

**Bay Area Air Quality Management District**  
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San Francisco, CA 94109  
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**Permit Evaluation  
and  
Statement of Basis  
for  
RENEWAL of**

**MAJOR FACILITY REVIEW PERMIT**

**For**

**AB&I Foundry  
Facility #A0062**

**Facility Address:**  
7825 San Leandro Street  
Oakland, CA 94621

**Mailing Address:**  
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Oakland, CA 94621

Application Engineer: Kathleen Truesdell  
Site Engineer: Faye Bruno

Application: 15105

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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 Title 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) more than 100 tons per year of carbon monoxide. It is also a major facility because it has the potential to emit more than 25 tons per year of combined HAPs.

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

Pursuant to Regulation 2-6-416, the District has reviewed the terms and conditions of AB&I’s Major Facility Review permit for the renewal of the permit in the same way as an application for an initial Major Facility Review permit. This review includes 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 includes an assessment of all monitoring in the permit for sufficiency to determine compliance.

In the Bay Area, State and District requirements are also “applicable requirements” and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained 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 A0062.

The facility changed its name from American Brass & Iron Foundry to AB&I Foundry and it no longer processes brass.

This facility received its initial Title V permit on March 5, 2002. This application is for a permit renewal. Although the current permit expired on February 28, 2007, it continues in force until the District takes final action on the permit renewal. The standard sections of the permit have been updated to include new standard language used in all Title V permits. The proposed permit shows all changes to the permit in strikeout/underline format.

This Title V renewal includes the following applications:

**Table 1: Permit Applications included in this Title V permit**

Application Number(s) (Title V/New Source Review (NSR))	Description
NSR #4778	<b>S-31 Emergency Standby Generator</b> was permitted and <b>Condition #19947</b> limits maintenance and testing to 10.6 hours/year because of the Regulation 2, Rule 5 risk requirement (1 in a million). Condition #19947 was updated with the District standard conditions for emergency standby diesel generators in this Title V renewal. The engine resulted in emissions increases of the following pollutants: NOx: 0.129 TPY, CO: 0.027 TPY, POC: 0.004, SO2: 0.004, PM10: 0.007. Offsets were not required at the time for NOx because the threshold was 50 TPY, but the emissions were included in the cumulative increase. Offsets for POC should have been required; however, the facility has since reduced its POC emissions to below the current POC offset threshold of 35 TPY by removing the solvent-based pipe fitting dip tanks (see NSR #21488).
NSR #8326 (also see NSR #16365)	<b>S-32 Flow Jet Pipe Labeler</b> replaced S-26 Pipe Stencil Coating Roller Wheel and <b>Condition #21322</b> was added. The facility changed to a lower VOC coating and solvent. Subsequently, the facility changed to an NPOC based ink and acetone solvent in NSR Application #16365 and Condition #21322 was modified.
NSR #13813	<b>A-19 Cupola Baghouse</b> replaced A-1 Cupola Baghouse to abate S-1 Cupola. <b>Condition #22769</b> was created from Condition #9351 to modify the abatement device number. However, all future applications relating to S-1 Cupola modified <b>Condition #9351</b> , so all changes were made to Condition #9351 and Condition #22769 was archived. There was no emission increase from this minor modification.
#14437/ #14438	Changes to conditions for <b>S-1 Cupola</b> and <b>S-25 Electric Holding Furnace</b> (Condition #9351 (for S-1) and Condition #9668 (for S-25)) to increase throughput of gray iron from 20 ton/hr and 76,000 ton/year (imposed as part of the initial Title V permit for a grandfathered source) to 50 ton/hr and 172,800 ton/year were made based on maximum capacity of the existing equipment. There was no emission increase from this minor modification since the limits imposed as part of the initial Title V permit were inappropriately set.
NSR #14757 (also see NSR #18833)	<b>A-20 Afterburner</b> replaced A-8 Afterburner to abate S-1 Cupola. Condition #9351 was modified. NSR Application #18833 amended this application and condition. There was no emission increase from this minor modification.
NSR #15373	<b>Condition #2237</b> (for <b>S-3 Sand Muller</b> and <b>S-21 Sand Cooler</b> ) was modified to increase the sand throughput limit from 480,000 ton/year (imposed as part of the initial Title V permit for a grandfathered source) to 1,322,880 ton/yr through S-3 and 936,000 ton/yr through S-21 based on maximum capacity. There was no change in emissions; both sources are abated by A-15 Baghouse.
NSR #15807	<b>S-33 Thinner Tank</b> , which stored naphtha, was exempt per BAAQMD 2-1-123.2.2. S-33 no longer stores thinner since the

Application Number(s) (Title V/New Source Review (NSR))	Description
	solvent-based asphalt dip system has been removed.
#16220/#16139	<b>A-21 Baghouse #5</b> replaced A-16 Baghouse #5 to abate S-2 Vibratory Tubular Shakeout. <b>Condition # 17097</b> was replaced by <b>Condition #23650</b> . There was no emission increase from this minor modification.
NSR #16365	<b>Condition # 21322</b> (for <b>S-32 Flow Jet Pipe Labeler</b> ) was modified to reflect the change to acetone based ink and acetone cleanup solvent and to increase the throughput of ink and solvent. POC emissions were reduced from 1,567 lb/year to 0 lb/year and NPOC emissions were increased from 0 lb/year to 22,880 lb/year in this minor modification.
NSR #17123	<b>A-25 Fume Baghouse</b> replaced A-10 Fume Baghouse to abate S-25 Holding Furnace. <b>Condition # 9668</b> was modified to include an outlet grain loading limit of 0.002 gr/dscf and to replace the requirement of weekly visible emission data with the requirement for a broken bag leak detector for continuous monitoring. There was no emission increase from this minor modification.
NSR #18833	<b>A-22 Afterburner</b> was installed when A-8 Afterburner was replaced in NSR Application # 14757; however, A-22 required a separate abatement device number, so the facility submitted this application. <b>Condition # 9351</b> was modified to include A-22 and increase the firing rate limit of A-20 and A-22 to 8 MMBtu/hr each. Emissions of CO increased by 0.23 TPY and emissions of SO2 increased by 0.011 TPY. SO2 offsets were not required per BAAQMD Regulation 2-2-303, which only requires offsets for a major facility of SO2 with an increase of 1 TPY SO2 since April 5, 1991.
NSR #21488	<p>The cut asphalt pipe dip tank (S-13) was replaced by <b>S-34, S-35 and S-36 hot asphalt dip tanks</b> and another hot dip tank for larger pipes and quality control testing (<b>S-43</b>). S-13 Dip Tank was replaced with 3 separate cut asphalt dip tanks in 2005 without an Authority to Construct. On June 15, 2010, AB&amp;I entered into a Compliance and Enforcement Agreement (with an extension for shutdown of the last cut asphalt dip tank granted on February 23, 2011) with the District to replace the 3 unpermitted cut asphalt dip tanks with the hot asphalt system, which reduced VOC emissions from several hundred tons per year to 5.04 TPY VOC. The 5.04 TPY VOC was offset with contemporaneous emission reductions from the shut down of the cut asphalt system. The facility voluntarily installed <b>A-35 Fiber Bed Mist Collector</b> to reduce odors from the hot asphalt from the 3 main dip tanks (S-34, S-35 and S-36).</p> <p>The 3 unpermitted dip tanks were shut down on July 21, 2010, December 16, 2010, and June 30, 2011. The A-35 Fiber Bed Mist Collector was installed in Dec. 2010.</p>
NSR #21603	<b>S-28 Storage Silo</b> was abated by A-13 Pulse Jet Baghouse, which was removed in 2006. S-28 is now abated by A-19 Cupola Baghouse. Condition #10762 requiring weekly preventative maintenance and weekly visible emissions (Method 22) readings is redundant to Condition #9351 since conditions for A-19 are specified in Condition

Application Number(s) (Title V/New Source Review (NSR))	Description
	<p>#9351 for the S-1 Cupola. For simplicity, all conditions relating to the A-19 Cupola Baghouse will be listed in <b>Condition #9351</b>. <b>Condition #10762</b> will relate only to S-28 Storage Silo. The throughput of baghouse dust was increased from 900 tons/year to 1500 ton/year. There was no change in emissions since the A-19 Cupola baghouse is more efficient than the A-13 Pulse Jet Baghouse and the throughput at S-28 does not increase the outlet grain loading of A-19.</p> <p><b>Condition #10139</b> was modified to correct the name of the grinding and finishing equipment: <b>S-4 Wheelabrator Shot Blast (No. 3), S-5 Pangborn Shot Blast (No. 2), and S-27 Wheelabrator Shot Blast (No. 3)</b>. There were no changes to the sources in this application.</p>

All of the above applications are minor revisions and administrative changes that correct and reflect AB&I operations such as equipment shut down, replacing equipment, replacing baghouses, modifying throughput limits to reflect maximum operating capacity of the equipment, and adding new sources. None of the above applications resulted in emissions increases with the exception of NSR #4778 and NSR #18833. Furthermore, the revisions do not involve a relaxation of any applicable monitoring, reporting, or recordkeeping condition.

The facility has a schedule of compliance for sources that have been at the facility prior to 1972 (loss-of-exemption sources) and for sources involved in three projects that AB&I completed without proper permits. Section V of the permit and section C.V. of this statement of basis contain more detailed information.

## B. Facility Description

AB&I Foundry is a grey iron foundry for the production of cast iron in the manufacturing of pipe and fittings. Iron scrap is melted in a cupola furnace by burning coke, limestone is added as a flux to remove impurities, and silicon carbide is added as needed to alter the composition. The molten metal is transferred to an electric induction holding furnace before being poured into molds. For fittings and custom castings, the molten metal is poured into greensand molds, allowed to cool and harden, and then removed from the sand molds during shakeout. The castings are then conveyed to grinding and finishing where burrs and other excess metal are removed. The pipe fittings are then coated to prevent corrosion.

For pipes, the molten metal is poured into a permanent mold centrifugal casting machine as the machine rotates about its axis. The molten metal is thrown towards the inside mold wall, where it solidifies after cooling. As with the castings, excess metal is removed during grinding. The pipes are then dipped into asphalt to prevent corrosion and labeled.

AB&I's reported emissions from their initial Title V permit application in 1995 and from their 2010 inventory are below. The 2010 emissions inventory is more comprehensive.

1995 Emissions in Tons per Year

Total Iron Melted	58285
PM	18.33
VOC	209.08
NOx	50.36
SO2	13.04
CO	15.22
1,1,1 trichloroethane	81.92
Arsenic	0.003
Beryllium	0.0002
Cadmium	0.0008
Chromium	0.0001
Formaldehyde	0.04
Nickel	0.003
PAH	0.0001
Copper	0.02
Hydrogen Chloride	14.25
Lead	0.02
Manganese	0.12
Mercury	0.0006

2010 Emissions in Tons per Year

Total Iron Melted	44275.5
PM	15.12
PM10	8.74
VOC	161.27
NOx	7.57
SO2	18.98
CO	72.99
GHGs (CO2e)	12663
Toluene	0.46215
Xylene (Mixed Isomers)	0.15346
Naphthalene	0.01742
1-Methylnaphthalene	0.00139
2-Methylnaphthalene	0.00217
Ethylbenzene	0.03057
Acetaldehyde	0.03626
Phenol	0.29046
Benzene	1.01412
Formaldehyde	0.37384
Hexane	0.03067
o-Cresols	0.16855
m,p-Cresols	0.03901
Propionaldehyde	0.00031
Diethylene Glycol Monobutyl Ether	0.00000
Vinyl Acetate	0.00000
3-Methylchloranthrene	0.00000
7,12-Dimethylbenz(a)anthracene	0.00000

Acenaphthene	0.00000
Acenaphthylene	0.00000
Anthracene	0.00000
Benz(a)anthracene	0.00000
Benzo(a)pyrene	0.00000
Benzo(b)fluoranthene	0.00000
Benzo(g,h,i,)perylene	0.00000
Benzo(k)fluoranthene	0.00000
Chrysene	0.00000
Cumene	0.00000
Dibenzo(a,h)anthracene	0.00000
Dichlorobenzene	0.00001
Fluoranthene	0.00000
Fluorene	0.00000
Indeno(1,2,3-cd)pyrene	0.00000
Phenanathrene	0.00000
Pyrene	0.00000
Antimony	0.00000
Arsenic (As)	0.00011
Beryllium (Be)	0.00000
Cadmium (Cd)	0.00105
Chromium (Cr)	0.00651
Cobalt (Co)	0.00000
Lead (Pb)	0.02845
Manganese (Mn)	0.17737
Mercury (Hg)	0.00000
Nickel (Ni)	0.00002
Selenium (Se)	0.00011

The responsible official was changed to Kurt Winter and the facility contact was changed to Mike Olvera.

### 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. 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.

#### Changes to permit:

- The dates of adoption and approval of rules in Standard Condition 1.A have been updated.



- BAAQMD Regulation 2, Rule 5 – New Source Review of Toxic Air Contaminants was added to Standard Condition 1.A.
- SIP Regulation 2, Rule 6 – Permits, Major Facility Review was added to Standard Condition 1.A.
- The following language was added to Standard Condition I.B.1: “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 basis for Standard Condition I.B.11, which requires the responsible official to certify all documents submitted, was updated to Regulation 2-6-409.20.
- The following language was added as Standard Condition I.B.12: “The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307).” The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.
- The reference to Regulation 3 in the basis for Standard Condition E.2. was removed since it does not apply to this condition.
- In Standard Conditions I.F, the dates of the first reporting period (in 2002) were deleted since they have passed and the reference to Regulation 3 in the basis was removed since it does not apply to this condition.

## **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 per year of a “regulated air pollutant” (as defined in BAAQMD Rule 2-6-222) or 400 pounds per year of a “hazardous air pollutant” (as defined in BAAQMD Rule 2-6-210).

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:

**Changes to Permit:**

- BAAQMD 6 was changed to BAAQMD 6-1 due to the renumbering of the regulation.
- BAAQMD 6-1-301 was added to A-15, A-17, and A-18 since it was previously omitted.
- The capacity of S-1 Cupola was revised based on manufacturer's specifications provided in NSR Application #14438.
- S-3 Sand Muller and S-21 Sand Cooler were combined into S-3 Sand Preparation (see "*Devices with Changed Permit Status*" below). The capacity and model number of S-3 was revised based on manufacturer's specifications provided in NSR Application #15373.
- For A-19 Cupola Baghouse, the NESHAPs requirement for outlet grain loading in 40 CFR 63.7690(a)(2)(i) was added.
- The operating parameters were updated to reflect CAM condition #25039

***Devices Removed from Service or Archived since Application was submitted:***

S-11 Fercor Hot Blast

S-13 Dip Tank

S-26 Pipe Stencil Coating Wheel

A-1 Baghouse

A-8 Afterburner

A-10 Baghouse

A-11 Baghouse

A-13 Dust Collector

A-16 Baghouse

***Devices Permitted Since the Renewal Application was submitted:***

S-30 Blast Cleaning Product (Inline), NSR Application # 25551. S-30 was permitted in 1995, however, it was mistakenly left out of the initial Title V permit.

S-31 Emergency Standby Diesel Generator, NSR Application # 4778

S-32 Flow Jet Pipe Labeler, NSR Application # 8326 and # 16365

S-34 Pipe Finishing Dip Tank (P5,P6), NSR Application # 21488

S-35 Pipe Finishing Dip Tank (P4), NSR Application # 21488

S-36 Pipe Finishing Dip Tank (P2,P3), NSR Application # 21488

S-43 Pipe Finishing Dip Tank (P1), NSR Application # 21488

A-19 Cupola Baghouse, NSR Application #13813

A-20 Afterburner #1, NSR Application #14757

A-21 Baghouse #5, NSR Application #16139

A-22 Afterburner #2, NSR Application #18833

A-25 Fume Baghouse NSR Application #17123

***Devices with Changed Permit Status:***

S-7 through S-10 Automatic Pouring Furnaces were previously exempt, however, a current exemption from permit requirements could not be found. S-7 through S-10 Automatic Pouring Furnaces have been added to the Schedule of Compliance.

S-14 Fittings Dip Barrel. S-14 was previously exempt, however further review of the emissions from this source showed they were greater than 5 TPY and needed to be permitted. S-14 has been added to the Schedule of Compliance.

S-21 Sand Cooler was combined into S-3 Sand Preparation because the sand cooler is part of the sand preparation process. S-21 Sand Cooler is between equipment currently included in S-3 and all equipment included in the proposed S-3 Sand Preparation (vibratory conveyors, belt conveyors, elevators, screens, muller, sand cooler) is abated by the same baghouse, A-15 Baghouse #1.

S-20 Cold Cleaner is exempt since the high VOC materials are no longer used.

S-23 9,400 gallon Storage Tank and S-24 5,900 gallon Storage Tank are exempt since they no longer store cut asphalt or mineral spirits for the removed solvent-based dip system. These tanks will store process water with less than 1% organics.

***Corrections to Devices Shown in Application***

Description name change: S-2, S-3, S-4, S-5, S-27, S-28

***Table IIC – Exempt Sources was added to document exempt sources that were given District source numbers***

S-17	Storage Tank (process water) (Exempt), exempt prior to initial Title V application
S-29	Pressure Vessel (Baghouse Dust) (Exempt), NSR Application # 11612
S-33	Thinner Tank (Exempt), NSR Application #15807
S-37	Hot Oil Heater, natural gas fired, 1.4 MMBtu/hr, (Exempt), NSR Application # 21488
S-38	Vertical Asphalt Storage Tank #1, 10,000 gallons, (Exempt), NSR Application # 21488
S-39	Vertical Asphalt Storage Tank #2, 10,000 gallons, (Exempt), NSR Application # 21488

**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 also appear in Section IV 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” as defined in BAAQMD Rule 2-6-239.

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.

Section III has been modified to say that SIP standards are now found on the EPA website and are not included as part of the permit. The phrase “or disapproved” was deleted from the note stating sources must comply with both the SIP and District versions of the rule.

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

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

- SIP Regulation 2, Rule 1, General Requirements
- BAAQMD 2-1-429, Federal Emissions Statement
- BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions has been designated as SIP Regulation 6, since the rule has been renamed and renumbered as Regulation 6, Rule 1, Particulate Matter, General Provisions

- BAAQMD Regulation 8, Rule 2 Organic Compounds - Miscellaneous Operations
- SIP Regulation 8, Rule 2 Organic Compounds - Miscellaneous Operations
- SIP Regulation 8, Rule 3 Organic Compounds - Architectural Coatings
- BAAQMD Regulation 8, Rule 4 Organic compounds - General Solvent and Surface Coating Operations
- BAAQMD Regulation 8, Rule 15 Organic Compounds – Emulsified and Liquid Asphalts
- BAAQMD Regulation 8, Rule 16 Organic Compounds – Solvent Cleaning Operations
- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- SIP 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 47 Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51 Adhesive and Sealant Products
- BAAQMD Regulation 9, Rule 1 Inorganic Gaseous Pollutants - Sulfur Dioxide
- SIP Regulation 9, Rule 1 Inorganic Gaseous Pollutants - Sulfur Dioxide
- SIP Regulation 12, Rule 4 Miscellaneous Standards of Performance - Sandblasting
- 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
- 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 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos
- 40 CFR Part 64 Compliance Assurance Monitoring
- EPA Regulation 40 CFR 82 Protection of Stratospheric Ozone
- Subpart F, 40 CFR 82.156 Recycling and Emissions Reductions – Required Practices
- Subpart F, 40 CFR 82.161 Recycling and Emissions Reductions – Technician Certification
- Subpart F, 40 CFR 82.166 Recycling and Emissions Reductions – Reporting and Recordkeeping Requirements

#### **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 and now also contains the monitoring requirements were in Section VII of the initial Title V permit. The text of the requirements is found in the regulations, which are readily available on the District or EPA websites, or in the permit conditions, which are found in Section VI of the permit.

### **Complex Applicability Determinations**

#### ***Applicability of 40 CFR, Part 64, Compliance Assurance Monitoring (CAM)***

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 became effective on November 21, 1997. However, most facilities are not affected by CAM requirements until they submit applications for Title V permit renewal. As required, AB&I has conducted an applicability analysis for CAM as part of this renewal application. The applicable requirements have been incorporated in the permit Table III-Generally Applicable Requirements.

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. The detailed Potential to Emit (PTE) Calculations and CAM analysis are in Appendix D with the following caveat:

- AB&I stated the CO from the cupola (S-1) is subject to BAAQMD Regulation 9-7 (Nitrogen oxides and carbon monoxide from industrial, institutional and commercial boilers, steam generators and process heater), however that regulation is not applicable to the cupola.

After calculating the pre-abatement PTE for these sources (see Appendix D for PTE), it was determined that the sources in the table below are subject to CAM. These sources are subject to BAAQMD Condition #25039 for Compliance Assurance Monitoring. This condition was created to impose the monitoring requirements on all affected sources in accordance with CAM requirements in 40 CFR Part 64.6 through 64.9. The monitoring requirements are summarized below.

**Table 2: Compliance Assurance Monitoring (CAM) Summary**

Source No.	Abatement Device	Emission Limitation Citation	CAM Condition #25039	Visible Emissions or Bag Leak Detector - Frequency	Pressure Drop Monitoring - Frequency	Dust Collector and Monitoring System Inspection	Source Test Frequency
S-1 Cupola <sup>a</sup>	A-19 Baghouse	SIP 6-301, 310, 311	Parts 14-28	Bag Leak Detector (< 10mg per actual cubic meter) - C	2 - 10 inches water – P/D	P/per O&M plan (NESHAP)	P/every 5 years
S-2 Pouring, Cooling, Shakeout <sup>b</sup>	A-21 Baghouse #5	SIP 6-301, 310, 311	Parts 14-28	Bag Leak Detector (< 10mg per actual cubic meter) - C	2 - 10 inches water – P/D	P/per O&M plan (NESHAP)	P/every 5 years
S- 2 Pouring, Cooling, Shakeout S-49 Casting Grinding (exempt source)	A-14 Baghouse #2	SIP 6-301, 310, 311	Parts 1-13	M22 (no visible emissions) - P/W	2 - 10 inches water – P/D	P/per O&M plan (non-NESHAP)	P/every 5 years
S- 2 Pouring, Cooling, Shakeout	A-18 Baghouse #4	SIP 6-301, 310, 311	Parts 1-13	M22 (no visible emissions) - P/W	2 - 10 inches water – P/D	P/per O&M plan (non-NESHAP)	P/every 5 years
S-3 Sand Preparation	A-15 Baghouse #1	SIP 6-301, 310, 311	Parts 1-13	M22 (no visible emissions) - P/W	2 - 10 inches water – P/D	P/per O&M plan (non-NESHAP)	P/every 5 years
S-4 Wheelabrator Shot Blast (No.1) S-5 Pangborn Shot Blast (No. 2) S-27 Wheelabrator Shot Blast (No. 3) S-30 Blast Cleaning Product (Inline)	A-17 Baghouse #3	SIP 6-301, 310, 311	Parts 1-13	M22 (no visible emissions) - P/W	2 - 10 inches water – P/D	P/per O&M plan (non-NESHAP)	P/every 5 years

Notes:

- M22: EPA Method 22, P/M: Periodic per month, P/Q: Periodic per quarter, P/M: Periodic per month, P/W: Periodic per week, P/C: Periodic/continuous
- Inspection of the baghouses is based on 40 CFR Part 63, Subpart EEEEE and will be contained in the Operations and Maintenance Plans

<sup>a</sup>CAM is not applicable to the following emissions from S-1 Cupola:

- PM limit in 40 CFR Part 63, Subpart EEEEE (section 63.7690(a)(2)(i)) because it was proposed by the Administrator after November 15, 1990. (exempt per section 64.2(b)(i))
- VOC limit in 40 CFR Part 63, Subpart EEEEE (section 63.7690(a)(8)) because it was proposed by the Administrator after November 15, 1990. (exempt per section 64.2(b)(i))
- SO<sub>x</sub> limit in SIP 9-1-304 – no control device, exempt per 64.2(a)(2)
- NO<sub>x</sub> – no federally enforceable emission limit, exempt per 64.2(a)(1); and no control device, exempt per 64.2(a)(2)
- CO – no federally enforceable emission limit, exempt per 64.2(a)(1)

<sup>b</sup>CAM is not applicable to the following emissions from S-2 Pouring, Cooling, Shakeout:

- PM limit in 40 CFR Part 63, Subpart EEEEE (section 63.7690(a)(5)(i)) because it was proposed by the Administrator after November 15, 1990. (exempt per section 64.2(b)(i))
- VOC, SO<sub>x</sub>, NO<sub>x</sub>, CO – no control device, exempt per 64.2(a)(2)

The monitoring requirements in the table above meet the requirements in 40 CFR Part 64 as detailed below:

Section 64.3(a)(1): Indicators of emission control performance are listed in the table above.

Section 64.3(a)(2): Appropriate ranges or designated conditions are listed in the table above.

Section 64.3(b)(1): The data are representative of emissions or parameters because the monitoring parameters are based on monitoring requirements in 40 CFR Part 63, Subpart EEEEE for similar emissions limits.

Section 64.3(b)(2): The verification procedures allow use of manufacturer's recommendations.

Section 64.3(b)(3): The quality assurance/quality control procedures are to be included in the operations and maintenance plan.

Section 64.3(b)(4): The monitoring frequency in (iii) requires some data collection at least every 24-hour period. Pressure drop readings will be taken on a daily basis.

Section 64.4: The submittal requirements are incumbent upon the facility.

Section 64.5: The deadline for submittals is incumbent upon the facility.

Section 64.6: Permit condition #25039 specifies the required monitoring.

- 64.6(c)(1) – Indicators, means or device used to measure the indicator, performance requirements are listed in condition #25039.
- 64.6(c)(2) – The definition of exceedance is listed in condition #25039 Parts 1 and 14.
- 64.6(c)(3) – The obligation to conduct the monitoring and fulfill the other obligations specified in sections 64.7-64.9 is listed throughout condition #25039.

Section 64.7: The operation of monitoring is incumbent upon the facility

Section 64.8: The optional requirements for a Quality Improvement Plan would be required if there were problems with the existing monitoring strategy. Problems are not anticipated at the time of writing.

Sections 64.9, Reporting and recordkeeping requirements, and 64.10, Savings Provisions, do not need any additional permit terms beyond inclusion of the citation in the permit.

As part of the TV permit review, the District added source test requirements to enhance monitoring of abatement devices that are not subject to CAM. These sources are exempt from CAM per 64.2(a)(3) because the PTE are less than major source thresholds. The sources are identified in the table below. Although the sources are not subject to the Continuous Assurance Monitoring (CAM) Regulation (40 CFR Part 64), they are subject to the periodic monitoring requirements under EPA Title V, Part 70.6(1)(3).

**Table 3: Additional Monitoring Summary**

Source No.	Abatement Device	Emission Limitation Citation	Condition	Monitor	Dust Collector Inspection	Source Test Frequency
S-1	A-19	SIP 11-1-301	9351, Part 11	Bag Leak Detector - C	P/per O&M plan (NESHAP)	P/every 5 years
S-1	A-20, A-22	BAAQMD 8-2-301	9351, Part 11	-	-	P/every 5 years
S-25	A-25	SIP 6-301, 310, 311	9668, Part 8	Bag Leak Detector - C	P/W	P/every 5 years

***Applicability of 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs)***

AB&I Foundry is subject to the following NESHAPs regulations:

- 40 CFR Part 63, Subpart EEEEE National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries
- 40 CFR Part 63, Subpart MMMM National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

***Applicability of BAAQMD Regulation 8, Rule 4 Organic Compounds: General Solvent and Surface Coating Operations to S-32 Flow Jet Pipe Labeler***

S-32 is subject to Regulation 8, Rule 4 because it is exempt from Regulation 8, Rule 19 Surface Preparation and Coating of Miscellaneous Metal Parts and Products per Regulation 8-19-117 for Stencil Coatings. Regulation 8-4-302 allows three options to comply with the regulation. S-32 meets the option in Regulation 8-4-302.3 because the VOC content (as defined in Regulation 8-4-214) of the coating is less than 3.5 lb/gallon of coating. The ink used at S-32 contains up to 3.3 lb t-butyl acetate/gallon, which is uniquely identified in 40 CFR Part 51.100(s)(iv)(5):“The following compound(s) are VOC for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements which apply to VOC and shall be uniquely identified in emission reports, but are not VOC for purposes of VOC emissions limitations or VOC content requirements: t-butyl acetate”. The ink at S-32 is therefore contains only NPOC. However, the Regulation 8-4-214 definition of VOC does not exclude t-butyl acetate, so for the purposes of compliance with Regulation 8-4-302.3 (VOC limit of less than or equal to 3.5 lb VOC per gallon of coating as applied), t-butyl acetate must comply with VOC limit. Since the ink contains less than 3.3 lb t-butyl acetate, it complies with the Regulation 8-4-302.3 VOC limit of less than or equal to 3.5 lb VOC per gallon of coating as applied.

Changes to permit:

- Section IV has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.
- Tables IV and Tables VII have been combined.
- The description of Section VII has been added to Section IV Source-Specific Applicable Requirements, Emission Limits & Compliance Monitoring Requirements. For periodic monitoring, the frequency of the monitoring has also been shown, either annual (A), quarterly (Q), monthly (M), weekly (W), daily (D), or on an event basis (E). No monitoring (N) has been



required if the current applicable rule or regulation does not require monitoring, and the operation is unlikely to deviate from the applicable emission limit based upon the nature of the operation.

- A column for Recordkeeping Protocol, R, has been added to Table IV for completeness.
- The description of each source has been modified to include abatement devices.
- The dates of adoption or approval of the rules and their “federal enforceability” status in the Table IV have been updated.
- The “Toxic Risk [Management] Policy” basis for permit conditions has been updated to District Regulation 2-5 New Source Review Regulation for Toxic Air Contaminants.
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions has been designated as SIP Regulation 6, and the BAAQMD rule has been renamed and renumbered as Regulation 6, Rule 1, Particulate Matter, General Provisions
- The tables were renumbered and the following tables from the initial Title V permit were deleted:
  - initial Title V Table IV-E: Shot Blast Cleaning Machine (renamed in NSR Application #21603 and requirements combined in Table IV-D)
  - initial Title V Table IV-F: S-11 Cupola Hot Blast (deleted, source removed from service)
  - initial Title V Table IV-G: S-13 Dip Tank (deleted, source removed from service)
  - initial Title V Table IV-H: S-20 Cold Cleaner (exempt, source moved to Table II-C Exempt Sources)
  - initial Title V Table IV-I: S-21 Sand Cooler (deleted, source and requirements were combined in Table IV-C)
  - initial Title V Table IV-J: S-23 Coating Storage Tank (exempt because it now stores process water with less than 1% organics; source moved to Table II-C Exempt Sources)
  - initial Title V Table IV-K: S-24 Solvent Storage Tank (exempt because it now stores process water with less than 1% organics; source moved to Table II-C Exempt Sources)
  - initial Title V Table IV-M: S-26 Stencil Coating Wheel (deleted, source removed from service).

Table IV-A: S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

- BAAQMD Regulation 6-1-601 and SIP Regulation 6-601: Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions, which refers to the Manual of Procedures, was added since it was previously omitted.
- A-19 Baghouse replaced A-1 Baghouse in NSR Application #13813.
- A-20, A-22 Afterburners replaced A-8 Afterburner in NSR Application #14757 and NSR Application #18833.
- BAAQMD Regulation 6-1-301 and SIP 6-1-301: Monitoring Requirements, were updated to reflect installation of a bag leak detector required in 40 CFR 63.7740(b) and CAM Condition #25039, which provide more accurate monitoring than the temperature monitor listed in the current TV permit.
- BAAQMD Regulation 6-1-310 and 311, SIP 6-1-310 and 311: Monitoring requirements, were updated to reflect installation of a bag leak detector required in 40 CFR 63.7740(b), source test requirements every 5 years required in 40 CFR 63.7743(a)(12), and CAM Condition #25039.
- BAAQMD Regulation 8, Rule 2 Organic Compounds: Miscellaneous Operations, was added since it was previously omitted.
- For monitoring compliance with Regulation 8-2-301 (15 lb/day and 300 ppm carbon), a source test requirement every 5 years was added to Part 7 of BAAQMD condition #23650.
- BAAQMD Regulation 9-1-302 (General Emission Limit) was replaced with BAAQMD Regulation 9-1-304 and SIP Regulation 9-1-304 (Fuel Burning- Liquid and Solid Fuels) because the cupola burns coke.
- BAAQMD Regulation 9-1-601 (Sampling and Analysis of Gas Streams), 9-1-602 (Sulfur Content of Fuels), and 9-1-603 (Averaging Times) were added since they were previously omitted.

- BAAQMD Regulation 11-1-604 (Determination of Daily Emission Limits) was added since it was previously omitted.
- For monitoring compliance with Regulation 11-1-301 (15 lb/day lead limit), the District added source testing every 5 years for lead in Condition #9351, Part 11 since the previous monitoring was inadequate with only an initial source test required in BAAQMD condition #2274, Part 10, but no subsequent monitoring.
- NESHAP 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries was added.
- Condition #9351 was updated per NSR Applications #14438, #14757, #18833.
- In Condition #9351, the District added part 11 requiring source testing every 5 years for PM, opacity CO, VOC, SO<sub>2</sub>, NO<sub>x</sub>, lead since there was no previous monitoring. The District also deleted parts 5 (visible emissions data) and 6 (preventative maintenance), and replaced with them with CAM Condition #25039 and the NESHAPs Operation and Maintenance Plan.
- CAM Condition #25039 was added.

Table IV-B:

S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5

- BAAQMD Regulation 6-1-601 and SIP Regulation 6-601: Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions, which refers to the Manual of Procedures, was added since it was previously omitted.
- BAAQMD Regulation 6-1-301, 6-1-310 and 311, SIP 6-301, 6-310 and 311 monitoring requirements:
  - CAM Condition #25039 monitoring requirements were added; and
  - BAAQMD Condition #17097, parts 2 (preventative maintenance records) and 3 (weekly visible emissions readings) were deleted and replaced by the CAM Condition #25039, which requires visible emissions observations, preventative maintenance and inspections (among other things) in the Operation and Maintenance Plan.
- S-2 is subject to NESHAP 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries and the requirements were added.
- Condition #17097 was replaced by Condition #23650 in NSR Application #16139 when A-16 Baghouse #5 was replaced with A-21 Baghouse #5. The monitoring citations for BAAQMD Regulation 6-1-301, SIP 6-1-301, BAAQMD Regulation 6-1-310 and 311, SIP 6-1-310 and 311 were changed accordingly.
- BAAQMD Regulation 8, Rule 2 Organic Compounds: Miscellaneous Operations was added since it was previously omitted.
- Condition #23650 was changed with the following:
  - Monitoring of A-21 Baghouse #5 was changed from weekly visible emissions (condition #17097, part 3) to continuous monitoring by bag leak detector as required in 40 CFR 63.7740(b) and as listed in CAM condition #25039.
  - Part 2: preventative maintenance requirement was deleted and replaced by the CAM condition #25039.
  - Part 5 was deleted and moved to Condition #2237, Part 9 in this Title V renewal to limit the sand throughput in the sand preparation condition.
  - Part 7 source test requirement for VOC every 5 years was added to monitor for compliance with Regulation 8, Rule 2.
  - Part 8: The limit for iron poured at AB&I was moved from condition #2237 to condition #23650, part 8, since no iron is poured at the sand preparation source, but instead is poured at S-2. The number “12” was inserted in “any consecutive month period” since it was mistakenly left out of the annual casting limit. The description of the casting limit was rephrased (from “good iron casting” to “iron cast in sand molds”) to make it clear that the limit applies to iron cast in sand molds.

- CAM Condition #25039 was added.

Table IV-C: S-3 –Sand Preparation abated by A-15 Baghouse #1

- S-3 Sand Muller and S-21 Sand Cooler were combined and renamed S-3 Sand Preparation.
- Table IV-I (S-21 Sand Cooler) was deleted and the requirements were combined in Table IV-C.
- BAAQMD Regulation 6-1-601 and SIP Regulation 6-601: Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions, which refers to the Manual of Procedures, was added since it was previously omitted.
- BAAQMD Regulation 6-1-301, 6-1-310 and 311, SIP 6-301, 6-310 and 311 monitoring requirements:
  - CAM Condition #25039 monitoring requirements were added; and
  - BAAQMD Condition #2237, part 6 preventative maintenance records was deleted and replaced by the CAM Condition #25039, which requires preventative maintenance and inspections (among other things) in the Operation and Maintenance Plan
- S-3 Sand Preparation is not subject to any specific standard in NESHAP 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries
- Condition #2237 was modified in NSR Application #15373.
  - Part 1: The limit for iron poured at AB&I was moved from condition #2237 to condition #23650, part 8, since no iron is poured at the sand preparation source, but instead is poured at S-2. The number “12” was inserted in “any consecutive month period” since it was mistakenly left out of the annual casting limit. The description of the casting limit was rephrased (from “good iron casting” to “iron cast in sand molds”) to make it clear that the limit applies to iron cast in sand molds.
  - Part 8 was deleted because it had a throughput limit of 1,322,880 tons/year of sand, which exceeds the limit of the sand cooler (established as 936,000 ton/year of sand). The sand muller and cooler are in series and now identified together as S-3 Sand Preparation.
  - Part 9 was amended in this Title V renewal to limit the sand throughput to reflect the downstream limit of 572,000 tons/year previously in Condition #23650, part 5 (previously #17097). Condition #23650, part 5 was deleted.
- CAM Condition #25039 was added.

Table IV-D:

S-4 Wheelabrator Shot Blast (No.1) abated by A-17 Baghouse #3

S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3

S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3

S-30 Blast Cleaning Product (Inline) abated by A-17 Baghouse #3

- Tables IV-D (S-4) and E (S-5) were combined and S-27 was added since these sources are similar, abated by the same baghouse, and subject to the same permit condition.
- S-30 was added since it was mistakenly left out of the initial TV permit. S-30 was originally permitted in 1997 under NSR Application #25551 and is subject to Condition #13298.
- BAAQMD Regulation 6-1-301, 6-1-310 and 311, SIP 6-301, 6-310 and 311 monitoring requirements:
  - CAM Condition #25039 monitoring requirements were added; and
  - BAAQMD Condition #10139, parts 3 (preventative maintenance records) and 4 (weekly visible emissions readings) were deleted and replaced by the CAM Condition #25039, which requires visible emissions observations, preventative maintenance and inspections (among other things) in the Operation and Maintenance Plan.
- S-4, S-5, S-27, and S-30 shot blasting machines are not subject to any specific standard in NESHAP 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries.

- Condition #10139 was updated in NSR Application #21603 to reflect the detailed names of the sources.
- Condition #13298 for S-30 was added to the table since S-30 was added to the table.
- CAM Condition #25039 was added.

Table IV-E: S-25 – Holding Furnace abated by A-25 Fume Baghouse (initial Title V Table IV-L)

- BAAQMD Regulation 6-1-601 and SIP Regulation 6-601: Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions, which refers to the Manual of Procedures, was added since it was previously omitted.
- S-25 Holding Furnace is not subject to any specific standard in NESHAP 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries.
- A-25 Fume Baghouse replaced A-10 Fume Baghouse in NSR Application #17123.
- Condition #9668 gray iron throughput limit and record keeping requirements were updated to reflect changes made in TV Application #14437/ NSR Application #14438.
- Condition #9668 was updated to reflect changes made in NSR Application #17123 and Part 4 was corrected to “PM10, as defined in Regulation 2, Rule 1” instead of “PM10, as defined in Regulation 2, Rule 2”.
- Condition #9668, part 8, source testing, was added.

Table IV-F: S-28 Storage Silo (Baghouse Dust) abated by A-19 Cupola Baghouse

- A-13 Baghouse was removed from service and S-28 is abated by A-19 Cupola Baghouse per NSR Application #21603.
- BAAQMD Regulation 6-1-601 and SIP Regulation 6-601: Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions, which refers to the Manual of Procedures, was added since it was previously omitted.
- BAAQMD Regulation 6-1-301, SIP 6-1-301: Monitoring Requirements, were updated to reflect installation of a bag leak detector required in 40 CFR 63.7740(b) and CAM Condition #25039, which provide more accurate monitoring than the temperature monitor listed in the current TV permit.
- BAAQMD Regulation 6-1-310 and 311, SIP 6-1-310 and 311: Monitoring Requirements, were updated to reflect installation of a bag leak detector required in 40 CFR 63.7740(b), source test requirements every 5 years required in 40 CFR 63.7743(a)(12), and CAM Condition #25039.
- BAAQMD Condition #10762 was updated with changes made in NSR Application #21603. Monitoring of the new abatement device, A-19 Cupola Baghouse, is in Condition #9351.

Table IV-G: S-31 Emergency Standby Diesel Generator

- S-31 was permitted in NSR Application #4778. The table of requirements was added.

Table IV-H: S-32 Flow Jet Pipe Labeler

- S-32 was permitted in NSR Application #8326 and modified in Application #16365, so the table of requirements was added.

Table IV-I:

S-14 Fittings Dip Barrel

S-43 Pipe Finishing Dip Tank (P1)

S-34 Pipe Finishing Dip Tank (P5, P6)

S-35 Pipe Finishing Dip Tank (P4)

S-36 Pipe Finishing Dip Tank (P2, P3)

- S-14 was listed by the District as exempt, however, review of emissions shows its potential to emit is greater than 5 TPY VOC and needs a permit. S-14 is included in the Schedule of Compliance.
- S-34, S-35, S-36, and S-43 were permitted in NSR Application #21488 and the table of requirements was added.

Table IV-J:

S-38 Vertical Asphalt Storage Tank #1 (exempt)

S-39 Vertical Asphalt Storage Tank #2 (exempt)

- This table was added for the asphalt storage tanks and replaces Tables IV-J and IV-K from the initial Title V permit since S-23 and S-24, Storage Tanks, store process water and are now exempt.

## **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:

“409.10A 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.”

Since the District has determined that the facility is out of compliance with pre-construction permit application requirements, the schedule of compliance for this permit contains sections 2-6-409.10.1 and 2-6-409.10.2 and compliance milestones for the sources not in compliance.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past 9.7 years of the current Title V permit term. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

Changes to permit:

Schedule of compliance was added for the following:

1. Sources that were previously exempt from permitting requirements, but have been determined to require permits. These sources will be permitted under BAAQMD Regulation 2-1-424: Loss of Exemption or Exclusion and SIP Regulation 2-1-424: Loss of Exemption.
  - a. S-7, S-8, S-9, S-10 Automatic Pouring Furnaces
  - b. S-46 Storage Bunker
  - c. S-47 Storage Piles
  - d. P2-P4 Slurry Mix stations

2. Source that was installed and is operating without a permit. This source will be permitted under BAAQMD Regulation 2-1-302 Permit to Operate.
  - a. Specialty Finishing Paint Dip Tank (Iron Weights)
3. AB&I self-reported completing three projects in the past without proper permits. AB&I met with the District in April 2010 and with the District and EPA Region IX in August 2010 to discuss the projects and has been working with the District to quantify emissions and determine how to proceed. The three projects are discussed in greater detail in the Schedule of Compliance in section V of the Title V permit renewal.

The first project, the DISA project, was determined to have an emissions increase below PSD significance levels, and will require District permits as well as a minor modification to the Title V permit.

The second project, the Centrifugal Casting project, was determined to have an emissions increase greater than the major modification significance level for VOC due to a downstream affected source. However, that affected source, the cut asphalt dip tank, was removed and replaced by a low-emitting hot asphalt system (NSR Application #21488). The physically modified source for this project, the pipe machines, is a minor source of VOCs and will be subject to District permit requirements, including District BACT. This project requires an NSR permit application as well as a minor modification to the Title V permit.

The third project, the Cupola project, was determined to have emission increases greater than the PSD significance levels for PM, PM10, and VOC. This project requires a PSD permit for PM and PM10 and a District permit (for nonattainment NSR for VOC). The affected downstream sources are also considered modified per District Regulation 2-1-234 due to the increase in potential daily throughput at the cupola, and these sources will be subject to minor NSR requirements, including BACT per Regulation 2-2-301, through the permit applications submitted for the DISA project and Centrifugal Casting project.

## **VI. Permit Conditions**

During the Title V permit development, the District has 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 have been added to the permit.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all “strike-out” language will be deleted and 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 District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review.

The applicability of preconstruction review depends on whether there is a “modified source” as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an “increase” in “emission level.” 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District.

Sources that were modified or constructed since the District began issuing new source review permits will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding “emission level” for purposes of 2-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as “grandfathered” sources), an “increase” in “emission level” is addressed in 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 2) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is “bottlenecked”), then the relaxing of that limitation (“debottlenecking”) is considered a modification.

The District has written throughput limits into the Title V permit for grandfathered sources. As discussed above, these limits are written for the purpose of determining whether an increase in emission levels has occurred. The purpose of these limits is to facilitate implementation of preconstruction review program. If these limits are exceeded, the facility would be expected to report the exceedence, and the District would treat the reported exceedence as presumptively establishing the occurrence of a modification. The facility would then be expected to apply for a preconstruction permit addressing the modification and the District would consider whether an enforcement action was appropriate.

It is important to note the presumptive nature of throughput limits for grandfathered sources that are created in the Title V permit. These limits are generally based upon the District’s review of information provided by the facility regarding the design capacity or highest documented capacity of the grandfathered source. To verify whether these limits reflect the true design, documented, or “bottlenecked” capacity (pursuant to 2-10234.1) of each source is beyond the resource abilities of the District in this Title V process. Moreover, the District cannot be completely confident that the facility has had time or resources necessary to provide the most accurate information available in this regard. Creating throughput limits in the Title V permit for grandfathered sources is not required by either Part 70 or the District’s Major Facility Review rules. Despite the lack of such a requirement, and despite the resource and information challenges presented in the Title V process, the District believes that writing presumptive limits for grandfathered sources into the Title V permit will provide a measure of predictability regarding the future applicability of the preconstruction review program, and that this increased predictability is universally beneficial.

It follows from the presumptive nature of these throughput limits for grandfathered sources that exceedence of these limits is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* In this sense, the throughput limits function as monitoring levels, and are imposed pursuant to the District’s authority to required monitoring that provide a reasonable assurance of compliance. If an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a “safe harbor” for the facility. If evidence clearly shows that a grandfathered source has undergone a “modification” as defined in 2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. In other words, the protection afforded the facility by complying with the throughput limit in the Title V permit is only as strong as the information

on which it was based. There is no Title V “permit shield” associated with throughput limits for grandfathered sources, as they are being proposed. A shield may be provided if the District determines with certainty that a particular limit is appropriate for purposes of 2-1-234.3.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

Conditions have also been deleted due to the following:

- Redundancy in recordkeeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

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.

Changes to permit:

- The facility applied for increases in throughput limits for grandfathered sources that had throughput limits imposed during the initial TV permit review. These modifications were made in NSR Applications #14438 (condition #9351 and #9668) and #15373 (condition #2237) and based on the design capacity of the existing cupola, sand muller and sand cooler.
- Condition #2237
  - Was modified in NSR Application #15373 and the sources S-3 and S-21 were combined in this Title V renewal.
  - Part 1: The limit for iron poured at AB&I was moved to condition #23650, part 8, since no iron is poured at the sand preparation source. The number “12” was inserted in “any consecutive month period” since it was mistakenly left out of the annual casting limit. The description of the casting limit was rephrased (from “good iron casting” to “iron cast in sand molds”) to make it clear that the limit applies to iron cast in sand molds.
  - Part 2: The phrase describing when S-3 must be abated by A-15 was amended from “during all periods of operation” to “during all periods of operation of S-3” for clarification.
  - Part 6: preventative maintenance requirement was deleted and replaced by the CAM condition #25039.
  - Part 7: visible emissions requirement was deleted and replaced by the CAM condition #25039
  - Part 8 was deleted since the sand throughput must be the same through the entire sand preparation system.
  - Part 10: The term “material” was replaced with “sand” to clarify that records of sand throughput must be kept.



- Condition #6575 was deleted in this Title V renewal since the sources store only process water with 1% or less organics and are exempt from permit requirements.
- Condition #9351
  - Was updated per NSR Applications #14438, #14757, #18833.
  - Part 4 was corrected to reference Regulation 9-1-304 Fuel Burning (Liquid and Solid Fuels) instead of Regulation 9-1-302 General Emission Limitation. The notification to the District prior to source tests was changed from three days to seven days to be consistent with District policy.
  - Part 5: visible emissions requirement was deleted and replaced by a bag leak detection system in NESHAPs and the CAM condition #25039.
  - Part 6: preventative maintenance was deleted and replaced by requirements in NESHAPs and the CAM condition #25039.
  - Part 8: The phrase “including charge material to the cupola for S-1 and natural gas to the A-20 and A-22 afterburners” was added to the recordkeeping requirements to specify what materials throughputs need to be recorded.
  - Part 12: source test requirement every 5 years for PM, opacity, CO, VOC, SO<sub>2</sub>, NO<sub>x</sub>, lead was added in this Title V permit renewal since monitoring was inadequate. Other monitoring requirements are in CAM condition #25039.
- Condition #9668
  - Gray iron throughput limit and record keeping requirements were updated to reflect changes made in TV Application #14437/ NSR Application #14438, NSR Application #1712
  - Parts 1 and 2 were amended to clarify that S-25 must be abated by A-25 and that A-25 must be maintained in good operating conditions “at all times of operation of S-25”.
  - Part 4 was corrected to “PM<sub>10</sub>, as defined in Regulation 2, Rule 1” instead of “PM<sub>10</sub>, as defined in Regulation 2, Rule 2”
  - Part 8: requirement for source tests every 5 years was added in this Title V renewal since monitoring was inadequate.
- Condition #10139
  - Was updated with the description name changes for the sources changed in NSR Application #21603.
  - Part 3: preventative maintenance requirement was deleted and replaced by the CAM condition #25039.
  - Part 4: visible emissions requirement was deleted and replaced by the CAM condition #25039.
  - Part 8: “Material” was replaced with “shot blast media” to specify that the shot blast media records must be maintained.
- Condition #10762 was updated with changes made in NSR Application #21603. Monitoring of the new abatement device, A-19 Cupola Baghouse, is in the CAM condition #25039 and Condition #9351.
- Condition #11090 was deleted since the source (S-26 Stencil coater) was removed from service.
- Condition #13298 was added since it was mistakenly left out of the initial Title V permit.
- Condition #17097 was replaced by Condition #23650 in NSR Application #16139.
  - Condition #23650 monitoring of A-21 Baghouse#5 was changed from weekly visible emissions to continuous monitoring by bag leak detector as required in 40 CFR 63.7740(b). During this Title V renewal, Part 3 was deleted and replaced by CAM condition #25039
- Condition #17727 was deleted since the sources (S-11 Cupola Hot Blast and S-13 Coating Dip Tank) were removed from service.
- Condition #19947 was added and updated with the District standard conditions for emergency standby diesel generators in this Title V renewal.

- Condition #21322 was added in NSR Application #8326 and modified in NSR Application #16365. The name of the ink has been changed (from MO011006-1 to SCP-920) by the manufacturer, Matthews International Corporation; the composition has not changed (up to 45% acetone, up to 45% tertiary butyl acetate, no VOC). The ink name change has been updated in this Title V permit renewal.
- Condition #23650:
  - Monitoring of A-21 Baghouse #5 was changed from weekly visible emissions (condition #17097, part 3) to continuous monitoring by bag leak detector as required in 40 CFR 63.7740(b) and as listed in CAM condition #25039.
  - Part 2: preventative maintenance requirement was deleted and replaced by the CAM condition #25039.
  - Part 6: The recordkeeping requirement was clarified to state “monthly throughput of iron poured” instead of “monthly material throughput”.
  - Part 7: source test requirement for VOC every 5 years was added to monitor for compliance with Regulation 8, Rule 2.
  - Part 8: The limit for iron poured at AB&I was moved from condition #2237 to condition #23650, part 8, since no iron is poured at the sand preparation source, but instead is poured at S-2. The number “12” was inserted in “any consecutive month period” since it was mistakenly left out of the annual casting limit. The description of the casting limit was rephrased (from “good iron casting” to “iron cast in sand molds”) to make it clear that the limit applies to iron cast in sand molds.
- Condition #24639 was added in NSR Application #21488.
- Condition #25039 CAM condition was added in this Title V permit renewal.

## **VII. Applicable Limits and Compliance Monitoring Requirements**

Section VII of the TV permit was deleted and combined with Section IV.

The combined Section IV and VII 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 District has reviewed all monitoring 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 in the applicable requirements. The District has examined the monitoring for other limits and has added monitoring requirements for sources with inadequate monitoring. The District has determined that the remainder of the sources have monitoring that 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 all monitoring, 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 requirements only when it can support a conclusion that existing monitoring is inadequate.

**SO<sub>2</sub> Sources**

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
S-1 Cupola (coke-fired) S-31 Emergency Standby Diesel Generator	BAAQMD 9-1-301	Ground level concentrations of SO <sub>2</sub> 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	N
S-31 Emergency Standby Diesel Generator	BAAQMD 9-1-304	Sulfur content of liquid fuel ≤ 0.5% by weight	N

**SO<sub>2</sub> Discussion:**

BAAQMD Regulation 9-1-301 and 9-1-304

Area monitoring to demonstrate compliance with the ground level SO<sub>2</sub> concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). Ground level monitoring is not required by the APCO for this facility since SO<sub>2</sub> is monitored through the sulfur content in the fuel and, for the cupola, periodic source testing. The SO<sub>2</sub> from the engine is limited by the fuel sulfur limit in diesel, which is regulated by the state to contain no more than 15 ppm (0.0015%) sulfur.

**PM Sources**

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
S-31 Emergency Standby Diesel Generator	SIP 6-303	OPACITY Ringelmann 2.0	N
	SIP 6-310	FILTERABLE PARTICULATE 0.15 gr/dscf	N

**PM Discussion:**

SIP Regulation 6, Rule 1“Particulate Matter and Visible Emissions”

Visible Emissions

SIP Regulation 6-303 limit visible emissions to no darker than 2.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). S-31 Emergency Standby Diesel Generator uses only CARB diesel (ultra low sulfur) and is not expected to emit visible emissions.

SIP Regulation 6-310 limits grain loading to 0.15 grains per dry standard cubic foot. As discussed below, periodic monitoring is not justified for the engines. Diesel engine S-31 is for emergency backup purposes.

No periodic monitoring is justified for the engine for three reasons: (1) potential to emit is low, (2) grain loading is unlikely to exceed the Regulation 6-310 limit, and (3) CAPCOA/CARB/EPA Region IX guidance does not recommend periodic monitoring for this type of source. Each of these reasons is discussed in greater detail below.

First, the potential to emit (PTE) for particulate for the engine is low. The following table shows the emissions using the factor of 0.34 g PM10/hp-hr from NSR Application #4778. The engine is assumed to operate for 500 hours, using the guidance in John Seitz' memo of September 6, 1995 entitled Calculating Potential to Emit (PTE) for Emergency Generators, which states that "...500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions."

Diesel Engine Potential to Emit – Particulate Matter			
Source #	HP	lb/yr @ 500 hr/yr	tons/yr @ 500 hr/yr
31	1786	669	0.334

The emissions would likely be lower than the above estimates because engines in California generally use low-sulfur fuel containing less than 0.0015% S, which lowers emissions, but by an unknown amount. In addition, the engine is subject to BAAQMD Condition #19947 that limits the non-emergency hours of operation to no more than 10.6 hours. (EPA makes the point on page 39 of the order that the limit on hours of operation is not federally enforceable. It should be noted that in the 1995 National Mining Association v. EPA case, the court decided that limits did not have to be federally enforceable to limit potential to emit. EPA's treatment of a state-only limit as ineffective is contrary to case law.)

Second, grain loading is not likely to exceed the limit in BAAQMD Regulation 6-310.

BAAQMD Regulation 6-1-310 limits PM emissions to 0.15 gr/dscf. If it is assumed that the Diesel engine exhaust gases contain 15% excess oxygen under normal operating conditions, the BAAQMD Regulation 6-1-310 limit can be compared to the AP-42 PM emission factor as follows:

From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O<sub>2</sub> this factor becomes:

$$9,190 \times [21\% / (21\% - 15\%)] = 32,165 \text{ dscf (combustion products)/MMBTU}$$

The conversion of 0.15 gr/dscf @ 15% O<sub>2</sub> to lb/MMBTU is then:

$$(32,165 \text{ dscf/MMBTU}) \times (0.15 \text{ gr/dscf}) \times (1\text{ lb}/7,000 \text{ gr}) = 0.689 \text{ lb/MMBTU}$$

In the absence of actual emissions data for these engines, the District considers the AP-42 PM10 emission factor for diesel IC engines to be representative. From AP-42 Table 3.3-1, "Emission Factors For Uncontrolled Gasoline And Diesel Industrial Engines", the PM10 emission factor (based on fuel consumption) is 0.31 lb/MMBTU. Since this assumed emission factor is well below the converted BAAQMD Regulation 6-1-310 emission rate, compliance is assumed.

Third, the "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources" dated July 2001 recommends that the only monitoring necessary for grain-loading for non-utility distillate-oil-

fueled emergency piston-type IC engines is recordkeeping for fuel usage, which is already required for these engines.

### Lead Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Cupola	BAAQMD 11-1-302	Ground Level Concentration Limit Without Background LEAD $\leq$ 1.0 ug/m <sup>3</sup>	N

#### **Lead Discussion:**

The District added a source test requirement for lead every 5 years in Condition #9351, Part 11. Monitoring of particulate matter control provides surrogate monitoring for lead and other metals, consistent with 40 CFR Part 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries requirement to meet PM or metal HAPs limits. The Cupola is also monitored by a bag leak detector, pressure drop monitoring, and periodic inspections. With these measures, the District believes additional monitoring for ground level concentration of lead is not necessary to ensure compliance with the standard.

#### Changes to permit:

Section VII of the TV permit was deleted and combined with Section IV.

#### **VOC Discussion:**

This District presumes monitoring of VOC by recordkeeping for coating sources and periodic source testing and afterburner temperature monitoring for the cupola is adequate monitoring to assure compliance with the applicable limits.

### **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” as defined by Regulation 2-6-202.

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

#### Changes to permit:

- Table number was corrected from Table VII to Table VIII
- BAAQMD Regulation 6 was renumbered to BAAQMD Regulation 6, Rule 1
- BAAQMD 8-2-301 was added
- BAAQMD 8-4-302 was added
- BAAQMD 8-4-312 was added
- BAAMQD 8-5-301 was added
- BAAQMD 12-4 was deleted since it applies to sandblasting (non-permanent) and is not applicable to this facility
- BAAQMD Condition #2237 was replaced by #9351

## **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.  
This permit has no streamlining.

## **X. Glossary**

### Changes to permit:

- Glossary was changed to Section X.
- Definition of Basis was added

## **XI. Revision History**

There were no processed amendments of modifications prior to this renewal.

### Changes to permit:

- Appendix A - State Implementation Plan has been deleted. The address for EPA's website is now found in Sections III and IV.

## **D. Alternate Operating Scenarios**

No alternate operating scenario has been requested for this facility.

## **E. Compliance Status**

An inter-office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of AB&I Foundry (Site #: A0062). The Compliance and Enforcement Division staff has reviewed the records for AB&I for the period between March 5, 2002 through September 30, 2011. This review was initiated as part of the District evaluation of an application by AB&I for a Title V permit renewal. During the period subject to review, activities known to the District include:

- There were 10 Notices of Violation issued during this review period.
- The District received 41 air pollution complaints alleging AB&I Foundry as the source.
- There were 5 reportable compliance activities (reporting of which covers breakdown requests, indicated monitor excesses, inoperative monitor reports).
- The facility is not operating under a Variance or an Order of Abatement from the District Board.

Non-compliance issues are discussed in the Schedule of Compliance.

**F. Differences between the Application and the Proposed Permit**

The proposed permit reflects changes in the facility since the time renewal application was submitted. These changes are from the following applications:

- NSR # 25551 (previously omitted from initial Title V permit)
- NSR #4778
- NSR #8326
- NSR #13813
- TV#14437/NSR #14438
- NSR #14757
- NSR #15373
- NSR #15807
- TV #16220/NSR #16139
- NSR #16365
- NSR #17123
- NSR #18833
- NSR #21488
- NSR #21603

The changes are explained in each section above as well as in the attached Engineering Evaluations in Appendix C of this Statement of Basis.



**APPENDIX A: BAAQMD COMPLIANCE REPORT**

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

October 18, 2011

*Gi Koua 1/9/12*  
*BB 1/9/12*

TO: JOHN CHILADAKIS – DIRECTOR OF ENGINEERING

FROM: BRIAN BATEMAN – DIRECTOR OF ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

AB&I FOUNDRY- SITE # A0062

**Background**

This review was initiated as part of the District evaluation of an application by AB&I Foundry 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 to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior 9.7 year permit term has 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.

**Compliance Review**

• **Violation History**

Staff reviewed AB&I Foundry Annual Compliance Certifications from March 5, 2002 to September 30, 2011 and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for March 5, 2002 to September 30, 2011. During this period AB&I Foundry activities known to the District include:

District-issued **10** Notice of Violation(s):

NOV#	Regulation	Date Occur	Comments	Disposition
A04598A	6-302	8/22/02	Visible emissions excess	Resolved, Legal

REVIEW OF COMPLIANCE RECORD OF:  
**AB&I Foundry – SITE #A0062**  
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NOV#	Regulation	Date Occur	Comments	Disposition
A12081A	2-6-307	10/1/02-2/14/03	Failure to submit Semi-Annual Monitoring Report	Resolved, Legal
A12087A	2-6-307	3/31/03-4/2/03	Late submittal of Semi-Annual Monitoring Report and Compliance Certification	Resolved, Legal
A12092	2-6-307	3/1/02-9/23/03	Coating usage limit exceeded and no record of visible emissions	Resolved, Legal
A47726	6-301	5/12/05	Visible emissions excess	Resolved, Legal
A48868	2-6-307	4/27/08-7/19/09	Twenty-six (26) deviations not properly reported.	Resolved, Legal
A48871	2-6-307	12/8/09	Failure to perform required preventative maintenance.	Resolved, Legal
A51053	2-1-307, 2-6-307, 1-523.3	9/16/09-6/23/10	Afterburner operated below temperature limit. Deviations were not reported.	Pending
A51232	2-1-307	1/18/11	Afterburner operated below temperature limit.	Pending
A51233	2-1-307	3/23/11, 3/31/11	Afterburner operated below temperature limit.	Pending

The District received 5 notifications for Reportable Compliance Activities (RCA):

Episode	Date Occur	Comments	Disposition
05Y13	1/18/11	Afterburner operated below temperature limit.	Issued NOV# A51232A
05Y39 05Y40	2/8/11	Temperature fault caused shutdown.	Requested additional information
05Z17	3/23/11	Afterburner operated below temperature limit.	Issued NOV# A51233A
05Z29	3/31/11	Afterburner operated below temperature limit.	Issued NOV# A51233A

REVIEW OF COMPLIANCE RECORD OF:  
AB&I Foundry – SITE #A0062  
October 18, 2011  
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- **Complaint History**

The District received **41** air pollution complaints alleging AB&I Foundry as the source.

- **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 period March 5, 2002 to September 30, 2011, the District received five (5) notifications for RCA's. Three (3) NOV's were issued as a result of these RCA's.

- **Enforcement Agreements, Variances, or Abatement Orders**

The District entered into one (1) enforcement agreement with AB&I Foundry:

- The Agreement was dated June 15, 2010, and allowed AB&I to continue operation of the cut asphalt dip tanks until replaced with a hot asphalt coating system (3 dip tanks and 2 storage tanks) with low VOC emissions. The last cut asphalt dip tank was shut down on June 30, 2011.

There were no variances or abatement orders for AB&I Foundry over the period of the initial permit period or thereafter.

### Conclusion

Following its review of all available facility and District compliance records from the date of issuance of AB&I Foundry's initial Title V permit until the present (March 5, 2002 to September 30, 2011), the District's Compliance and Enforcement Division has determined that AB&I Foundry was in intermittent compliance from the initial permit period through the present. However, AB&I Foundry has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations.

A Title V permit compliance schedule was added for this facility for the following:

- Sources that were previously exempt from permitting requirements, have lost their exemptions and will be permitted.

REVIEW OF COMPLIANCE RECORD OF:

**AB&I Foundry – SITE #A0062**

October 18, 2011

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- In April 2010, AB&I reported that they had completed three projects in the past without proper permits. AB&I has been working with the District to quantify emissions and determine how to proceed.
  - The first project, the DISA project (modifying the pouring, cooling and shakeout operations), was determined to have emissions increased below PSD significance levels, but will require District permits as well as a minor modification to the Title V permit.
  - The second project, the Centrifugal Casting project, requires a minor NSR permit application and a minor modification to the Title V permit.
  - The third project, the Cupola project requires a PSD permit. The affected downstream sources are also considered modified and will be subject to minor NSR requirements, including BACT.

Based on this review and analysis of all the violations for the 9.7 year period, 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**

Permit Evaluation and Statement of Basis: Site A0062, AB&I Foundry, 7825 San Leandro Street, Oakland, CA 94621

**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

**CAM**

Compliance Assurance Monitoring per 40 CFR Part 64

**CAPCOA**

California Air Pollution Control Officers Association

**CEM**

Continuous Emission Monitor

**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

**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<sub>x</sub>**

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<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>.

**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

**PM<sub>10</sub>**

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.

**PTE**

Potential to Emit as defined by BAAQMD Regulation 2-6-218

**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.

**SO<sub>2</sub>**

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
cu. ft.	=	cubic foot
cfm	=	cubic feet per minute
dscf	=	dry standard cubic foot
dscfm	=	dry standard cubic foot per minute
g	=	gram
gal	=	gallon
gpm	=	gallons per minute
gr	=	grain
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
max	=	maximum
m <sup>2</sup>	=	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
tpy	=	tons per year
yr	=	year

## **APPENDIX C: ENGINEERING EVALUATIONS**

**ENGINEERING EVALUATION**  
**AB&I Foundry**  
**PLANT NO. 62**  
**APPLICATION NO. 4778**

**BACKGROUND**

AB&I Foundry is applying for an Authority to Construct and/or Permit to Operate the following equipment:

**S-31 Emergency Standby Diesel Generator: Caterpillar 3512, 1786 HP**

**EMISSIONS SUMMARY**

**Annual Emissions:**

To pass the Risk Screening, AB&I Foundry will be restricted to 10.6 hr/yr for maintenance and reliability testing. The Caterpillar engine model 3512 is on the '2000 CARB Certified Offroad Heavy Duty Diesel Engine List'. The emission factors used are from the CARB spreadsheet for this engine (ISO 8178 testing under D2 cycle).

NOx	6.20 g/hp-hr
CO	1.30 g/hp-hr
POC	0.20 g/hp-hr
PM10	0.34 g/hp-hr

The emission factor for SO<sub>2</sub> is from Chapter 3, Table 3.4-1 of the EPA Document AP-42, Compilation of Air Pollutant Emission Factors.

$$\text{SO}_2 \quad 8.09\text{E-}3 \text{ (\% S in fuel oil) lb/hp-hr} = 8.09\text{E-}3 \text{ (0.05\% S) (454 g/lb)} = 0.184 \text{ g/hp-hr}$$

NOx	= (6.20 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 258.54 lb/yr = 0.1293 TPY
CO	= (1.30 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 54.21 lb/yr = 0.0271 TPY
POC	= (0.20 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 8.34 lb/yr = 0.0042 TPY
PM10	= (0.34 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 14.18 lb/yr = 0.0071 TPY
SO <sub>2</sub>	= (0.184 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 7.67 lb/yr = 0.0038 TPY

**Maximum Daily Emissions:**

AB&I Foundry is limited to 10.6 hrs/yr. No limitation is placed on how this 10.6 hrs/yr is distributed; therefore a 10.6 hr/day will be used.

NOx	= (6.20 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 258.54 lb/day
CO	= (1.30 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 54.21 lb/day
POC	= (0.20 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 8.34 lb/day
PM10	= (0.34 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 14.18 lb/day
SO <sub>2</sub>	= (0.184 g/hp-hr)(1786 hp)(10.6 hrs/yr)(lb/454g) = 7.67 lb/day

**Plant Cumulative Increase: (tons/year)**

Pollutant	Existing	New	Total
		<b>NOx</b>	0
			0.1293
<b>CO</b>	0	0.0271	0.0271
<b>POC</b>	0.985	0.0042	0.9892
<b>SO2</b>	0	0.0038	0.0038
<b>PM10</b>	4.597	0.0071	4.6041
<b>NPOC</b>	0.015	0	0.015

**Toxic Risk Screening:**

The toxic emission of diesel particulate exceeds the District Risk Screening Trigger and a Risk Screening Analysis has been performed. The facility fails the risk screen for the maximum allowable 100 hr/yr of operation for maintenance and reliability testing. The increased cancer risk is 9.46 in a million. Since the engine does not meet TBACT for PM10 (0.15 g/bhp-hr or less), the risk must not exceed 1 in a million. The screen passes if AB&I Foundry accepts a permit condition restricting the non-emergency operations of the engine to 10.6 hr/yr wherein the risk to the maximally exposed non-residential receptor will be 1 in a million. AB&I Foundry has accepted the condition to operate a maximum of 10.6 hr/yr for maintenance and reliability testing. (See memo from Toxics Group, September 12, 2002.)

Toxic Pollutant (10.6 hours of reliability/maintenance)	Emission Rate (lb/yr)	Risk Screening Trigger (lb/yr)
<u>Diesel Exhaust Particulate Matter (PM10)</u>	<u>14.18</u>	<u>0.64</u>

**STATEMENT OF COMPLIANCE**

The owner/operator of S-31 Emergency Diesel Generator shall comply with Reg. 6 (Particulate Matter and Visible Emissions Standards) and Reg. 9-1-301 (Inorganic Gaseous Pollutants: Sulfur Dioxide for Limitations on Ground Level Concentrations). Low sulfur diesel (0.05wt%) will be used to meet the sulfur limitation of 0.5wt% in Reg. 9-1-304. Because S-31 is an emergency standby generator, Reg. 9-8-110 (Inorganic Gaseous Pollutants: Nitrogen Oxides from Stationary Gas Turbines) exempts the requirements for emission limits of Sections 9-8-301, 302, and 502. Allowable operating hours and the corresponding record keeping in Reg. 9-8-330 and 530 will be included in the Permit Conditions below.

The project is considered to be ministerial under the District's CEQA regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors and therefore is not discretionary as defined by CEQA. (Permit Handbook Chapter 2.3)

***The project is over 1000 feet from the nearest school and therefore not subject to the public notification requirements of Reg. 2-1-412.***

**Best Available Control Technology:** In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO<sub>2</sub> or PM<sub>10</sub>. Based on the emission calculations above, for source S-31, the owner/operator is subject to BACT for the following pollutants: NOx, CO, and PM<sub>10</sub>. BACT 1 levels do not apply for 'engines used exclusively for emergency use during involuntary loss of power' as per Reference b, Document 96.1.2 of the BAAQMD BACT Guidelines for IC Engines.

The owner/operator satisfies BACT 2 is satisfied for NOx, CO, and POC since the emission factors standards are satisfied. The owner/operator meets BACT 2 standards for PM10 and SO2 since California Diesel Fuel of <0.05% by weight sulfur will be used.

	<u>Engine Data</u>	<u>BACT 2</u>
NOx	6.20 g/hp-hr	6.90 g/hp-hr
CO	1.30 g/hp-hr	2.75 g/hp-hr
POC	0.20 g/hp-hr	1.50 g/hp-hr

**Offsets:** Offsets must be provided for any new or modified source at a facility that emits more than 15 tons/yr of POC or NOx. The District may provide offsets from the Small Facility Banking Account for a facility with emissions between 15 and 50 tons/yr of POC or NOx, provided that facility has no available offsets, and all existing sources of POC and/or NOx are equipped with Best Available Retrofit Control Technology (BARCT). Based on the emission calculations above, offsets are not required for this application.

PSD, NSPS, and NESHAPS do not apply.

**PERMIT CONDITIONS**

Conditions for S-31

1. The owner/operator shall fire S-31 exclusively with diesel fuel with sulfur content no greater than 0.05wt%.  
(basis: Cumulative Increase, Toxic Risk Screen)
2. The owner/operator shall operate S-31 only under the following circumstances:
  - a) For emergency use for an unlimited number of hours.
  - b) For reliability-related activities so long as total hours of operation for this purpose do not exceed 10.6 hours in a calendar year.  
(basis: Reg. 9-8-330, Cumulative Increase)
3. Emergency use is defined by the following circumstances:
  - a) In the event of loss of regular natural gas supply;
  - b) In the event of failure of regular electric power supply;
  - c) Flood mitigation;
  - d) Sewage overflow mitigation;
  - e) Fire;
  - f) Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.  
(basis: Reg. 9-8-231)
4. Reliability-related activities are defined as either:
  - a) Operation of an emergency standby engine to test its ability to perform for an emergency use;  
or
  - b) Operation of an emergency standby engine during maintenance of a primary motor.  
(basis: Reg. 9-8-232)
5. The owner/operator shall equip S-31 with a non-resettable totalizing meter that measures hours of operation or fuel usage.  
(basis: Reg. 9-8-530: Record keeping)
6. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions. A monthly log of usage shall indicate the following:

- a) Hours of operation (total)
- b) Hours of operation (emergency)
- c) For each emergency, the nature of the emergency condition

The owner/operator shall record all records in a District-approved log. The owner/operator shall retain the records on-site for two years, from the date of entry, and make them available for inspection by District staff upon request. These record-keeping requirements shall not replace the record-keeping requirements contained in any applicable District Regulations.

(basis: Best Available Control Technology, Toxic Risk Screen, Cumulative Increase, Reasonably Available Control Technology, Regulation 1-441, Reg. 9-8-530: Record keeping)

**RECOMMENDATION**

Waive Authority to Construct and issue a Permit to Operate to AB&I Foundry for the following source:

**S-31 Emergency Standby Diesel Generator: Caterpillar 3512, 1786 HP**

**EXEMPTIONS**

None.

By: \_\_\_\_\_

Pamela J. Leong  
Air Quality Engineer

September 17, 2002

**Application 8326  
AB&I; Plant #62  
7825 San Leandro Street, Oakland CA 94621**

**BACKGROUND**

AB&I is applying for an Authority to Construct and Permit to Operate for the following equipment:

S-32 Flow Jet Pipe Labeler, Jet-A-Mark, 0.26 gal/min

S-32 is used with stencils to label pipe with identifying letters and numbers. Because this process involves stencils, the coating utilized is exempt from the requirements of Regulation 8, Rule 19 (Miscellaneous Metal Parts and Products Coating) per Regulation 8-19-117. S-32 is therefore subject to Regulation 8, Rule 4, "General Solvent and Surface Coating Operations".

S-32 will replace the existing, permitted S-26 Pipe Stencil Coater Wheel that is currently subject to condition #11090:

- 1) Net stencil coating usage at S-26 shall not exceed 450 gallons during any consecutive twelve month period.
- 2) The owner/operator of S-26 shall maintain records of net stencil coating usage on a monthly basis in a District-approved log. These records shall be retained on site for a minimum of five years from the date of entry and made available to District representatives upon request.

**CRITERIA-POLLUTANT EMISSION SUMMARY**

**Annual Average Project Emissions Increase:**

Pollutant	lb/day	ton/yr
POC	4.3	0.783
NO <sub>x</sub>	0	0
SO <sub>2</sub>	0	0
CO	0	0
PM <sub>10</sub>	0	0
NPOC	0	0

**Daily Maximum Emissions by Source (lb/day):**

Source	POC	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>	NPOC
S-32 Flow Jet Pipe Labeler	35.8	0	0	0	0	0



**EMISSION CALCULATIONS***Emission Reductions:***S-26 Pipe Stencil Coater Wheel**

net coating usage\*: 412 gal/yr

clean up solvent usage: 0 gal/yr

coating VOC content, as-applied: 4.37 lb/gal

\*based upon coating usage records; average usage over the baseline period of 36 months

$$\begin{aligned} \text{POC} &= (412 \text{ gal/yr})(4.37 \text{ lb/gal}) \\ &= 1,800.4 \text{ lb/yr} \\ &= 0.900 \text{ ton/yr} \end{aligned}$$

*Emission Increases:*

Based upon the prevailing offset ratio of 1.15 to 1.0 and the contemporaneous emission reduction credits provided by the shutdown of the existing S-26, the allowable POC emission increase for S-32 is therefore:

$$(0.900 \text{ ton/yr})/1.15 = 0.783 \text{ tons per year}$$

**S-32 Flow Jet Pipe Labeler***Annual Emissions:*

Proposed annual ink usage:	350 gallons per year
Ink VOC content:	6.37 lb/gal
Proposed clean-up solvent usage:	115 gal/yr

*Proposed Emissions:*

$$\begin{aligned} \text{POC} &= (350 \text{ gal/yr})(6.37 \text{ lb/gal}) + (115 \text{ gal/yr})(6.9 \text{ lb/gal}) \\ &= 3,023 \text{ lb/yr} \\ &= 1.512 \text{ ton/yr} \end{aligned}$$

*Allowable Emissions:*

$$\begin{aligned} \text{POC} &= (181 \text{ gal/yr})(6.37 \text{ lb/gal}) + (60 \text{ gal/yr})(6.9 \text{ lb/gal}) \\ &= 1,567 \text{ lb/yr} \\ &= 0.783 \text{ ton/yr} \end{aligned}$$

*Daily Maximum Emissions:*

$$\begin{aligned} \text{POC} &= (4 \text{ gal/day})(6.37 \text{ lb/gal}) + (1.5 \text{ gal/day})(6.9 \text{ lb/gal}) \\ &= 35.8 \text{ lb/day} \end{aligned}$$

*Toxic Air Contaminant Emissions:*

$$\begin{aligned} \text{Methyl ethyl ketone} &= (181 \text{ gal/yr})(6.37 \text{ lb/gal}) + (60 \text{ gal/yr})(6.9 \text{ lb/gal}) \\ &= 1,567 \text{ lb/yr} \end{aligned}$$

**FACILITY CUMULATIVE INCREASE**  
(since April 5, 1991)

	<b>Current</b>		<b>Increase</b>		<b>New Total</b>	
	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
<b>POC</b>	5.4	0.985	4.7	0.855	10.1	1.840

**TOXIC RISK SCREENING ANALYSIS**

<b>Compound</b>	<b>Project Annual Emission Rate (lb/yr)</b>	<b>Risk Screening Trigger Level (lb/yr)</b>
Methyl Ethyl Ketone	1567	150,000

No further toxic risk assessment is required since none of the compounds listed above are emitted at rates in excess of their respective risk screening trigger levels.

**BACT ANALYSIS**

As shown above, the potential to emit for S-32 Pipe Labeler exceeds 10 pounds per highest day. Therefore, the BACT requirement of NSR (Regulation 2-2-301.1) applies. The District BACT/TBACT workbook does not currently address pipe stencil coating. Because the proposed ink is applied to cast iron pipe that are subject to abrasion, the use of high performance, high-VOC ink is required. The flow jet

system applies ink in a very efficient way, with very little waste. Therefore, the use of the flow jet applicator is deemed to be BACT for S-32 Pipe Labeler.

**OFFSET ANALYSIS**

Because the facility POC emissions (including proposed S-32 emission increases) will exceed 50 tons per year, the offset provision of NSR (Regulation 2-2-302) applies. According to the District data bank emission inventory (see "emitlook"), the current facility POC emissions are 82.4 tons per year.

AB&I will provide contemporaneous emission reduction credits from the shutdown of the existing S-26 Pipe Stencil Coater Wheel. As shown in the emission calculations section, the limits on ink and cleanup solvent usage at S-32 will be based upon the emission offsets provided by the shutdown of S-26, taking into account the applicable offset ratio of 1.15 to 1.0.

**FEE SUMMARY**

Source	Fee Schedule	Filing Fee	Initial Fee	Late Fee	Permit to Operate Fee	Source Sub-Total
<b>S-32 Flow Jet Pipe Labeler</b>	E	\$254.00	\$179.00	\$0.00	\$128.00	\$561.00
<b>Grand Total</b>						<b>\$561.00</b>
<b>Amount Paid</b>						<b>\$561.00</b>
<b>Log Number</b>						<b>J386Z</b>

**STATEMENT OF COMPLIANCE**

**S-32 Flow Jet Pipe Labeler** is expected to comply with Regulation 8, Rule 4, section 302.1 with VOC emissions of less than 5 tons per calendar year. S-32 will be limited to VOC emissions of 0.855 tons per year. S-32 will also comply with the solvent evaporative loss minimization standards of regulation 8-4-312.

The contemporaneous emission reduction credits provided from the shutdown of S-26 Pipe Stencil Coater Wheel Pursuant were calculated in accordance with Regulation 2-2-605 and are therefore based upon the actual average twelve month total coating usage over the past 36 months.

This project is considered to be **ministerial** under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors as outlined in the District Permit Handbook (see chapter entitled "Miscellaneous Solvent and Surface Coating Operations") and therefore is not considered discretionary as defined by CEQA.

The AB&I facility is **not** located within 1000 feet of the outer boundary of a K-12 school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A Toxics Risk Screening Analysis is not required due to the emission of 1710 lb/yr of methyl ethyl ketone. TBACT does not apply to this project.

PSD, NSPS, and NESHAPS do not apply to this project.

**PERMIT CONDITIONS**

Conditions for S-32

- 1) The owner/operator shall ensure that the net ink (JAM 6809) usage at S-32 Flow Jet Pipe Labeler does not exceed 181 gallons totaled over any consecutive twelve month period. (basis: cumulative increase)

- 2) The owner/operator shall ensure that the net cleanup solvent (MEK) usage at S-32 Flow Jet Pipe Labeler does not exceed 60 gallons totaled over any consecutive twelve month period. (basis: cumulative increase)
  
  - 3) Inks and cleanup solvents other than those specified in parts 1 and 2 may be used at S-32 provided that the owner/operator can demonstrate that all of the following requirements are satisfied:
    - a. Total POC emissions from S-32 do not exceed 1,567 pounds totaled over any consecutive 12 month period.
    - b. Total NPOC emissions from S-32 do not exceed 0 pounds totaled over any consecutive 12 month period.
    - c. The use of these materials does not result in the emission of any toxic air contaminant above its risk screening trigger level as specified in the current District Toxics Risk Management Policy.
- (basis: cumulative Increase, TRMP)
- 4) The owner/operator shall dismantle and render S-26 Pipe Stencil Coater Wheel inoperative within 90 days of the initial operation of S-32 Flow Jet Pipe Labeler. (basis: cumulative increase)
  
  - 5) The owner/operator shall maintain the following records to demonstrate compliance with the above conditions:
    - a. Type, POC content, NPOC content, and monthly usage of all POC and NPOC containing materials used at S-32
    - b. For materials other than those specified in parts 1 and 2 that are utilized at S-32: toxic air contaminant contents of each material used and mass emission calculations to demonstrate compliance with part 3, summarized on a monthly basis
    - c. Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period

(basis: Cumulative Increase, TRMP)

**RECOMMENDATION**

Issue a **conditional Authority to Construct** for the following source:

**S-32 Flow Jet Pipe Labeler, Jet-A-Mark, 0.26 gal/min**

**Dennis Jang**\_\_\_\_\_

Application # 8326

AB&I Foundry

Plant #62

**Air Quality Engineer II**

**Date**

# EVALUATION REPORT AB&I FOUNDRY

## APPLICATION #13813 PLANT 62

### INTRODUCTION

AB&I Foundry has submitted a permit application to replace:

**A-1 Cupola Baghouse: 30,000 acfm; abating particulate emissions from the S-1 Cupola: 80 MMBtu/hr**

with the following new baghouse:

**A-19 Cupola Baghouse: GMD, 289-14-6 WI, 68,000 acfm; to abate particulate emissions from the S –1 Cupola: 80 MMBtu/hr**

The new system is a pulse jet baghouse with an air to cloth ratio of 1.7. It is comprised of six (6) GMD Modular Fabric Filters to filter the Cupola off-gases from the cupola.

### EMISSIONS

The new baghouse (A-19) is between three to four times more efficient than the old baghouse (A-1). The replacement of the A-1 baghouse with the more efficient baghouse (A-19) will result in a no net increase in PM10 emissions.

#### Pre-Project

Exhaust flow rate: 23,000 scfm

Measured outlet grain loading: 0.022 grains/dscf (2001 source test – Report No. 02073, see attachment)

$0.022 \text{ grains/dscf} \times 1 \text{ lb/7000 grains} \times 23,000 \text{ dsf/min} \times 60 \text{ min/hr} \times 5 \text{ hr/day} \times 260 \text{ days/yr}$   
= 5638 lbs/year (**2.819 TPY**)

#### Post Project

Exhaust flow rate: 68,000 acfm

Maximum outlet grain loading: 0.006 grains/dscf (Meets current BACT)

Maximum Operating Exhaust Temperature: 330°F

Percent Water Vapor: 20%

$[68000 \text{ acfm} \times (70+460)/(330+460) \times (1-20/100)] = 36,496.2 \text{ dscfm}$

$0.006 \text{ grains/dscf} \times 1 \text{ lb/7000 grains} \times 36,496.2 \text{ dsf/min} \times 60 \text{ min/hr} \times 5 \text{ hr/day} \times 260 \text{ days/yr}$

= 2440.032 lb/yr(1.22 TPY)

**PLANT CUMULATIVE INCREASE**

	Existing Tons/year		Proposed Tons/year		Total Tons/year
PM10	4.597	+	0.0	==	4.597

**TOXIC RISK SCREEN**

Since particulate emissions will not increase, this is not a new or modified sources subject to toxic review.

**COMPLIANCE**

When the S-1 Cupola is abated by the new A-19 baghouse, it should continue to comply with the requirements of Regulation 6 "Visible Matter and Particulate Emissions".

This project is considered to be ministerial under the District’s CEQA Regulation 2-1-311. The evaluation is a ministerial action conducted using the fixed standards and objective measurements.

In addition to ministerial projects, the following category of project subject to permit review by the District is exempt from CEQA review since it is exempted by the express terms of CEQA.

**Subsection 2-1-312.2: Permit applications to install air pollution control equipment or abatement equipment.**

This proposed project should not pose in any health threat to the general public.

The proposed project is not within 1000 feet of a school. Therefore, the public notification requirements under Regulation 2-1-412 are not triggered.

BACT, Offsets, PSD, NSPS and NESHAPS are not triggered.

S-1 Cupola: abated by Baghouses A-11 and A-19  
Application 13813, January 18, 2006

**CONDITIONS**

1. A minimum temperature of 700°F shall be maintained at the S-1 Cupola exhaust "crossover", located upstream of the quench tower, except when S-1 Cupola is idling or

is shutdown. (basis: cumulative increase)

2. To demonstrate compliance with part 1, the owner/operator of S-1 shall install, operate, and maintain a continuous temperature monitor and recorder to measure and record the ~~A-1~~ A-19 exhaust gas temperature at the "crossover" located upstream of the quench tower. (basis: cumulative increase, Regulation 1-521)

3. The temperature records required in part 2 shall be retained on site for a minimum of five years from the date of record and made available to District representatives upon request.

(basis: cumulative increase, BAAQMD Regulation 2-6-501)

4. The sulfur content of the coke used at S-1, Cupola, shall not exceed 1.0 percent by weight as a surrogate means for ensuring compliance with BAAQMD Regulation 9-1-302. The owner/operator will obtain a certification of the sulfur content of the coke for each delivery to assure compliance with this condition.

The fuel certification records shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. In the event the coke sulfur content exceeds

1.0 percent by weight, the owner/operator shall arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at ~~A-1~~ A-19 Baghouse that will exceed the limit established in BAAQMD Regulation 9-1-302.

If the sulfur dioxide emissions do not exceed the limit, the owner/operator shall be allowed to use coke with a sulfur content at or below the sulfur content of the coke used for the source test. In the event the coke sulfur content exceeds the new limit for coke sulfur content established in the source test, the owner/operator shall again arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at ~~A-1~~ A-19 Baghouse that will exceed the limit established in BAAQMD Regulation 9-1-302.

The owner/operator shall notify the Source Test Group



at the BAAQMD at least three days before any source test is performed. (basis: BAAQMD Regulation 9-1-302, BAAQMD Regulation 2-6-501)

5. The owner/operator of S-1 shall maintain weekly records of qualitative visible emissions data of ~~A-1A-19~~ Baghouse and A-11 Baghouse using EPA Method 22 . The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

6. The owner/operator of S-1 shall maintain weekly records of preventive maintenance inspections of ~~A-1A-19~~ Baghouse and A-11 Baghouse. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

7. The annual gray iron throughput for S-1 Cupola shall not exceed 76,000 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

8. Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for each permitted source:

- a. monthly material throughput
  - b. total material throughput for the preceding 12 months
- (basis: Regulation 2-1-403)

## **AUTHORITIES TO CONSTRUCT**

I recommend that AB&I Foundry be granted conditional Authority to Construct to install the proposed abatement equipment:

**A-19 Cupola Baghouse: GMD, 289-14-6 WI, 68,000 acfm; to abate particulate emissions from the S –1 Cupola: 80 MMBtu/hr**



# **EVALUATION REPORT AB&I FOUNDRY**

## **APPLICATION #14438 PLANT 62**

### **INTRODUCTION**

AB&I Foundry has submitted a permit application for a change of permit conditions to correct the maximum operating rate for the Cupola (S-1) and adjust the annual metal throughput for:

S-1 Cupola: coke fired; 80 million BTU/hour; abated by the A-8 Afterburner and Baghouses A-1 and A-11

S-25 Electric Holding Furnace: 60 ton/hour capacity: abated by A-10 Baghouse

#### **Maximum Operating Rate**

The S-1 Cupola has been in operation since 1956. It has never had an Authority to Construct. The capacity of the S-1 Cupola is listed as 20 tons per hour. However, based on information provided by AB&I, the capacity is 50 tons/hour. WRIB Manufacturing, the largest Cupola supplier in the United States, has performed maintenance on the AB&I Cupola in the past. WRIB has stated, in Attachment I, that the S-1 Cupola is capable of melting 50 tons per hour with a metal to coke ratio of 12:1 while using the existing blower. AB&I has provided production data for 1997, 1998, and 1999 that shows coke ratios averaged about 12:1. More recent data for 2005 indicates the same coke ratio of 12:1. See Attachment II. In accordance with Regulation 2-1-234.3, the capacity will be changed from 20 tons/hour to 50 tons/hour. The 20 tons/hour was based on past production data during periods where business was down.

#### **Maximum Annual Throughput**

At 50 tons/hour, running 18 hours/day, 4 days/week, 48 weeks/year, the maximum annual throughput level should be 172,800 tons of metal melted. The permitted maximum annual throughputs for S-1 and S-25 are 76,000 tons of metal melted. This number was set based on actual production data over the past few years where business has been on the low side. For these grandfathered sources (S-1 and S-2), the maximum annual limit will be changed from 76,000 to 172,800 tons of metal melted.

### **EMISSIONS**

There are no changes in emissions for these grandfathered sources (S-1 and S-25).

### **PLANT CUMULATIVE INCREASE**

No change: The cumulative increase is for new and modified sources and does not apply to grandfathered equipment.

## **TOXIC RISK SCREEN**

Since this request is not for a new or modified source, it is not subject to toxic review.

## **COMPLIANCE**

The S-1 Cupola and S-25 Electric Holding Furnace should continue to comply with the requirements of Regulation 6 "Visible Matter and Particulate Emissions".

These proposed changes are not subject to CEQA since it does not involve a new or modified source. Nonetheless, the proposed changes, if applicable, would be considered ministerial under the District's CEQA Regulation 2-1-311. The evaluation is a ministerial action conducted using the fixed standards and objective measurements.

This proposed condition changes should not pose in any health threat to the general public.

The public notification requirements under Regulation 2-1-412 do not apply.

BACT, Offsets, PSD, NSPS and NESHAPS do not apply.

## **CONDITIONS**

S-1 Cupola: abated by Baghouses A-11 and A-19  
Application 13813, January 18, 2006  
Application 14438, June 15, 2006

1. A minimum temperature of 700°F shall be maintained at the S-1 Cupola exhaust "crossover", located upstream of the quench tower, except when S-1 Cupola is idling or is shutdown. (basis: cumulative increase)

2. To demonstrate compliance with part 1, the owner/operator of S-1 shall install, operate, and maintain a continuous temperature monitor and recorder to measure and record the A-1 exhaust gas temperature at the "crossover" located upstream of the quench tower. (basis: cumulative increase, Regulation 1-521)

3. The temperature records required in part 2 shall be retained on site for a minimum of five years from the date of record and made available to District

representatives upon request.

(basis: cumulative increase, BAAQMD Regulation 2-6-501)

4. The sulfur content of the coke used at S-1, Cupola, shall not exceed 1.0 percent by weight as a surrogate means for ensuring compliance with BAAQMD Regulation 9-1-302. The owner/operator will obtain a certification of the sulfur content of the coke for each delivery to assure compliance with this condition.

The fuel certification records shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. In the event the coke sulfur content exceeds

1.0 percent by weight, the owner/operator shall arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at A-1

Baghouse that will exceed the limit established in BAAQMD Regulation 9-1-302.

If the sulfur dioxide emissions do not exceed the limit, the owner/operator shall be allowed to use coke with a sulfur content at or below the sulfur content of the coke used for the source test. In the event the coke sulfur content exceeds the new limit for coke sulfur content established in the source test, the owner/operator shall again arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at A-1 Baghouse that will exceed the limit established in BAAQMD Regulation 9-1-302.

The owner/operator shall notify the Source Test Group at the BAAQMD at least three days before any source test is performed. (basis: BAAQMD Regulation 9-1-302, BAAQMD Regulation 2-6-501)

5. The owner/operator of S-1 shall maintain weekly records of qualitative visible emissions data of A-1 Baghouse and A-11 Baghouse using EPA Method 22 . The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

6. The owner/operator of S-1 shall maintain weekly records of preventive maintenance inspections of A-1 Baghouse and A-11 Baghouse. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

7. The annual gray iron throughput for S-1 Cupola shall not exceed ~~76,000~~ 172,800 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

8. Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for a minimum period of five years for the S-1 Cupola: each permitted source:

- a. monthly material throughput
- b. total material throughput for the preceding 12 months

(basis: Regulation 2-1-403)

#### Conditions for S-25 HOLDING FURNACE

Application 14438, June 15, 2006

1. S-25 Holding Furnace and its associated charging launder shall be abated by A-10 Dust Collector at all times. (basis: cumulative increase)

2. A-10 Dust Collector shall be maintained in good operating conditions at all times according to manufacturer's recommendations. (basis: cumulative increase)

3. The owner/operator of S-25 shall maintain weekly records of preventive maintenance inspections of A-10 Dust Collector. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

4. The owner/operator of S-25 shall maintain weekly records of qualitative visible emissions data of A-10

Dust Collector using EPA Method 22 . The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to district representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

5. The annual gray iron throughput for S-25 Holding Furnace shall not exceed ~~76,000~~172,800 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

6. Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for a minimum period of five years for S-25 Holding Furnace:  
 a. monthly material throughput  
 b. total material throughput for the preceding 12 months  
 (basis: Regulation 2-1-403)

**RECOMMENDATION**

I recommend that the maximum operating capacity of the S-1 Cupola be raised from 20 tons/hour to 50 tons/hour and the maximum annual throughput in part 7 of Condition #9351 be increased from 76,000 to 172,800 tons of metal melted in accordance with the findings in this permit application.

I recommend that the maximum annual throughput of the S-25 Cupola in part 5 of Condition #9668 be increased from 76,000 tons to 172,800 tons of metal melted in accordance with the findings in this application.

I recommend also that the District specify in part 8 of Condition #9351 and part 6 of Condition #9668 that records are to be retained for a minimum period of five years.

Prepared By:  Douglas Hall  
 Supervising Air Quality Engineer

Dated: \_\_\_\_\_

# **ATTACHMENT I**

## **MARCH 27, 2006 LETTER FROM WRIB MANUFACTURING**



## **ATTACHMENT II**

### **CUPOLA THROUGHPUT DATA (1997, 1998, 1999 AND 2005 PLUS JANUARY 2006)**

**EVALUATION REPORT**  
**AB&I FOUNDRY - OAKLAND**  
**PLANT #62      APPLICATION #15807**

**INTRODUCTION**

AB&I Foundry has applied for a permit to operate the following equipment:

**S-33 Fixed Roof Naphtha Thinner Tank: 1500-gallon capacity**  
**(Exempt per Regulation 2-1-123.3.2)**

AB&I converted S-24 thinner tank to a asphalt coating tank. S-33 was added as a new tank to store the thinner that previously went to S-24.

The initial boiling point of the Naphtha Thinner is 355<sup>0</sup>F. In accordance with Regulation 2-1-123.3.2:

123.3 Containers, reservoirs, tanks or loading equipment used exclusively for:

3.2 Storage or loading of organic liquids or mixtures containing organic liquids; where the initial boiling point of the organics is greater than 302<sup>0</sup>F and exceeds the actual storage temperature by at least 180<sup>0</sup>F. This exemption does not apply to the storage or loading of asphalt or asphalt emulsion with a sulfur content equal to or greater than 0.5 wt%.

The source is exempt from the District's permitting requirements.

**EMISSIONS**

No emissions calculation is necessary. The Naphtha Thinner is so involatile (IBP of 355<sup>0</sup>F) that the release of any volatile organic compounds would be negligible, if not zero.

**CUMULATIVE INCREASE**

Exempt sources are not subject to the cumulative increase requirements of Regulation 2, Rule 2 since they are not considered new or modified sources pursuant to Regulation 2-2-101.

**COMPLIANCE**

S-33 is in compliance with all the applicable sections of Regulation 6, "Particulate Matter and Visible Emissions". Visible emissions should be less than Ringlemann 1. S-33 will comply with the requirements of Regulation 2, Miscellaneous Operations. Pursuant to Section 8-2-301, source emissions are less than 15 pounds per day and less than 300 PPM of total carbon on a dry basis.

Since the source is exempt, it is not subject to CEQA. CEQA pertains to new and modified sources.

The project is over 1000 feet from the nearest public school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

BACT, Offsets, PSD, NSPS, NESHAPS and Toxics do not apply.

(i) *CONDITIONS*

**None**

**RECOMMENDATION**

I recommend that AB&I be granted an exemption for the following source:

**S-33 Fixed Roof Naphtha Thinner Tank: 1500-gallon capacity  
(Exempt per Regulation 2-1-123.3.2)**

-----  
Douglas W. Hall  
Supervising Air Quality Engineer

-----  
Date

## **ENGINEERING EVALUATION**

**AB&I Foundry, Plant: 62**

**Application: 016139**

### **BACKGROUND**

AB&I is applying for an Authority to Construct a replacement pulse jet baghouse (A-21) that will abate particulate emissions from S-2 Vibrating Tubular Shakeout.

### **A-21 Baghouse No. 5: GMD, 630-10-6RA; 59,380 acfm, abates S-2 Vibrating Tubular Shakeout subject to condition 17097**

The new baghouse will replace A-16 Baghouse No. 5 (U.S. Air Filtration Pulse Jet, 3614-PT-120-6; 48200 cfm), which was installed in 2000. A-21 will be one of three baghouses abating

S-2 (A-14 Baghouse #2, A-18 Baghouse #4, and A-21 Baghouse #5). The A-21 baghouse has a greater flow rate capacity and is expected to achieve as great or greater collection efficiency, with a maximum outlet grain loading of 0.01 gr/dscf. Therefore, there will be no increase in PM<sub>10</sub> emissions from S-2.

### **EMISSIONS CALCULATION**

As stated above, there will be no increase in PM<sub>10</sub> emissions from S-2.

### **TOXIC RISK SCREEN ANALYSIS**

Not applicable.

### **CUMULATIVE INCREASE**

There is no cumulative increase in emissions from S-2. Current emissions from S-2 are 1.8 lb/day of PM<sub>10</sub>. Current Facility Cumulative emissions of PM<sub>10</sub> are 123.8 lb/day or 22.6 ton/yr.

### **BACT and OFFSETS**

Because the installation and operation of the A-21 baghouse will not result in any increase in PM<sub>10</sub> emissions from S-2 Vibrating Tubular Shakeout, BACT and Offsets provisions do not apply.

### **STATEMENT OF COMPLIANCE**

With the installation of A-21 baghouse, S-2 is expected to continue to comply with Regulation 6 sections 301 (Ringelmann No.1 Limitation), 305 (Visible Particles), 310 (Particulate Weight Limitation), and 311 (General Operations).

This project is categorically exempt from District CEQA Regulation 2-1-311 pursuant to Regulation 2-1-312.2 (Permit applications to install air pollution control or abatement equipment) and therefore is not subject to CEQA review.

The AB&I facility is not located within 1000 feet of the outer boundary of the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A Toxics Risk Screening Analysis is not required since the proposed operation of A-21 will not result in any increase in toxic compound emissions. TBACT does not apply to this project.

BACT, Offsets, PSD, NSPS, and NESHAPS do not apply to this project.

(ii) PERMIT CONDITIONS

COND# 17097 -----

Conditions for S-2 Vibrating Tubular Shakeout

1. S-2 Vibrating Tubular Shakeout shall be abated by A-14 Baghouse No. 2, ~~A-16A-21~~ Baghouse No. 5, and A-18 Baghouse No. ~~64~~ during all periods of operation. (basis: cumulative increase)

2. The owner/operator of S-2 shall maintain weekly records of preventive maintenance inspections of A-14 Baghouse No. ~~12~~, ~~A-16A-21~~ Baghouse No. 5, and A-18 Baghouse No. ~~64~~. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

3. The owner/operator of S-2 shall maintain weekly records of qualitative visible emissions data of A-~~15~~ 14 Baghouse

No. ~~42~~, ~~A-16A-21~~ Baghouse No. 5, and A-18 Baghouse No. ~~64~~

using EPA Method 22 . The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to district representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

4. A-21 Baghouse No.5 output grain loading shall not exceed 0.01 gr/dscf. (basis: cumulative increase)

~~4-5.~~ The annual gross sand throughput for S-2 Vibrating Tubular Shakeout shall not exceed 572,000 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

~~5-6.~~ Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for S-2 Vibrating Tubular Shakeout:

- a. monthly material throughput
  - b. total material throughput for the preceding 12 months
- (basis: Regulation 2-1-403)

### RECOMMENDATION

Issue a **conditional Authority to Construct** for the following abatement device:

**A-21 Baghouse No. 5: GMD, 630-10-6RA; 59,380 acfm, abates S-2 Vibrating Tubular Shakeout subject to condition 17097**

---

Kathleen Truesdell  
Air Quality Engineer I  
Engineering Division

**ENGINEERING EVALUATION**  
**AB&I Foundry, Plant: 62**  
**Application: 17123**

**BACKGROUND**

AB&I is applying for an Authority to Construct/Permit to Operate a replacement pulse jet baghouse (A-25) that will abate particulate emissions from S-25 Holding Furnace.

**A-25 Fume Baghouse: GMD, 480-10-6RA; 50,000 acfm, abates S-25 Holding Furnace, subject to condition #9668**

The new baghouse will replace existing A-10 Dust Collector (Wheelabrator – Frye Model 108C: Size 1218A, 50,000 cfm), which was documented by the District in 1993. The existing A-10 Dust Collector did not have an emissions guarantee and is assumed to have an outlet grain loading of 0.01 gr/dscf. Compliance with condition #9668, which required abatement of S-25 with a properly maintained baghouse (A-10) was demonstrated by a District source test conducted on 6/07/1994, which demonstrated an outlet grain loading of 0.002 gr/dscf. The proposed A-25 baghouse will abate S-25, has the same flow rate capacity of 50,000 cfm and is expected to achieve as great or greater collection efficiency, with a maximum outlet grain loading guarantee of 0.002 gr/dscf. Therefore, there will be no increase in PM<sub>10</sub> emissions from S-25. The facility plans to abate S-7 Automatic Pouring Furnace (exempt), S-8 Automatic Pouring Furnace (exempt) and shell core machines (14, exempt) with A-25 at a later date.

**EMISSIONS CALCULATION**

As stated above, there will be no increase in PM<sub>10</sub> emissions from S-25.

**Current emissions (PM10)**

From S-25 abated by A-10 baghouse:

$$(50,000 \text{ cfm})(0.01 \text{ gr/dscf})(60\text{min/hr})(24\text{hr/day})(4\text{day/wk})(48\text{wk/yr})(1 \text{ lb}/7000 \text{ gr}) = 19,748.6 \text{ lb/yr} = 9.8743 \text{ TPY}$$

**New emissions (PM10)**

From S-25 abated by A-25 baghouse:

$$\begin{aligned} \text{Max daily} &= (50,000 \text{ cfm})(0.002 \text{ gr/dscf})(60\text{min/hr})(24\text{hr/day}) = 20.6 \text{ lb PM10/day} \\ &(50,000 \text{ cfm})(0.002 \text{ gr/dscf})(60\text{min/hr})(24\text{hr/day})(4\text{day/wk})(48\text{wk/yr})(1 \text{ lb}/7000 \text{ gr}) = 3,949.7 \text{ lb/yr} = 1.9749 \text{ TPY} \end{aligned}$$

**TOXIC RISK SCREEN ANALYSIS**

Not applicable.

**CUMULATIVE INCREASE**

There is no cumulative increase in emissions from S-25, S-7, or S-8.

**BACT**

BACT is not triggered per Regulation 2-2-301 because there is no increase in emissions.

**OFFSETS**

Offsets are not required per Regulation 2-2-303.

**STATEMENT OF COMPLIANCE**

With the installation of A-25 Fume Baghouse, S-25 is expected to continue to comply with Regulation 6 sections 301 (Ringelmann No.1 Limitation), 305 (Visible Particles), 310 (Particulate Weight Limitation), and 311 (General Operations).

This project is categorically exempt from District CEQA Regulation 2-1-311 pursuant to Regulation 2-1-312.2 (Permit applications to install air pollution control or abatement equipment) and therefore is not subject to CEQA review.

The AB&I facility is not located within 1000 feet of the outer boundary of the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A Toxics Risk Screening Analysis is not required since the proposed operation of A-25 will not result in any increase in toxic compound emissions. TBACT does not apply to this project.

BACT, Offsets, PSD, NSPS, and NESHAPS do not apply to this project.

*(iii) PERMIT CONDITIONS*

Condition #9668

Conditions for S-25 HOLDING FURNACE

Application 14438, June 15, 2006

Amended by Application 17123, May 2008, Replacement of A-10 with A-25

1. The owner/operator shall ensure S-25 Holding Furnace and its associated charging launder shall be are abated by ~~A-10 Dust Collector~~ A-25 Fume Baghouse at all times. (basis: cumulative increase)

2. The owner/operator shall ensure ~~A-10 Dust Collector~~ A-25 Fume Baghouses shall be maintained in good operating conditions at all times according to manufacturer's recommendations. (basis: cumulative increase)

3. The owner/operator shall equip A-25 Fume Baghouse with a District approved broken bag detection device equivalent to a Triboflow leak detector device, which shall include an alarm that is triggered when the device signals the current has exceeded 70% maximum allowable



current limit. If the alarm is triggered, the owner/operator shall perform a Method 22 test within one hour of the alarm. Except for a 20 minute period after equipment startup and shutdown, if emissions are observed per Method 22, then the owner/operator shall record the event as an exceedance in a District-approved log. Any exceedance shall also be reported to the Director of Compliance and Enforcement. (Basis: Cumulative Increase)

4. The owner/operator shall ensure the outlet PM10, as defined in Regulation 2, Rule 2, grain loading for A-25 Fume Baghouse does not exceed 0.002 grains per dry standard cubic foot. (Basis: Cumulative Increase)

~~3-5.~~ The owner/operator of S-25 shall maintain weekly records of preventive maintenance inspections of ~~A-10 Dust Collector~~A-25 Fume Baghouse. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

~~4. The owner/operator of S-25 shall maintain weekly records of qualitative visible emissions data of A-10 Dust Collector using EPA Method 22. The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to district representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)~~

5-6. The owner/operator shall ensure annual gray iron throughput for S-25 Holding Furnace ~~shall not~~ does exceed 172,800 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

~~6-7.~~ Unless otherwise indicated in specific permit conditions, the owner/operator shall maintain the following records for a minimum period of five years for S-25 Holding Furnace:

- a. monthly material throughput
- b. total material throughput for the preceding 12 months

(basis: Regulation 2-1-403)

### **RECOMMENDATION**

Issue an Authority to Construct for the following abatement device:

**A-25 Fume Baghouse: GMD, 480-10-6RA; 50,000 acfm, abates S-25 Holding Furnace, subject to condition #9668**

---

Kathleen Truesdell  
Air Quality Engineer I  
Engineering Division

*ENGINEERING EVALUATION*  
**AB&I Foundry**  
*Application #18833- Plant #62*

*I. BACKGROUND*

AB&I Foundry has applied for an Authority to Construct/Permit to Operate for the following equipment:

**A-20 Afterburner #1 (Direct Flame), Kinemax Model 6" Series G, 8 MMBtu/hr capacity, to abate existing source S-1 Cupola**

**A-22 Afterburner #2 (Direct Flame), Kinemax Model 6" Series G, 8 MMBtu/hr capacity, to abate existing source S-1 Cupola**

Source 1 Cupola was abated by two 6 MMBTU/hr afterburners (A-8). The facility replaced the existing A-8 afterburners in August 2006 with A-20 Afterburner #1 and A-22 Afterburner #2. The facility submitted Application #14757 in June of 2006 and was granted an A/C in October 2006 for A-20 Afterburner at 6 MMBTU/hr. To correctly permit the new afterburners (A-20 and A-22), the facility submitted this Application # 18833. A-20 and A-22 are ducted to A-19 Baghouse.

**II. EMISSION CALCULATIONS**

Emission increase from the process is not expected from the installation of these afterburners since the new afterburners (A-20 and A-22) have better control performance than the old afterburners (A-8). Combustion emissions from natural gas are calculated below.

Per Policy Memo for NO<sub>x</sub> and CO RACT Levels for Thermal Oxidizers effective April 13, 1999, the RACT level for NO<sub>x</sub> is 0.2 lb/MMBTU and CO is 0.8 lb/MMBTU. As seen below, the emission factors are below the RACT levels.

POC emissions from combustion of natural gas are negligible. From the District's Databank record, POC emissions from coke burned in the cupola are 4.10 lb/ton coke. In 2007, 8,830 tons of coke was used. Abatement efficiency for existing A-8 afterburner is assumed to be 95%. Abatement efficiency from A-20 and A-22 is expected to be at least 98.5%.

SO<sub>2</sub> emissions are determined by the amount of sulfur in natural gas. AB&I uses PUC quality natural gas with a sulfur content of no more than 1 grain/100 scf. A-20 and A-22 combined will have a maximum firing rate of 16 MMBTU/hr or  $(16 \text{ MMBTU/hr})(1 \text{ scf}/1020 \text{ BTU})(10^6 \text{ BTU/MMBTU}) = 15686.3 \text{ scf/hr}$ . A-8 has a maximum firing rate of 12 MMBTU/hr or 11764.7 scf/hr.

Pollutant	New A-20 and A-22 (lb/MMBTU)	Existing A-8 (lb/MMBTU)	New emissions			Existing emissions		Change
			(lb/day)	(lb/year)	(TPY)	(lb/year)	(TPY)	(TPY)
NOx	0.1	0.133	32.0	6144.0	3.0720	6128.6	3.0643	0.0077
CO	0.03	0.03	9.6	1843.2	0.9216	1382.4	0.6912	0.2304
POC	abatement efficiency 0.985	0.95	2.8	543.0	0.2715	1810.2	0.9051	-0.6336
SO2	grain/scf 0.01	grain/scf 0.01	0.4	86.1	0.0430	64.5	0.0323	0.0108

PM10 emissions are abated by A-19 baghouse, so there will be no increase in PM10 emissions from the new afterburners.

III. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

Per Regulation 2-2-302.2, emission reduction credits of POC may be used to offset increase emissions of NOx. Because there is a reduction in POC emissions from the use of more efficient abatement equipment, the reduction in POC emissions (0.634 TPY reduction) will be used to offset the current cumulative increase for POC [0.002 TPY from Application 11887 (1994)] and the increase in NOx from this application (0.008 TPY).

	Current (TPY)	New (TPY)	New Total (TPY)
POC =	0.002	-0.002	0
NOx =	0	0	0
SO2 =	0	0.011	0.011
CO =	0	0.23	0.23
PM10 =	4.597	0	4.597
NPOC =	0.015	0	0.015

IV. OFFSETS

Offsets must be provided for any increase in emissions from a new or modified source at a facility that emits more than 10 tons/yr of POC or NOx per Regulation 2-2-302 or 1.0 tons/yr of PM10 or SOx at a Major Facility. The increase in criteria pollutant emissions are shown below.

Pollutant	Current Emissions (TPY)	Increase in Emissions (TPY)	Cumulative (TPY)	Reg. 2-2-302 and 2-2-303 Offset Triggers (TPY)
POC	88.4	0	88.400	> 10; < 35
NOx	63	0	63.000	> 10; < 35
CO	643	0.23	643.230	NA
PM10**	4.597	0	4.597	> 1*
SO2**	0	0.011	0.011	> 1*

\*Applies to major facilities with a cumulative increase, minus contemporaneous emission reduction credits, in excess of 1 ton/year since April 5, 1991.

\*\*Per Reg. 2-2-303, "current emissions" for PM10 and SOx are increases in emissions since April 5, 1991.

V. TOXIC SCREENING ANALYSIS

Increase in emissions of TACs are listed below. An increase of 16 MMBTU/hr minus 12 MMBTU/hr was used. As seen below, a health risk screening analysis is not necessary since none of the trigger levels are exceeded.

TAC	Emission Factor lb/MMBTU	Emissions (lb/hour)	Trigger (lb/hour)	HRSA Triggered?	Emissions (lb/yr)	Trigger (lb/yr)	HRSA Triggered?
Benzene	2.06E-06	0.000	2.9	no	0.0	6.4	no
Formaldehyde	7.35E-05	0.000	82.0	no	1.1	12,000	no
Toluene	3.33E-06	0.000	-	no	0.1	270,000	no

VII. STATEMENT OF COMPLIANCE

The owner/operator of S-1 is subject to and expected to continue to comply with Regulation 6, Rule 1—Particulate Matter. The facility is subject to Regulation 2, Rule 6—Major Facility Review. The changes made in this application require a Title V minor revision, since they are not significant or administrative per 2-6-226 and 2-6-201, and will be incorporated in the Title V Renewal, Application # 15105.

**CEQA:** This project is considered to be categorically exempt under the District's CEQA Regulation 2-1-312.2 and therefore is not subject to CEQA review. This permit application is to install air pollution control or abatement equipment.

**Watersbill:** This project is greater than 1,000 ft from the nearest public school and therefore is not subject to the public notification requirements of Regulation 2-1-412.

**BACT:** Per Regulation 2-2-112, secondary emissions from abatement are not subject to BACT, however they are required to meet RACT. As discussed in the Emissions section above, the afterburners meet RACT.

**NESHAPS:** S-1 cupola is subject to 40 CFR 63 Subpart EEEEE, NESHAPs for Iron and Steel Foundries. Per the initial notification of compliance status from the facility, S-1 is subject to and expected to continue to comply with the PM limit of 0.006 gr/dscf [63.7690(a)(2)(i)] and VOHAP limit of 20 ppmv corrected to 10% oxygen [63.7690(a)(8)]. A-20 and A-22 Afterburners abating S-1 cupola must operate such that the 15-minute average combustion zone temperature does not fall below 1300 degrees F per section 63.7690(b)(3). The facility is monitoring the temperature as required. This temperature requirement will be included in the permit conditions and replace the current permit condition of 700 degrees F at the crossover.

PSD, NSPS, do not apply.

CONDITIONS

COND# 9351 -----

Conditions For S-1 CUPOLA:  
 abated by A-20 Afterburner, A-22 Afterburner and A-19 Baghouse  
 Application 13813, January 18, 2006  
 Application 14757, October 6, 2006  
Application 18833, November 2008

~~1. The owner/operator shall maintain a minimum temperature of 700F at the S-1 Cupola exhaust "crossover", located upstream of the quench tower, except when S-1 Cupola is idling or is shutdown. (basis: cumulative increase)~~

1. The owner/operator of S-1 Cupola shall operate the A-20 and A-22 Afterburners such that the 15-minute average combustion zone temperature does not fall below 1300 degrees F. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average. (basis: 40 CFR 63.7690 (b)(3))

2. To demonstrate compliance with part 1, the owner/operator of S-1 shall install, operate, and maintain a continuous temperature monitor and recorder to measure and record the combustion zone temperature of A-20 and A-22. A-19 exhaust gas temperature at the "crossover" located upstream of the quench tower. (basis: ~~cumulative increase~~, Regulation 1-521)

~~3-2.~~ The owner/operator shall retain the temperature records required in part 2 on site for a minimum of five years from the date of record and made available to District representatives upon request.

(basis: cumulative increase, BAAQMD Regulation 2-6-501)

~~4-3.~~ The sulfur content of the coke used at S-1, Cupola, shall not exceed 1.0 percent by weight

as a surrogate means for ensuring compliance with BAAQMD Regulation 9-1-302. The owner/operator will obtain a certification of the sulfur content of the coke for each delivery to assure compliance with this condition. The fuel certification records shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. In the event the coke sulfur content exceeds 1.0 percent by weight, the owner/operator shall arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at A-19 Baghouse that will exceed the limit established in BAAQMD Regulation 9-1-302.

If the sulfur dioxide emissions do not exceed the limit, the owner/operator shall be allowed to use coke with a sulfur content at or below the sulfur content of the coke used for the source test. In the event the coke sulfur content exceeds the new limit for coke sulfur content established in the source test, the owner/operator shall again arrange for a one time source test of S-1 at the time said coke is used to demonstrate that higher level of coke sulfur content will not produce gas stream emissions at A-19 Baghouse that will exceed the

limit established in BAAQMD Regulation 9-1-302.

The owner/operator shall notify the Source Test Group at the BAAQMD at least three days before any source test is performed.

(basis: BAAQMD Regulation 9-1-302, BAAQMD Regulation 2-6-501)

| ~~5.4.~~ The owner/operator of S-1 shall maintain weekly records of qualitative visible emissions data of A-19 Baghouse using EPA Method 22. The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

| ~~6.5.~~ The owner/operator of S-1 shall maintain weekly records of preventive maintenance inspections of A-19 Baghouse. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)

| ~~7.6.~~ The owner/operator shall ensure that the annual gray iron throughput for S-1 Cupola shall not exceed 172,800 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)

| ~~8.7.~~ Unless otherwise indicated in specific permit conditions, the owner/operator shall maintain the following records for a minimum of five years for each permitted source:

- a. monthly material throughput
- b. total material throughput for the preceding 12 months

(basis: Regulation 2-1-403)

| ~~9.8.~~ The owner/operator shall ensure that the firing rate of the A-20 Afterburner shall not exceed ~~6~~8 million Btu/hour. (basis: Cumulative Increase)

| 9. The owner/operator shall ensure that the firing rate of the A-22 Afterburner shall not exceed 8 million Btu/hour. (basis: Cumulative Increase)

## IX. RECOMMENDATION

Issue a Permit to Operate to AB&I for the following abatement equipment:

**A-20 Afterburner #1 (Direct Flame), Kinemax Model 6" Series G, 8 MMBtu/hr capacity, to abate existing source S-1 Cupola**

**A-22 Afterburner #2 (Direct Flame), Kinemax Model 6" Series G, 8 MMBtu/hr capacity, to abate existing source S-1 Cupola**

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*Kathleen Truesdell*  
*Air Quality Engineer II*

ENGINEERING EVALUATION [amended 8-10-2010](#)  
AB&I Foundry  
Application #21488- Plant #62

**I. BACKGROUND**

AB&I Foundry has applied for an Authority to Construct/Permit to Operate for the following equipment:

- S-34 P5-P6 Pipe Finishing Dip Tank: 114 Gallon Capacity; abated by A-35 [Fiber Bed Mist Collector](#)~~baghouse~~, 15,000 cfm**
- S-35 P4 Pipe Finishing Dip Tank: 454 Gallon Capacity; abated by A-35 [Fiber Bed Mist Collector](#)~~baghouse~~, 15,000 cfm**
- S-36 P2-P3 Pipe Finishing Dip Tank: 333 Gallon Capacity; abated by A-35 [Fiber Bed Mist Collector](#)~~baghouse~~, 15,000 cfm**
- S-37 Hot Oil Heater: Natural Gas Fired, 1.4 MM Btu/hr (Exempt per Regulation 2-1-114.1.2)**
- S-38 Vertical Asphalt Storage Tank #1: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.7)**
- S-39 Vertical Asphalt Storage Tank #2: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.7)**
- S-43 P1 Pipe Finishing Dip Tank: 182 Gallon Capacity**

The facility casts iron pipes and coats them with an asphalt-based coating. The facility has applied to replace their current solvent based dip system, which uses cut asphalt and requires the use of a thinner, with a hot asphalt coating. The facility plans to install three main hot dip tanks (S-34, S-35 and S-36) and another hot dip tank for larger pipes and quality control testing (S-43). The current solvent based coating system originally consisted of the permitted S-13 Dip Tank and unpermitted "P1" dip tank, but S-13 Dip Tank was replaced with 3 separate dip tanks in 2005 without an Authority to Construct. The facility submitted Application #13752, which was never completed. The facility is working with the District on a Compliance and Enforcement Agreement that will allow them to continue operating the unpermitted solvent based dip tanks until the dates prescribed in the Agreement, when the proposed hot dip system is scheduled to be operational.

The VOC emissions from the pipe coating operation will be significantly reduced from the solvent based asphalt coating system to around 5 tons/year from the hot dip asphalt coating system. The new asphalt will have a very low VOC content (0.04 lb VOC/gallon of coating). The asphalt will need to be heated to around 375°F to coat the hot pipes. The fumes generated from the heated asphalt in S-34, S-35 and S-36 will be exhausted through a [Fiber Bed Mist Collector](#)~~baghouse~~ (A-35) commonly used in the hot mix asphalt industry to minimize any odors.

[\[8-10-2010\] AB&I has applied to use a different model of abatement device, a Fiber Bed Mist Collector, by the same manufacturer with the same flow rate and abatement efficiency as the originally proposed A-35 Baghouse. The new A-35 Fiber Bed Mist](#)



Collector will not be ready for use until the startup of the third hot dip tank due to delivery time. The filters in the new A-35 will be easier to change out because of the orientation of the access area. Since the abatement device is voluntary and no abatement efficiency was assumed in the original emission calculations from this application, it is recommended that the permit condition be modified to require abatement beginning when the last hot dip tank is started up.

S-43 will not be abated since it is only used about once a week; however it will be conditioned to be abated if there is a confirmed odor complaint. The throughput at S-43 will also be limited to 2,000 gallons/year, which is approximately 0.8% of the maximum asphalt coating to be used by the facility. The new process will not require any cleanup solvent; the material will instead be heated and physically removed.

The asphalt will be stored in two 10,000-gallon heated vertical tanks (S-38 and S-39). The asphalt in the two storage tanks will need to be heated to allow it to flow into the dip tanks (S-34, S-35, S-36, and S-43). AB&I will use heating coils containing hot oil to heat the asphalt. The heat will come from a hot oil heater (S-37), which has a maximum firing capacity of 1.4 million Btu/hour and will be fired exclusively on natural gas.

The hot oil heater is exempt from the District's permitting requirements per Regulation 2-1-114.1.2 (Boilers, Heaters, Steam Generators, Duct Burners, and Similar Combustion Equipment: with less than 10 million BTU per hour rated heat input if fired exclusively with natural gas (including compressed natural gas), liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures), or any combination thereof, since it is fired exclusively on natural gas with a rated heat input of less than 10 million Btu/hour.

The two 10,000-gallon vertical tanks are exempt from the District's permitting requirements per Regulation 2-1-123.3.7 (Containers, reservoirs, tanks or loading equipment used exclusively for: The storage of asphalt or asphalt emulsion with a sulfur content of less than 0.5 wt%.) since the asphalt sulfur content is less than 0.5 wt% per the provided MSDS.

**II. EMISSION CALCULATIONS**

Emissions from hot asphalt were analyzed by a lab sample at 400°F and 500°F. The facility expects to operate the hot dip tanks with an asphalt temperature between 350 and 400°F. At 400°F, emissions of POC were 2,900 ppm; 2,850 ppm were identified by gas chromatography/mass spectrometry as methyl-9-octadecenoat (CAS# 2462-84-2; not a TAC). There were no detectable emissions of PM, CO, NO<sub>x</sub>, SO<sub>2</sub>, lead, or H<sub>2</sub>S.

At 500°F, emissions increased and are shown in the table below. At operating temperature (below 400°F), the actual VOC emissions should be about 40% less than the calculated emissions below and the hazardous air pollutants should be below the non-detect levels. No cleanup solvent is used; heat and scraping is used instead.

To be conservative and allow for possible variability in temperature, emissions determined at 500°F are used for this application. The emissions results are provided in the attached table along with the hazardous air pollutants. If the finish dip tanks are heated to 500°F, the VOC emissions would be 5.041 TPY.

$$1090 \text{ tons coating/year} \times 4625 \text{ mg VOC/kg coating} \times \frac{1 \text{ kg}}{1,000,000 \text{ mg}} = 5.041 \text{ tons VOC/year}$$

**Hot Dip System**

Coating Density (lb/gal)	8.67
VOC Content (lb/gal)	0.04
Solids Content (lb/gal)	8.63
Coating Usage (gal/ton of pipe)	2.62

**Emissions based on Pipe Throughput**

Max Pipe Cast (ton/hr)	30.83
Max Pipe Cast (ton/day)	616.5
Max Pipe Cast (ton/year)	132800

**Emissions based on Coating Throughput**

Max Hourly Usage	702 lb/hr	81 gallons
Max Daily Usage	14033 lb/day	1619 gallons
Annual Usage* (S-34, S-35, S-36, S-43) =	1090 TPY	251442 gallons

\*requested permit limit

Compound	CAS #	Test Results @ 500 F° (ppm in coating)	Emission Factors (lb/ton of pipe)	Emission Factors (lb/gal)	Emission (lb/hr)	Emission (lb/day)	Emission (lb/year)	Emission (TPY)
VOCs		4625	0.1053	4.01E-02	3.25	64.90	10082.50	5.0413
Carbon Monoxide	630-08-0	23	0.0005	1.99E-04	0.02	0.32	50.14	0.0251

**Emissions from S-37 Hot Oil Heater: Natural Gas Fired, 1.4 MM Btu/hr (Exempt per Regulation 2-1-114.1.2):**

Emission factors for POC, PM10, and SO2 are from AP-42 Table 1.4-1 Emission Factors for NOx and CO from natural gas combustion from small (<100MMBtu/hr), uncontrolled boilers and 1.4-2 Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion

Hours of operation: 24 hr/day, 365 days/year

	1020	Btu/scf			
<b>Natural gas</b>	<b>1.4</b>	<b>MMBTU/hr</b>			
Pollutant	Factors lb/10E6 scf	Factors lb/MMBTU	Daily lb/day	Annual lb/yr	Annual tons/yr
NOx	100	0.098039216	3.29	1202.35	0.601
POC	5.5	0.005392157	0.18	66.13	0.033
CO	84	0.082352941	2.77	1009.98	0.505
PM10	7.6	0.00745098	0.25	91.38	0.046
SO2	3	0.002941176	0.10	36.07	0.018

**Emissions from S-38 Vertical Asphalt Storage Tank #1: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.2)**

**S-39 Vertical Asphalt Storage Tank #2: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.2)**

Basis:

- Fixed roof tank
- Diameter of each S-38 tank and S-39 tank is 12 feet and the height is 30 feet.
- Total throughput for both tanks is 1090 tpy or 251,442 gallons per year. The throughput for each tank will be assumed to be 150,000 gallons per year per tank.

EPA Tanks 4.0 Program was used to calculate the emissions from the tanks. The printout from the program is in Appendix B.

Annual POC Emissions (S-38) = 372.10 lb/yr

Annual POC Emissions (S-39) = 372.10 lb/yr

Assume the tanks are always kept full.

### Emissions Calculations of Toxic Air Contaminants and Hazardous Air Pollutants from S-34, S-35, S-36, and S-43 Dip Tanks

TAC	CAS #	Test Results @ 500 F° (ppm)	Emission Factors (lb/ton of pipe)	Emission Factors (lb/gal)	Emission (lb/hr)	Emission (lb/day)	Emission (lb/year)	Emission (TPY)	HRSA Trigger level (lb/hr)	HRSA Trigger level (lb/year)	HRSA Triggered?	HRSA Triggered?
Hexane	110-54-3	42	0.0010	3.64E-04	0.029	0.589	91.560	0.046	N/A	2.70E+05	NO	NO
Formaldehyde	50-00-0	8	0.0002	6.93E-05	0.006	0.112	17.440	0.009	0.12	18	NO	NO
Acetaldehyde	75-07-0	15	0.0003	1.30E-04	0.011	0.210	32.700	0.016	1	38	NO	NO
Hydrogen Sulfide	07783-06-4	3	0.0001	2.60E-05	0.002	0.042	6.540	0.003	9.30E-02	3.90E+02	NO	NO
2-Butanone (MEK)	78-93-3	39	0.0009	3.38E-04	0.027	0.547	85.020	0.043	29	N/A	NO	NO
Propionaldehyde*	123-38-6	5	0.0001	4.33E-05	0.004	0.070	10.900	0.005	N/A	N/A	NO	NO

\*HAP, not a TAC

#### Toxic Air Contaminants from the S-37 Hot Oil Heater

Per the memo from Brian Bateman dated September 7, 2005 regarding Emission Factors for Toxic Air Contaminants from Miscellaneous Natural Gas Combustion Sources, the following TACs are used.

1.4 MMBtu/hr

	Factor	Emissions		Trigger Levels	
	lb/MMBTU	lb/hr	lb/yr	lb/hr	lb/yr
Benzene	2.06E-06	2.88E-06	0.03	2.9	3.8
Formaldehyde	7.35E-05	1.03E-04	0.90	0.12	18
Toluene	3.33E-06	4.66E-06	0.04	82	12,000

Toxic Air Contaminants from S-38 and S-39 Asphalt Storage Tanks is assumed to be negligible since no toxic air contaminants were detected in the lab analysis at 400°F. Temperature of the heated tanks should have less variability than the dip tanks since the variability in the dip tanks comes from the throughput of hot pipes.

### III. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

Pollutant	Current Emissions (since April 5, 1991) (TPY)	Increase with this application (TPY)	Cumulative Emissions (Current + Increase) (TPY)
NOx	0.129	0.000	0.129
POC	0.006	5.041	5.047
CO	0.027	0.025	0.052
PM10	4.604	0.000	4.604
SO2	0.015	0.000	0.015
NPOC	11.455	0.000	11.455

### IV. OFFSETS

Offsets must be provided for any increase in emissions from a new or modified source at a facility that emits more than 10 tons/yr of POC or NOx per Regulation 2-2-302 or 1.0 tons/yr of PM10 or SOx at a Major Facility. Offsets for 5.041 tons of POC are required and will come from contemporaneous emission reduction credits due to the shutdown of the solvent based coating system.

#### Contemporaneous POC Credit

The allowable contemporaneous emissions reduction credits from the existing dip system are calculated in accordance with Regulation 2-2-605.

**Per 2-2-605.1, the baseline period consists of the 3 year period immediately preceding the date that the application is complete (or shorter period if the source is less than 3 years old). The applicant must have sufficient verifiable records of the source's operation to substantiate the emission rate and throughput during the entire baseline period.**

The three year baseline would be January 2007 through December 2009.

	<b>Cut Asphalt (gallons)</b>	<b>Thinner (gallons)</b>
Jan-07	18144	250
Feb-07	16775	2300
Mar-07	22624	1400
Apr-07	21731	1600
May-07	24841	2200
Jun-07	23911	2200
Jul-07	16075	1350
Aug-07	24221	1872
Sep-07	25164	1767
Oct-07	27273	2165
Nov-07	19297	1675
Dec-07	19766	1125
Jan-08	33438	1300
Feb-08	22481	1000
Mar-08	29896	1195
Apr-08	24254	2593
May-08	23248	1912
Jun-08	36081	2000
Jul-08	12278	1500
Aug-08	12582	500
Sep-08	24020	1000
Oct-08	14713	1000
Nov-08	3585	540
Dec-08	5223	460
Jan-09	8500	400
Feb-09	5300	360
Mar-09	5685	650
Apr-09	10021	350
May-09	6380	700
Jun-09	5396	600
Jul-09	7128	400
Aug-09	9340	1400
Sep-09	8056	900
Oct-09	9954	500
Nov-09	5754	800
Dec-09	3806	400
<b>12-month AVERAGE</b>	<b>195647.0</b>	<b>14121.3</b>

*Cutback Asphalt: 195,647.0 gal/yr x 2.65 lb VOC/gal x ton/2000 lbs = 259.232 TPY*

*Thinner: 14,121.3 gal/yr x 6.59 lb/gal x ton/2000 lbs = 46.530 TPY*

*Total = 259.232 + 46.530 = 305.762 TPY*

*Per 2-2-605.2, the baseline throughput is the lesser of:*

*2.1 actual average throughput during the baseline period; or*

*2.2 average permitted throughput during the baseline period, if limited by permit condition.*

*The facility had a permit condition #17727 placed on S-13 in the 2002 Initial Title V permit of 50,000 gallons of coating in an attempt to establish a limit for the throughput at this grandfathered source, which was originally installed around 1946. Review of the Application #25865 initial Title V permit application shows AB&I calculated their emissions from S-13 to be 81.915 tons of NPOC (from 1,1,1-Trichloroethane – which the*

*facility later replaced with several different thinners (including aerotherne, mineral spirits, and 410 Thinner) and 117,926 tons of POC. Reg. 8-19 does not exclude 1,1,1-Trichloroethane from the definition of VOC, so these emissions would have been included as part of the Reg. 8-19-302.2 (amended 2/3/1993) limit for air-dried coatings of 2.8 lb VOC/gallon. The permit condition limit of 50,000 gallons was inappropriately low since 50,000 gallons x 2.8 lb VOC/gal = 70 tons VOC, which the facility was already exceeding at the time the limit was imposed.*

*To determine the appropriate baseline throughput, upstream sources, storage tanks S-23 and S-24 were reviewed. S-23 and S-24 storage tanks were permitted in Application #6510 in 1992 and modified in Application #11887 in 1993 and again in the initial Title V permit Application #25865. These applications resulted in the permit condition #6575, which limits the throughput of cut asphalt to 110,000 gallons per year and mineral spirits to 20,000 gallons per year. Because these materials are mixed prior to use as a coating, the baseline throughput must be adjusted as discussed below to meet regulatory limits.*

*Per 2-2-605.3, the baseline emission rate, expressed in the units of mass of emissions per unit of throughput, is the average actual emission rate during the baseline period. Periods where the actual emission rate exceeded regulatory or permitted limits shall be excluded from the average.*

*Emissions from a mixture of 110,000 gallons of cut asphalt and 20,000 gallons of mineral spirits would yield a VOC concentration of 3.3 lb/gal, which exceeds the BAAQMD Regulation 8-19 Surface Preparation and Coating of Miscellaneous Metal Parts and Products limit for air-dried coatings of 2.8 lb VOC/gallon. The baseline emission rate must be reduced to meet the 2.8 lb VOC/gal limit. To achieve a VOC concentration of 2.8 lb/gal with the cut asphalt and thinner, the throughput baseline would also need to be adjusted downward:  
 $(110,000 \text{ gal cut asphalt/year} \times 2.65 \text{ lb VOC/gal}) + (X \text{ gal thinner} \times 6.59 \text{ lb VOC/gal}) = (2.8 \text{ lb/gal})(110,000 + X)$ ,  
 where X is the amount of thinner allowed at 4,353 gallon/year. The baseline throughput is therefore 110,000 gal cut asphalt + 4,353 gallon thinner = 114,353 gallons coating/year.*

*The facility may have been required to meet Regulation 2-2-301, BACT, in Application #13752 of 90% control of VOC emissions. The facility did not comply with this requirement when it installed the 3 unpermitted solvent based dip tanks. The baseline emission rate can be conservatively adjusted to meet the potential BACT requirement. The baseline emission rate is therefore  $(2.8 \text{ lb VOC/gallon})(1-0.90) = 0.28 \text{ lb VOC/gallon coating}$ .*

*Per 2-2-605.5, the adjusted baseline emission rate shall be determined by adjusting the baseline emission rate downward, if necessary, to comply with the most stringent of RACT, BARCT, and District rules and regulations in effect or contained in the most recently adopted Clean Air Plan.*

*BAAQMD Regulation 8-19 Surface Preparation and Coating of Miscellaneous Metal Parts and Products limits air-dried coatings to 2.8 lb VOC/gallon. This requirement was included in the discussion above.*

*The facility is subject to 40 CFR 63 Subpart M, NESHAPs for Surface Coating of Miscellaneous Metal Parts. S-34, S-35, S-36, and S-43 Pipe Finishing Dip Tanks are subject to §63.3890 HAP limit of 1.9 organic HAP per gallon of coating solids during each 12-month period. Per the attached Notification of Compliance Status, the cutback asphalt and thinner do not contain appreciable amounts of HAPs; this regulation therefore does not affect the emissions calculation here.*

*There is currently no NSPS applicable to this operation.*

*The baseline emission rate is adjusted to 0.28 lb VOC/gal.*

*Per 2-2-605.6, emission reduction credits shall be the difference between the adjusted baseline emission rate times the baseline throughput, and the emission cap or emission rate accepted by the applicant as a federally enforceable limiting conditions.*

*Adjusted emissions from the solvent based coating system are:*

*114,353 gallons coating/year x 0.28 lb VOC/gal = 32,018.8 lb VOC/year = 16.009 TPY VOC.*

*Contemporaneous emission reductions calculated here shall be used to offset the cumulative increase of 5.041 TPY POC from the proposed project in this application. Additional offsets will not be required in this application since there will be no net emissions increase with this project due to contemporaneous emission reductions from the shutdown of the existing solvent based coating system.*

*Emissions calculated above are for the purposes of contemporaneous emission reductions for the replacement coating operation. Since the current solvent based coating system is still in operation and will be shut down sequentially in accordance with the BAAQMD-AB&I Compliance and Enforcement Agreement dated June 15, 2010, emission reductions credits will be evaluated further by the District in a separate banking application. Contemporaneous emission reductions in excess of the amount needed to offset the project emissions may be banked if the District determines the requirements of Regulation 2, Rule 4 are satisfied. However, no banking application can be accepted from a stationary source when the subject pollutant is under a formal compliance order, such as, an Enforcement Agreement, pursuant to Regulation 2-4-401 until compliance is met. AB&I may submit a banking application to the District at the time of shut down of each existing solvent based dip tank to seek any allowable bankable emission reductions credits.*

#### V. TOXIC SCREENING ANALYSIS

*A health risk screening analysis is not necessary since sources S-34, S-35, S-36 and S-43 Pipe Finishing Dip Tanks do not emit toxic air contaminants above any trigger level in Regulation 2-5, Table 1. See Emissions section above for calculations.*

#### VII. STATEMENT OF COMPLIANCE

S-34, S-35, S-36, and S-43 are subject to and expected to comply with Regulation 8, Rule 19 (Surface Preparation and Coating of Miscellaneous Metal Parts). Per 8-19-301.2 (Air-Dried Coatings), the VOC limit of the asphalt is below 2.8 lb/gallon. The facility is subject to Regulation 2, Rule 6—Major Facility Review. The changes made in this application require a Title V revision and will be incorporated in the Title V Renewal, Application # 15105.

S-37, S-38, and S-39 are not subject to permitting requirements and are not subject to Regulation 2-1-319 since they do not emit more than 5 ton/year of any regulated air pollutant, do not emit any toxic air contaminant above the trigger levels in Regulation 2-5 or hazardous air pollutants per Regulation 2-1-318, and are not expected to cause a public nuisance.

**CEQA:** Sources S-37, S-38 and S-39 are not new or modified pursuant to Regulation 2-1-232 and 2-1-234 and are not subject to CEQA review per 2-1-310.

For sources S-34, S-35 and S-36, the project is considered to be categorically exempt under the District's CEQA Regulation 2-1-312. Section 2-1-312 of the District Rules and Regulations sets forth specific types of projects, which have been determined by the District to be categorically exempt from CEQA.

CEQA Categorical Exemptions and CEQA "Common Sense Exemption":

Per Section 2-1-312.11, permit applications for a new or modified source or sources or for process changes, which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2 and for which there is no



possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality, are exempt from the CEQA review. The reason for this exemption should be apparent on its face: if a facility is given legal permission to emit more air pollutants from certain points while at the same time being disallowed permission for an equivalent amount of the same type of emissions from other points at the facility, then there is deemed to be no net effect on the air environment, and therefore no possibility of a significant effect under CEQA, provided no-air impacts are also examined and deemed to be of no possible significant consequence.

Also, per the CEQA Guidelines in Title 14, California Code of Regulations, Chapter 3, Article 5, Section 15061(b)(3), a project is exempt from CEQA if the activity is covered by the general rule that CEQA applies only to projects, which have the potential for causing a significant effect on the environment. This is commonly known as the "Common Sense Exemption". Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. The "no net increase" exemption of 2-1-312.11 is essentially a specific, codified, instance of the Common Sense Exemption.

Replacement of the cut asphalt based dip tanks with S-34, S-35 and S-36 hot asphalt dip tanks will result in an emission reduction of 281 tons per year of POC. Therefore, the District has determined that the project satisfies the "No Net Emission Increase" provisions of District Regulation 2, Rule 2. AB&I has completed and submitted to the District CEQA Appendix H, Environmental Information Form, for the project.

The District has reviewed the CEQA Appendix H form. AB&I checked "No" for all impacts.

The District concludes that the permit application is exempt from CEQA because it is categorically exempt from CEQA, and the project qualifies for the "Common Sense Exemption" of Subsection (b)(3) of the State CEQA Guidelines.

In addition, per District Regulation 2-1-312.7, permit applications for the replacement or reconstruction of existing sources or facilities where the new source or facility will be located on the same site as the source or facility replaced and will have substantially the same purpose and capacity as the source or facility replaced are exempt from the CEQA review. This categorical exemption is commonly known as the "Class 2" or Replacement Project Exemption. (See CEQA Guidelines § 15302, 14 Cal. Code Regs. § 15302; District Regulation 2-1-312.7.) As explained below, the Hot Dip System falls within this categorical exemption, and so it is exempt from CEQA

The "Class 2" Replacement Project Exemption applies where a structure or facility is replaced by a new structure that will be located on the same site as the structure replaced, and will have substantially the same purpose and capacity as the structure replaced. Where these criteria are satisfied, the project is categorically exempt from CEQA and no formal environmental analysis needs to be performed. The exemption's applicability criteria are satisfied here.

(a) Location. The Hot Dip System will be located on the same site as the structure it replaces. According to the Appendix H, CEQA Information Form, submitted by AB&I with the permit application ("CEQA Appendix H"), the Hot Dip System involves the installation of replacement equipment where the existing cutback asphalt coating system is located. The entire project will be constructed completely within existing foundry boundaries. In *Dehne v. County of Santa Clara County*, 115 Cal. App. 3d 827 (1981), the court upheld a County's determination that replacement structures built within the area bounded by an existing plant were located on the same site as the structure replaced for purposes of the Replacement Project exemption. Here too, because the project components will be located within the area bounded by existing foundry facilities, the District concludes that the project is located on the same site as the structure or facilities that are being replaced.

(b) Purpose. The primary purpose of AB&I is to make miscellaneous iron parts and pipes from scrap iron. The purpose of AB&I will not change due to the Hot Dip System.

The Hot Dip System will have the same purpose as the existing cutback asphalt coating system. Both systems are used to coat iron pipes with asphalt coating.

(c) Capacity. As explained in the e-mail from Craig Schmeisser on May 20 and May 21, 2010, the limiting factor for pipe production capacity is the pipe casting machines, not the coating system. The new hot dip asphalt coating system will not allow pipe production to increase. The coating system throughput will also be limited due to toxic air contaminant trigger levels in Regulation 2-5. The maximum capacity of AB&I will not change due to the Hot Dip System.

Based on all of the information before the District and the District's review of the information submitted, the District has determined that there is no possibility that the project may have any significant environmental effect.

***Waters Bill:*** *This project is greater than 1,000 ft from the nearest public school and therefore is not subject to the public notification requirements of Regulation 2-1-412.*

***BACT:*** *BACT applies to sources S-34, S-35, S-36, and S-43 per Regulation 2-2-301 because each has the potential to emit more than 10 pounds per day of POC. The District regulations for the existing Dip Tanks require at least 90% control of the VOC emissions (BACT/TBACT Handbook Chapter 84.2.1 for Misc. Solvent & Surface Coating Operations: Flow Coater, Dip Tank and Roller Coater, Emissions >36 lb/day (Uncontrolled); dated 08/30/91). BACT is achieved by the installation of the new hot dip system, which replaces the old system, and reduces emissions by more than 90% by utilizing an asphalt coating with very low VOC content.*

***NESHAPS:*** *The facility is subject to 40 CFR 63 Subpart M, NESHAPs for Surface Coating of Miscellaneous Metal Parts. S-34, S-35, S-36, and S-43 Pipe Finishing Dip Tanks are subject to §63.3890 HAP limit of 1.9 organic HAP per gallon of coating solids during each 12-month period. The facility meets the compliant material option in §63.3891, so the facility is not subject to operating limits (per 63.3892(a)) or work practice standards (per 63.3893(a)).*

***PSD:*** *This project is not subject to PSD per 40 CFR 52.21(a)(2)(iv)(a) since the project is not a major modification; the project does not cause a significant emissions increase as defined by paragraph (b)(40) of this section nor is there a significant net emissions increase. Per the calculation procedures in 52.21(a)(2)(iv)(b), fugitive emissions are included since the emissions unit is located at a major stationary source that belongs to the source categories listed in paragraph (b)(1)(iii): (s) Secondary metal production plants.*

*The "emissions unit" for this project includes the new hot dip tanks, Hot Oil Heater, Vertical Asphalt Storage Tank #1, Vertical Asphalt Storage Tank #2, and the shutdown of the existing solvent based coating system. As stated by the applicant in the e-mails from Craig Schmeisser on May 20 and May 21, 2010, the limiting factor in the production of pipes is the pipe casting machines. There will be no increase in capacity at this facility with this project, so this project will not affect emissions from any other sources.*

*To determine whether there will be a significant emissions increase, the actual-to-potential test in 52.21(a)(2)(iv)(d) was used. Potential to emit as defined in 52.21(b)(4), is calculated above and includes an emissions limitation imposed by the permit condition restricting material processed to 251,442 gallons. This project has the potential to emit 5.446 TPY POC (5.041 (dip tanks) + 0.033 (Hot oil Heater) + 372.1 (Asphalt Storage Tank #1) + 372.1 (Asphalt Storage Tank #2). Emissions of all other pollutants are less than 1 ton/year. Baseline actual emissions as defined in 52.21(b)(48)(iii), are defined as zero. Emissions will increase by 5.446 tons of VOC per year; therefore, there is no significant emissions increase of 40 TPY or more as defined in paragraph (b)(23)(i).*

*To determine whether there will be a significant net emissions increase, calculations of baseline actual emissions to determine the contemporaneous decrease in actual emissions as specified in section (b)(48)(ii) (existing emission unit) were used as directed by section (b)(3)(i) (net emissions increase definition). Per paragraph (b)(48)(ii)(b), the average emissions rate shall be adjusted downward to exclude any non-compliant emissions. As discussed in section IV Offsets above, throughput and emissions rate were limited by BAAQMD Regulation 8-19 and BAAQMD permit condition #6575 during the past 10 year period. Since the facility exceeded their permitted throughput and BAAQMD emission limit in Reg. 8-19, the baseline actual emissions calculated in accordance with section (b)(48)(ii), would be 24 months of maximum allowable throughput (114,353 gallons coating/year) and maximum allowable VOC emissions (2.8 lb VOC/gal, which was allowed prior to the 2005 changeout of S-13 to three unpermitted dip tanks). There will be a contemporaneous emissions decrease of 160.094 TPY VOC. The net emissions increase is 5.446 -160.094 TPY VOC*

= -154.648 TPY VOC; therefore, there is no significant net emissions increase of 40 TPY or more as defined in paragraph (b)(23)(i).

As stated above, since there is no significant emissions increase and no significant net emissions increase, this project is not subject to PSD.

NPS does not apply.

### VIII. CONDITIONS

#### Condition #24639

S-34 P5-P6 Pipe Finishing Dip Tank: 114 Gallon Capacity; abated by A-35 ~~baghouse~~[Fiber Bed Mist Collector](#)

S-35 P4 Pipe Finishing Dip Tank: 454 Gallon Capacity; abated by A-35 [Fiber Bed Mist Collector](#)~~baghouse~~

S-36 P2-P3 Pipe Finishing Dip Tank: 333 Gallon Capacity; abated by A-35 [Fiber Bed Mist Collector](#)~~baghouse~~

**S-43 P1 Pipe Finishing Dip Tank: 182 Gallon Capacity**

1. The owner/operator shall ensure the annual net coating usage at S-34, 35, S-36 and S-43 Pipe Finishing Dip Tanks does not exceed a combined total throughput of 251,442 gallons (1090 tons) over any consecutive twelve month period. (basis: Cumulative Increase, Offsets, Toxics)
2. The owner/operator shall ensure the annual net coating usage at S-43 P1 Pipe Finishing Dip Tank does not exceed 2,000 gallons over any consecutive twelve month period. (basis: Cumulative Increase)
3. The owner/operator shall use exclusively synthetic asphalt pipe coating (manufactured by Professional Coating Tech., Inc.) at S-34, 35, S-36 and S-43 Pipe Finishing Dip Tanks to ensure the VOC content of the asphalt does not exceed 0.04 lb/gal. (basis: Cumulative Increase)
4. [Beginning when the last hot dip tank \(S-34, S-35 or S-36\) is started up but no later than December 20, 2010,](#) the owner/operator shall ensure S-34, S-35 and S-36 are continuously abated by ~~Baghouse~~-A-35 [Fiber Bed Mist Collector](#) during all periods of operation. (Basis: Cumulative Increase)
5. The owner/operator shall equip the A-35 [Fiber Bed Mist Collector](#) ~~Baghouse~~ with a pressure gauge and operate and maintain the ~~baghouse~~-[abatement device](#) according to manufacturer's instructions. (Basis: Cumulative Increase)
6. The owner/operator shall ensure the operating temperature of each hot dip tank (S-34 or S-35 or S-36 or S-43) does not exceed 500°F. (Basis: Cumulative Increase, Toxics)
7. The owner/operator of S-34, S-35, S-36 and S-43 shall install and operate a temperature measuring and recording device to continually monitor and record the temperature of the heated asphalt bath at each source. This record shall be kept for a period of at least 5 years from date of entry. (Basis: Toxics, Cumulative Increase, monitoring)
8. The owner/operator shall not use any cleanup solvent at S-34, S-35, S-36 and S-43. (Basis: Cumulative Increase, Toxics)
9. In the event there is one District-confirmed odor complaint, the owner/operator shall submit an abatement plan to the District Engineering Division for S-43. If required, the owner/operator shall install a District-approved abatement device upon approval from the District. (Basis: Regulation 1-301)

10. In the event this operation causes a public nuisance under Regulation 1-301 due to odors, the owner/operator shall submit a comprehensive odor abatement plan to eliminate or sufficiently reduce odors to tolerable levels at the facility to the District's Engineering Division within 30 days of the public nuisance. The owner/operator shall obtain District approval of the odor abatement plan and comply with the District-approved odor abatement plan. The plan shall be modified and re-approved by the District as necessary to keep odors at tolerable levels at the facility. Tolerable odor levels shall be odor levels that do not result in a public nuisance. (Basis: Public Nuisance, Regulation 1-301)
11. The owner/operator of S-34, S-35, S-36 and S-43 shall maintain monthly records, in a District approved log, of the total net usage of asphalt coating (in gallons) used at all of these sources. In addition, the owner/operator shall maintain monthly records, in a District approved log, of the estimated net asphalt coating (in gallons) used at each source. Furthermore, the owner/operator shall maintain monthly records, in a District-approved log, of the following: a) the operating hours of S-34, S-35, S-36, and S-43, b) the operating hours of A-35 [Fiber Bed Mist CollectorBaghouse](#), and c) the maintenance records for A-35 [Fiber Bed Mist CollectorBaghouse](#). All records shall be retained for a period of at least five years from date of entry. This log shall be kept on site and made available to the District's staff upon request. (Basis: Recordkeeping)
12. The owner/operator shall shut down the existing cutback asphalt dip tanks in accordance with the AB&I-BAAQMD Compliance and Enforcement Agreement dated June 15, 2010. (Basis: Contemporaneous emissions reduction credits)

**IX. RECOMMENDATION**

*Issue a conditional Authority to Construct for the following equipment:*

**S-34 P2/P3 Pipe Finishing Dip Tank: 333 Gallon Capacity**

**S-35 P4 Pipe Finishing Dip Tank: 454 Gallon Capacity**

**S-36 P5/P6 Pipe Finishing Dip Tank: 114 Gallon Capacity**

**S-43 Pipe Finishing Dip Tank (P1): 182 Gallon Capacity**

*Issue a Letter of Exemption for the following equipment:*

**S-37 Hot Oil Heater: Natural Gas Fired, 1.4 MM Btu/hr (Exempt per Regulation 2-1-114.1.2)**

**2-1-114 Exemption, Combustion Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, only if the source does not emit pollutants other than combustion products, and those combustion products are not caused by the combustion of a pollutant generated from another source, and the source does not require permitting pursuant to Section 2-1-319.

114.1 Boilers, Heaters, Steam Generators, Duct Burners, and Similar Combustion Equipment:

1.2 Any of the above equipment with less than 10 million BTU per hour rated heat input if fired exclusively with natural gas (including compressed natural gas), liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures), or any combination thereof.

**S-38 Vertical Asphalt Storage Tank #1: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.7)**

**S-39 Vertical Asphalt Storage Tank #2: 10,000 Gallon Capacity (Exempt per Regulation 2-1-123.3.7)**

**2-1-123 Exemption, Liquid Storage and Loading Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

123.3 Containers, reservoirs, tanks or loading equipment used exclusively for:

3.7 The storage of asphalt or asphalt emulsion with a sulfur content of less than 0.5 wt%. This does not include the storage of asphalt cutback with hydrocarbons having an initial boiling point of less than 302°F.

*[8-10-2010] Recommendation– Reissue the conditional Authority to Construct for:*

*S-34 P2/P3 Pipe Finishing Dip Tank: 333 Gallon Capacity*

*S-35 P4 Pipe Finishing Dip Tank: 454 Gallon Capacity*

*S-36 P5/P6 Pipe Finishing Dip Tank: 114 Gallon Capacity*

*A-35 Fiber Bed Mist Collector/baghouse, 15,000 cfm*

*Enter Data Forms for new A-35 Fiber Bed Mist Collector and P-35.*

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*Kathleen Truesdell  
Air Quality Engineer II*



*ENGINEERING EVALUATION  
AB&I Foundry  
Application #21603- Plant #62*

**I. BACKGROUND**

AB&I Foundry has applied for a change of conditions for the following equipment:

S-28 Storage Silo abated by A-19 Cupola Baghouse

And requested a name description change for the following equipment:

<b>Source Number</b>	<b>Current Description</b>	<b>Requested Description</b>
<b>S-4</b>	<b>Wheelabrator Shot Blast</b>	<b>Wheelabrator Shot Blast (No. 1)</b>
<b>S-5</b>	<b>Shot blast cleaning machine</b>	<b>Pangborn Shot Blast (No. 2)</b>
<b>S-7 (exempt)</b>	<b>Automatic Pouring Furnace</b>	<b>Automatic Pouring Furnace (P2 and P3)</b>
<b>S-8 (exempt)</b>	<b>Automatic Pouring Furnace</b>	<b>Automatic Pouring Furnace (2013)</b>
<b>S-9 (exempt)</b>	<b>Automatic Pouring Furnace</b>	<b>Automatic Pouring Furnace (P5 and P6)</b>
<b>S-10 (exempt)</b>	<b>Automatic Pouring Furnace</b>	<b>Automatic Pouring Furnace (270A)</b>
<b>S-17 (exempt)</b>	<b>12,000 gal Storage Tank</b>	<b>12,000 gal Storage Tank (Process Water)</b>
<b>S-27</b>	<b>Wheelabrator Shot Blast</b>	<b>Wheelabrator Shot Blast (No. 3)</b>
<b>S-28</b>	<b>Storage Silo (Silicon Metal)</b>	<b>Storage Silo (Baghouse Dust)</b>
<b>S-29 (exempt)</b>	<b>Pressure Vessel (Silicon Metal)</b>	<b>Pressure Vessel (Baghouse Dust)</b>
<b>S-30</b>	<b>Blast Cleaning Machine</b>	<b>Inline Shot Blast</b>

The facility has requested a change of conditions for S-28 Storage Silo since the old abatement device (A-13 Pulse Jet Baghouse) was removed and S-28 is now (since Aug. 2006) abated by A-19 Cupola Baghouse. The facility also requested an increase in throughput for the storage silo, which stores baghouse dust, since the new baghouses are more efficient and more dust is collected and needs to be stored. Condition #10762 requiring weekly preventative maintenance and weekly visible emissions (Method 22) readings are redundant to Condition #9351 for the S-1 Cupola since conditions for A-19 are specified in Condition #9351. For simplicity, all conditions relating to the A-19 Cupola Baghouse will be listed in Condition #9351. The condition requiring pressure drop monitoring was replaced by the requirement of a bag leak detection system in 40 CFR Part 63 Subpart EEEEE. Condition #10762 will relate only to S-28 Storage Silo and the throughput was increased from 900 to 1500 tons/year. There is no increase in emissions since S-28 is abated by A-19 Cupola Baghouse, which has a guaranteed outlet grain loading of 0.006 gr/dscf.

*The condition for S-4 Wheelabrator Shot Blast (No. 3), S-5 Pangborn Shot Blast (No. 2), S-27 Wheelabrator Shot Blast (No. 3) will be changed to reflect the new names of the sources. There are no modifications to these sources and no increase in emissions.*

*The facility requested other changes in this permit application, however, those changes are not addressed in this evaluation and they will be addressed through the permit applications submitted in accordance with the Schedule of Compliance in the Title V permit renewal (Application 15105).*

## II. EMISSION CALCULATIONS

There are no changes in emissions associated with this application.

### III. PLANT CUMULATIVE INCREASE SINCE 4/5/1991

There are no changes in emissions associated with this application.

### IV. OFFSETS

Offsets must be provided for any increase in emissions from a new or modified source at a facility that emits more than 10 tons/yr of POC or NOx per Regulation 2-2-302 or 1.0 tons/yr of PM10 or SOx at a Major Facility. As stated above, there are no changes in emissions associated with this application, so no offsets are required.

### V. TOXIC SCREENING ANALYSIS

*A health risk screening analysis is not necessary since there is no increase in emissions.*

### VII. STATEMENT OF COMPLIANCE

The owner/operator of S-4, S-5, S-27, and S-28 subject to and expected to continue to comply with Regulation 6, Rule 1—Particulate Matter. The facility is subject to Regulation 2, Rule 6—Major Facility Review. The changes made in this application require a Title V minor revision, since they are not significant or administrative per 2-6-226 and 2-6-201, and will be incorporated in the Title V Renewal, Application # 15105.

**CEQA:** The source S-28 Storage Silo project is considered to be ministerial under the District's Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 11.7 (Crushing and Grinding).

**Watersbill:** *This project is greater than 1,000 ft from the nearest public school and therefore is not subject to the public notification requirements of Regulation 2-1-412.*

**BACT:** *BACT does not apply to sources S-28 because there is no increase in emissions.*

**NESHAPS: The facility is subject to 40 CFR 63 Subpart EEEEE, NESHAPs for Iron and Steel Foundries. The A-19 Cupola baghouse is subject to inspection, bag leak detection monitoring, source testing every 5 years, and an operation and maintenance plan.**

**PSD, NSPS, do not apply.**

### IX. CONDITIONS



**Condition #10139**

Conditions for

S-4 Wheelabrator Shot Blast (No. 1) Shot Blast Cleaning Machine  
 S-5 Pangborn Shot Blast (No. 2) Shot Blast Cleaning Machine, and  
 S-27 Wheelabrator Shot Blast (No. 3) Shot Blasting Machine

1. The owner/operator shall ensure the total shot throughput at S-27 Wheelabrator Shot Blast (No. 3) Wheelabrator Shot Blasting Machine shall does not exceed 36 tons in any consecutive twelve month period. (basis: cumulative increase)
2. The owner/operator shall abate S-4 Wheelabrator Shot Blast (No. 1) Shot Blast Cleaning Machine, S-5 Pangborn Shot Blast (No. 2) Shot Blast Cleaning Machine, and S-27 Wheelabrator Shot Blast (No. 3) Wheelabrator Shot Blasting Machine shall be abated by with A-17 Baghouse No. 3 during all periods of operation. (basis: cumulative increase)
3. The owner/operator of S-4, S-5, and S-27 shall maintain weekly records of preventive maintenance inspections of A-17 Baghouse No. 3. The preventive maintenance inspection reports shall be retained on site for a minimum of five years from the date of entry and be made available to District representatives upon request. (basis: BAAQMD Regulation 6-1-301, BAAQMD Regulation 2-6-501)
4. The owner/operator of S-4, S-5, and S-27 shall maintain weekly records of qualitative visible emissions data of A-17 Baghouse No. 3 using EPA Method 22 . The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to district representatives upon request. (basis: BAAQMD Regulation 6-1-301, BAAQMD Regulation 2-6-501)
5. The owner/operator of S-27 shall maintain records of shot throughput on a monthly basis in a District-approved log. These records shall be retained on site for a minimum of five years from the date of entry and made available to District personnel upon request. (basis: cumulative increase, BAAQMD Regulation 2-6-501)
6. The owner/operator shall ensure the total gross blast media throughput for S-4 Wheelabrator Shot Blast (No. 1) Shot Blast Cleaning Machine shall does not exceed 4,600 tons totaled over any consecutive twelve-month period. (basis: Regulation 2-1-403)
7. The owner/operator shall ensure the total gross blast media throughput for S-5 Pangborn Shot Blast (No. 2) Shot Blast Cleaning Machine shall does not exceed 2,800 tons totaled over any consecutive twelve-month period. (basis: Regulation 2-1-403)
8. Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for S-4 and S-5 Shot Blast Cleaning Machines:
  - a. monthly material throughput
  - b. total material throughput for the preceding 12 months (basis: Regulation 2-1-403)

**Condition #10762**

For S-28 STORAGE SILO (BAGHOUSE DUST)

1. All particulate matter emissions from S-28 Storage Silo shall be routed to ~~A-13 Pulse Jet Dust Collector~~ A-19 Cupola Baghouse. (basis: cumulative increase)
2. ~~[Deleted.] A-13 Pulse Jet Dust Collector shall be equipped with a pressure gauge that measures the pressure drop across the fabric filters. The pressure gauge shall be checked for plugging at least once every three months (basis: Regulation 2-1-403)~~
3. ~~[Deleted.] A-13 Pulse Jet Dust Collector shall be inspected on a weekly basis to ensure proper operation. The following items shall be inspected:~~
  - a) ~~The pressure drop across the fabric filters. The pressure drop shall be no less than 3 inches of water and no greater than 8 inches of water.~~
  - b) ~~The dust collector exhaust shall be inspected for evidence of particulate matter breakthrough. If breakthrough is evident from observation of visible plumes, dust buildup near the stack outlet, or abnormal pressure drops, the filter bags shall be inspected for any tears, holes, abrasions, or scuffs, and replaced as needed.~~
  - c) ~~The pulsejet cleaning system shall be maintained and operated at sufficient intervals to ensure compliance with part (a) of this condition.~~

(basis: Regulation 2-1-403)
4. ~~[Deleted.] To demonstrate compliance with the above permit conditions, the owner/operator of A-13 Pulse Jet Dust Collector shall maintain weekly records of all inspections and maintenance work including filter bag replacements in a District approved log. The records shall include the date of each inspection and the initials of the inspector. These records shall be kept on site and made available for District inspection for a minimum of five years from the date of entry. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)~~
5. ~~[Deleted.] The owner/operator of S-28 shall maintain weekly records of qualitative visible emissions data of A-13 Baghouse using EPA Method 22. The records of visible emissions data shall be retained on site for a minimum of five years from the date of entry and be made available to district representatives upon request. (basis: BAAQMD Regulation 6-301, BAAQMD Regulation 2-6-501)~~
6. The throughput for S-28 Storage Silo shall not exceed ~~900~~ 1500 tons totaled over any consecutive twelve month period. (basis: Regulation 2-1-403)
7. Unless otherwise indicated in specific permit conditions, the operator shall maintain the following records for S-28 Storage Silo:
  - a. monthly material throughput
  - b. total material throughput for the preceding 12 months (basis: Regulation 2-1-403)

These records shall be retained on-site for a minimum of five years from the date of entry and made available to District representatives upon request.

**IX. RECOMMENDATION**

***Issue a Change of Conditions for the following equipment:***

S-28     *Storage Silo abated by A-19 Cupola Baghouse*

S-4     *Wheelabrator Shot Blast (No. 3)*

S-5     *Pangborn Shot Blast (No. 2)*

S-27     *Wheelabrator Shot Blast (No. 3)*

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***Kathleen Truesdell***  
***Air Quality Engineer II***

**APPENDIX D: CAM Analysis and Potential to Emit**

## 1. EMISSIONS UNIT

1.1 Pollutant: Particulate Matter (PM)

1.2 Process/Emissions Unit/Control Technique:

Emission Unit	Control Device
S-2: Vibratory Tubular Shakeout (PCS DISA 2013 and 270A)	A-14: Baghouse #2 A-16: Baghouse #5 A-18: Baghouse #4
S-3: Sand Muller S-21: Sand Cooler DISA Mold Making 2013 and 270A	A-15: Baghouse #1
S-4: Shot Blast Cleaning Machine S-5: Shot Blast Cleaning Machine S-27: Shot Blasting Machine S-30: Abrasive Blasting Machine	A17: Baghouse #3

## 2. APPLICABLE REQUIREMENTS

2.1. Emission Limit: Not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.

2.1.1. Regulation: BAAQMD Regulation 6-1-301

2.2. Emission Limit: Not emit particles from any operation in sufficient number to cause annoyance to any other person, which particles are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles.

2.2.1. Regulation: BAAQMD Regulation 6-1-305

2.3. Emission Limit: Have and maintain means whereby the operator of the plant shall be able to know the appearance of the emission at all times.

2.3.1. Regulation: BAAQMD Regulation 6-1-401

## 3. MONITORING APPROACH

3.1. Parameters to be Monitored:

3.1.1. Pressure differential

3.1.2. Visible Emissions (VE)

3.2. Rationale for Monitoring Approach:

3.2.1. Pressure differential: Increase in pressure differential indicative of fabric blinding or decreased permeability; decrease in pressure differential indicative of change in operation.

3.2.2. VE: Changes in VE observations indicate process changes, changes in baghouse efficiency, or leaks.

3.3. Monitoring Location

- 3.3.1. Pressure differential: Across the outlet of each compartment of control device.
- 3.3.2. VE: Perform qualitative visible emissions using EPA Method 22 while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the emissions unit and any visible fugitive particulate emissions. The records of visible emissions data will be retained on site for a minimum of five years from the date of entry.

#### 3.4. Analytical Devices Required

- 3.4.1. Pressure differential: Pressure transducers, differential pressure gauges, manometers, other methods and/or alternative instrumentation as appropriate.
- 3.4.2. VE: USEPA Method 22 observation techniques.

#### 3.5. Data Acquisition and Measurement System Operation

- 3.5.1. Frequency of measurement:
  - 3.5.1.1. Pressure drop recorded once a week from each of the baghouses.
  - 3.5.1.2. VEs recorded once a week.
- 3.5.2. Reporting units:
  - 3.5.2.1. Pressure differential: Inches of water column.
  - 3.5.2.2. VE: Visible/no visible emissions.
- 3.5.3. Recording process:
  - 3.5.3.1. Operators log pressure drop data manually every week for each baghouse.
  - 3.5.3.2. Observers complete VE observation forms and log into binder once a week.
- 3.5.4. Specific QA/QC Procedures
  - 3.5.4.1. Calibrate, maintain, and operate instrumentation using procedures in accordance with manufacturer's specifications.

### 4. PERFORMANCE CRITERIA

- 4.1. A pressure differential excursion is defined as a pressure differential across the baghouse system that is outside the following ranges for each of the baghouses:
  - 2" to 8" of water for each of the baghouses
- 4.2. A VE excursion is defined as the presence of visible emissions that are not representative of normal operations of the emission unit.
- 4.3. Each excursion triggers an assessment of the problem, corrective action, and a reporting requirement.

### 5. RECORD KEEPING

- 5.1. If visible emissions are observed, record the following in the operations log:
  - 5.1.1. the color of the emissions;
  - 5.1.2. whether the emissions are representative of normal operations;
  - 5.1.3. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - 5.1.4. the total duration of any visible emission incident; and

5.1.5. any corrective actions taken to eliminate the visible emissions.

5.2. Each record of any monitoring data, testing data, corrective actions taken in response to excursions, and support information such as all calibration and maintenance records, will be retained for a period of five years from the date the record was created.

## **6. EMISSIONS UNIT**

1.3 Process/Emissions Unit: Cupola (S-1)

1.4 Pollutant: Carbon Monoxide (CO)

1.5 Emissions Control Technique: Afterburner A-20 (8 million Btu/ hour) and Afterburner A-22 (8 million Btu/ hour)

## **7. APPLICABLE REQUIREMENTS**

7.1. Emission Limit: 400 PPMV

7.1.1. Regulation: BAAQMD Rule 9-7-307

7.2. Emission Limit: 2,725 Pounds per Day (Annual Average)

7.2.1. Regulation: BAAQMD Permit to Operate No. A0062

## **8. MONITORING APPROACH**

8.1. Parameters to be Monitored:

8.1.1. Combustion zone temperature

8.1.2. Periodic inspections

8.2. Rationale for Monitoring Approach:

8.2.1. Combustion zone temperature: Temperature of combustion zone is an indicator of the afterburner system performance. Low combustion zone temperature indicates potential for insufficient destruction of CO.

8.2.2. Calibration and validation checks will be conducted to ensure proper afterburner operation and efficiency. Routine preventative maintenance will include:

8.2.2.1. Monthly Afterburner Thermocouple Inspection

8.2.2.2. Semiannual Afterburner Thermocouple Validation

8.3. Monitoring Location

8.3.1. Combustion zone temperature: Two thermocouples located above the afterburners provide a representative temperature of the combustion zone.

8.3.2. Periodic inspections: By the afterburners.

8.4. Analytical Devices Required

8.4.1. Combustion zone temperature: The thermocouples are manufactured with a shield that protects them from electromagnetic interference and chemical contaminants. The temperature sensors have a minimum tolerance of 2 percent of the temperature value.

#### 8.4.2. Periodic inspections:

8.4.2.1. Monthly Afterburner Thermocouple Inspection: At least monthly, all components will be inspected for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.

8.4.2.2. Semiannual Afterburner Thermocouple Validation: At least semiannually, an electronic calibration will be performed for each thermocouple or the thermocouples will be replaced with calibrated thermocouples. Following the electronic calibration or replacement, a temperature sensor validation check will be performed, in which the two thermocouples must yield a reading within 16.7 degrees Celsius (62.06 degrees Fahrenheit) of each other.

### 8.5. Data Acquisition and Measurement System Operation

#### 8.5.1. Frequency of measurement:

8.5.1.1. Combustion zone temperature: A chart recorder is not used. The average temperature data is logged electronically every 10 seconds. The 15-minute average combustion zone temperature in the afterburner is calculated and monitored at all times. Data is maintained electronically for five years.

8.5.1.2. Periodic inspections: Monthly and semiannually.

#### 8.5.2. Reporting units:

8.5.2.1. Combustion zone temperature: Degrees Fahrenheit (°F).

8.5.2.2. Periodic inspections: None

#### 8.5.3. Recording process:

8.5.3.1. Combustion zone temperature: Temperature data is recorded automatically using a data acquisition system.

8.5.3.2. Periodic inspections: Preventive maintenance inspections are recorded on Work Orders and maintained by the Maintenance Department.

#### 8.5.4. Specific QA/QC Procedures

8.5.4.1. Calibrate, maintain, and operate instrumentation using procedures described in AB&I's Iron Foundry MACT Operation & Maintenance Plan for the Cupola Afterburner Control System.

## 9. PERFORMANCE CRITERIA

9.1.1. The afterburner is operated such that the 15-minute average combustion zone temperature does not fall below 1,300 °F. Periods when the cupola is off blast (idle) and for 15 minutes after going on blast from an off blast (idle) condition, are not included in the 15-minute average.

9.1.2. AB&I's Iron Foundry MACT Startup, Shutdown, and Malfunction Plan documents procedures for proper operation of the afterburner control system during periods of startup, shutdown, and malfunction to minimize emissions and for properly documenting and reporting malfunctions in accordance with regulatory requirements;



