070	AP-42 Industrial Engine 5th ed.
	SOx	1050	4.09E-02	0.021	1.0000	0.021	AP-42 Industrial Engine 5th ed.
	PM-10	1050	4.37E-02	0.023	1.0000	0.023	AP-42 Industrial Engine 5th ed.
	Aldehydes	1050	9.90E-03	0.005	1.0000	0.005	AP-42 Industrial Engine 5th ed.

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
Annual Usage							
----- X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions							
365 days/year							
	TOC	1050	5.08E-02	0.027	1.0000	0.027	AP-42 Industrial Engine 5th ed.
	Benzene	1050	1.32E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Toluene	1050	5.73E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Xylenes	1050	4.02E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Propylene	1050	3.64E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	1,3-Butadiene	1050	5.51E-06	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Formaldehyde	1050	1.66E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Actaldehyde	1050	1.08E-04	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Acrolien	1050	1.00E-08	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Naphthalene	1050	1.20E-05	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
	Total PAH	1050	2.01E-09	0.000	1.0000	0.000	AP-42 Industrial Engine 5th ed.
				0.000			
FS3200	*MISC. FUEL BURNING			0.000			
	LPG	0	mcf/yr of LPG	0.000			
	PM	0	2.85E-01	0.000	1.0000	0.000	
	SOx	0	1.22E+00	0.000	1.0000	0.000	
	NOx	0	1.17E+01	0.000	1.0000	0.000	
	VOC	0	7.00E-01	0.000	1.0000	0.000	
	CO	0	1.55E+00	0.000	1.0000	0.000	
	Natural Gas	21896	mcf/yr of Nat. g	0.000			
	PM	21896	3.00E-03	0.033	1.0000	0.033	
	SOx	21896	6.00E-04	0.007	1.0000	0.007	
	NOx	21896	1.40E-01	1.533	1.0000	1.533	
	VOC	21896	5.80E-03	0.063	1.0000	0.063	
	CO	21896	3.50E-02	0.383	1.0000	0.383	
Plant 83	Facility Totals			17186.131		2097.850	

United States Pipe and Foundry Company Union City, CA Plant 83

Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						
	365 days/year						
	X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions						

Plant 83 Facility Emissions Summary

	TPY	(Lbs/yr)
Unabated Emissions	17186.131	34372262.9
Abated Emissions	2097.850	4195699.3
Part	597.283	1194566.2
PM10	99.740	199479.9
SO2	218.706	437412.0
NOx	672.667	1345334.9
VOC	328.778	657555.7
CO	136.126	272251.9
Hydrocarbons	0.176	352.9
		0.0
1,3-Butadiene	0.000	0.0
Acrolien	0.000	0.7
Actaldehyde	0.000	0.1
Aromatic Amines	0.016	31.3
Benzene	0.063	125.8
C2-C5 Aldehydes	0.009	18.2
Dioxin	0.000	0.0
2,3,7,8 TCDD	0.000	0.0
Formaldehyde	0.045	89.1
Hydrochloric Acid	0.390	779.2
Hydrogen Cyanide	0.070	140.1
m-Xylene	0.004	7.7
Methanol	0.000	0.0
Naphthalene	0.007	14.9
o-Xylene	0.001	1.7
PAH's	0.002	3.4
Phenol	0.016	32.6
Propylene	0.000	0.4
Toluene	0.019	37.3
Xylenes	0.000	0.0
Ammonia	0.026	51.3
Antimony Compounds	0.002	3.4

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Appendix C: Plant Emissions Calculations including CM171 Pipe Puller 12/31/08)

SOURCE #	SOURCE NAME	ANNUAL MAXIMUM USAGE (TPY)	EMISSION FACTOR	UNABATED EMISSION (TPY)	ABATEMENT FACTOR	ABATED EMISSION (TPY)	INFORMATION SOURCE
	Annual Usage						
	365 days/year X Emission Factor = Unabated Emissions X Abatement Factor = Abated Emissions						
	Arsenic Compounds					0.010	20.0
	Barium Compounds					2.705	5410.1
	Beryllium Compounds					0.000	0.1
	Cadmium Compounds					0.039	77.1
	Chromium (IV) Compounds					0.000	0.9
	Chromium Compounds					0.047	94.5
	Cobalt compounds					0.000	0.9
	Copper Compounds					0.030	60.7
	Hydrogen Sulfide					0.001	1.3
	Lead Compounds					1.000	2000.6
	Manganese Compounds					2.595	5190.4
	Mercury Compounds					0.025	49.3
	Nickel Compounds					0.098	195.8
	Selenium Compounds					0.000	0.9
	Zinc Compounds					1.155	2310.0
	Polycyclic Organic Matter					0.011	21.1

