

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

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December 2004

Application Engineer: Dennis Jang
Site Engineer: Dennis Jang

Application: 3908

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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.

This facility received its initial Title V permit on July 1, 1997. A minor revision was made to the permit on May 7, 2002. This application is for a permit renewal. Although the current permit expired on July 1, 2002, it continues in force until the District takes final action on the permit renewal. The standard sections of the permit have changed since May 7, 2002. 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 and sulfur dioxide from equipment 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. A major source of nitrogen oxides is the annealing oven that burns natural gas and is used to heat treat the cast pipes. The primary source of volatile organic compound emissions is the surface coater that is used to apply asphalt coating to the pressure pipe. 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 and two abrasive blasting units that are used to finish the pipe.

There has been no significant change in emissions since the issuance of the initial Major Facility Review permit except for a 76 ton per year reduction in VOC emissions resulting from a reduction in the VOC content of coatings applied at S-17 Surface Coater.

C. Permit Content

The legal and factual basis for the permit follows. 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 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.

The following language was added to Standard Condition I.B: "If the permit renewal has not been issued by [], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.

The dates of the reporting periods and reporting deadlines have been added to Standard Conditions I.F and I.G for additional clarity.

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., S24).

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 permit and the permit proposal date:

Devices Removed from Service or Archived since Application was submitted:

None

Devices Permitted Since Application was submitted:

None

Devices with Changed Permit Status:

S-51 and S-52 Standby Generator Diesel Engines and S-42 and S-43 Cold Cleaners lost their exempt status since the original Title V permit was issued and are now permitted.

District permit applications not included in this proposed permit:

None

Corrections to Devices Shown in Application:

None

Changes to permit:

Two existing standby diesel engines that lost their permit exemptions have been added to the permit.

S-32000 Miscellaneous Fuel Burning sources has been deleted from the permit because it is not a discrete permitted source, but rather a grouping established by the District for the purpose of reporting and estimating emissions from various small combustion sources located throughout the facility. The emissions from each combustion source are estimated to be less than 2 tons per year of NO_x and CO. These combustion sources are therefore not considered to be significant sources pursuant to BAAQMD Regulation 2-6-239 and are therefore not included in the Title V permit.

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. Parts of this section 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 normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. 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 added to this section.

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

- SIP Regulation 5, Open Burning
- Regulation 8, Rule 2, Miscellaneous Operations
- SIP Regulation 8, Rule 3, Architectural Coatings
- Regulation 8, Rule 4, General Solvent and Surface Coating Operations
- SIP Regulation 8, Rule 4, General Solvent and Surface Coating Operations

- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics “Hot Spots” Information and Assessment Act of 1987
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

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

112(j)

The 1990 Amendments to section 112 of the Clean Air Act included a new section 112(j), which is entitled “Equivalent Emission Limitation by Permit.” Section 112(j)(2) provides that the provisions of section 112(j) apply eighteen months after the EPA misses a deadline for

promulgation of a standard under section 112(d) established in the source category schedule for standards. The EPA missed the deadline for the following standard, which this facility was possibly subject to on November 15, 2000:

- Industrial Boilers, Institutional/Commercial Boilers, and Process Heaters

On May 20, 1994, EPA promulgated a final rule (40 CFR 63, Subpart B) for implementing section 112(j). That rule requires major source owners or operators to submit a permit application 18 months after a missed date on a regulatory schedule. 40 CFR 63, Subpart B also establishes requirements for the content of the permit applications and contains provisions governing the establishment of the maximum achievable control technology (MACT) equivalent emission limitations by the permitting authority.

40 CFR 63, Subpart B was amended on April 5, 2002. The amendment required the applications in two parts. The Part 1 applications were due on May 15, 2002. The facility submitted the applications on May 12, 2002. The Part 2 applications were due on May 15, 2004.

On May 30, 2003, EPA amended Subpart B again to insert new schedules for issuing the MACT standards and for submittal of applications. The Part 2 applications are now due 60 days after the deadline for the issuance of each MACT if the MACT has not been promulgated.

The new date for the Industrial Boilers, Institutional/Commercial Boilers, and Process Heaters MACT was June 27, 2004.

The MACT for Industrial Boilers, Institutional/Commercial Boilers, and Process Heaters was finally promulgated on September 13, 2004. It applies to facilities that are major sources of hazardous air pollutants (HAP). US Pipe and Foundry is not a major source of HAP. The facility has no boilers. The standard has defined "process heater" as a source of indirect heat. Therefore, the cupola and ovens are not considered to be "process heaters" for the purposes of this standard. Lastly, the standard exempts "small gaseous fuel" heaters per 40 CFR 63.7506 and as defined in 40 CFR 63.7575. The facility has small heaters to keep the metal molten during transport, but the capacity of all such small heaters is less than 10 MMbtu/hr each. For all of these reasons, the facility is not subject to the MACT as written.

Moreover, the facility will not be subject to any other MACT that has not been proposed, so the facility is no longer subject to 112(j) and 40 CFR 63, Subpart B.

The MACT for Iron and Steel Foundries (40 CFR Part 63 Subpart EEEEE) was promulgated on April 22, 2004. The MACT for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63 Subpart MMMM) was promulgated on January 2, 2004. Compliance and monitoring for these requirements will be evaluated at a later date in a separate Title V permit application within 18 months of the promulgation date for each MACT. Compliance with the notification requirements and the work practice standard requirement in 40 CFR 63.7700 are required earlier, so they have been included in the proposed permit.

CAM

CAM applies to the A-12 Cupola Baghouse since the PM10 emissions from S-1 Cupola exceed 100 tons per year. Because the A-12 Cupola Baghouse is not equipped with a stack, source testing to determine the PM10 emission rate is not feasible. Furthermore, in-stack opacity monitors or bag leak detectors cannot be installed and operated on the A-12 baghouse since it does not have a stack. Therefore, CAM for the baghouse is deemed to be daily visible emissions monitoring and daily pressure drop monitoring.

Changes to permit:

To satisfy CAM, permit condition #2274, part 9 has been modified to require daily qualitative visible emissions monitoring of A-12 Baghouse using EPA method 22.

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, as discussed in Section C.VII of this Statement of Basis, there is some uncertainty about the lead emissions from the cupola. 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:

Condition #14989, that applies to S-5 Ladle Lancing, was inadvertently omitted from the original Title V permit. It has been returned to the permit.

Condition #20974, that applies to S-52 and S-53 Standby Generator Diesel Engines, has been created and added to the permit.

Condition #20671 that applies to S-17 Surface Coater, has been created as a result of banking application #6821 and added to the permit.

Condition #2274, part 2 that limits daily hours of operation of S-1 Cupola has been deleted and replaced with an equivalent daily limit on material throughput. This will allow the applicant to operate the subject source for more hours per day at a lower processing rate while insuring that there is no increase in daily emissions. Accordingly, the recordkeeping provisions specified in

condition #2274, part 6 have been revised to require records of grey iron throughput at S-1 instead of hours of operation.

Condition #2676, part 5 was added to the permit. This part requires recordkeeping of the hours of operation of S-32 Pneumatic Dust Transport System to verify compliance with part 2, that limits daily hours of operation.

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.

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-51 and S-52 Standby Generator Diesel Engines	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.

Because the S-51 and S-52 Standby Generator Diesel Engines 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 these sources.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout	BAAQMD Regulation 6-301	Ringelmann 1.0	baghouse pressure drop monitor
S-1 Cupola, S-4 Ductile Treating Unit, S-5 Ladle Lancing	BAAQMD Regulation 6-301	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 6-301	Ringelmann 1.0	Visible emissions monitoring
S-51 and S-52 Diesel Engines	BAAQMD Regulation 6-301	Ringelmann 1.0	None
S-32 Pneumatic Dust Transport System	BAAQMD Regulation 6-301	Ringelmann 1.0	Transport System automatic shutdown
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout,	BAAQMD Regulation 6-305	Fallout of visible particles	baghouse pressure drop monitor
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout	BAAQMD Regulation 6-310	0.15 gr/dscf	baghouse pressure drop monitor
S-51 and S-52 Diesel Engines	BAAQMD Regulation 6-310.3	0.15 gr/dscf at 6% O ₂	None
S-5 Ladle Lancing, S-15 Annealing Oven, S-16 Pneumatic Cement Transport System, S-32 Pneumatic Dust Transport System,	BAAQMD Regulation 6-310	0.15 gr/dscf	None
S-1 Cupola, S-4 Ductile Treating Unit, S-8 Bell Blowout,	BAAQMD Regulation 6-311	$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	baghouse pressure drop monitor

PM Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-5 Ladle Lancing, S-15 Annealing Oven, S-16 Pneumatic Cement Transport System, S-32 Pneumatic Dust Transport System	BAAQMD Regulation 6-311	4.10P ^{0.67} lb/hr, 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 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally 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-51 and S-52 Diesel Engines since visible emissions violations are not expected for properly tuned engines.

No monitoring has been required for S-32 Pneumatic Dust Transport System since it is equipped with an automatic shutdown system that is triggered by a malfunction of the A-19 Dust Collector. Visible emissions from S-32 are not expected to occur when the A-19 Baghouse is operating properly.

Particulate Weight Limitation

BAAQMD Regulation 6-310 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-12 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. Because the combustion of natural gas

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-32 Pneumatic Dust Transport System:

S-32 is continuously abated by A-19 Baghouse that is limited by permit condition to a grain loading limit of 0.10 gr/dscf.

S-51 and S-52 Diesel Engines:

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 6-311 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-12 Baghouse Abatement efficiency: 99% (wt)

$$\begin{aligned}\text{Max. Hourly Emission rate} &= (40 \text{ ton/hr})(20.7 \text{ lb/ton})(1 - 0.99) \\ &= 8.3 \text{ lb/hr}\end{aligned}$$

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)

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

S-32 Pneumatic Dust Transport System:

Maximum Process Weight: 1.3 ton/hr
Allowable Emission Rate: 40 lb/hr

Particulate matter emission factor: 80 lb/ton
 A-19 Baghouse Abatement efficiency: 99% (wt)

$$\begin{aligned} \text{Max. Hourly Emission rate} &= (1.3 \text{ ton/hr})(80 \text{ lb/ton})(1 - 0.99) \\ &= 1 \text{ lb/hr} \end{aligned}$$

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 hr/day)(1 lb/hr) = 11 lb/day. Based upon 24 hr per day operation, the maximum daily lead emissions from S-1 is (24 hr/day)(1 lb/hr) = 24 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-12 Baghouse. The lead concentration at the exhaust of A-12 Baghouse will be estimated using source test data. The annual lead emission rate is from a source test conducted by EMCON Associates in 1990.

A-12 exhaust gas flow rate: 141,000 acfm
 Annual lead emissions: 1089 lb/yr
 Typical hours of operation: 2625 hr/yr

Lead emission rate: $(1089 \text{ lb/yr})(\text{yr}/2625 \text{ hr})(\text{hr}/60 \text{ min}) = 0.007 \text{ lb/min}$

Lead concentration:

$$[(0.007 \text{ lb/min})(1000 \text{ g}/2.2 \text{ lb})]/[(35.315 \text{ ft}^3/\text{m}^3)(141,000 \text{ ft}^3/\text{min})] = 0.64 \text{ ug}/\text{m}^3$$

Since the lead concentration in the exhaust of A-12 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 preceding sections take 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:

An alternate method was added for Regulation 6-310 and 6-311.

The test methods for Regulation 6-303, 9-1-304, and 9-8-302.1 were added.

Method 19B has been removed from the test methods for Regulations 9-1-302 and 9-1-304 because it is obsolete.

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:

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 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 December 18, 2001. This version is the basis for constructing the proposed renewal Title V permit. Revisions were made to the application 3908 as a result of changes at the facility that were made pursuant to permit application 4747. Changes to the permit include the following:

S-51 and S-52 Standby Diesel Engines lost their exemptions from permit and were added to the permitted source list for the facility.

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

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docs\A0083SOB.doc

APPENDIX A
BAAQMD COMPLIANCE REPORT

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, NOx, 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