Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

BAE Systems San Francisco Ship Repair, Inc.
Facility # A3288

Facility Address:
Foot of 20th Street
San Francisco CA 94120

Mailing Address:
PO Box 7644
San Francisco CA 94120

Application Engineer: Dennis Jang
Site Engineer: Tamiko Endow

Application #21887

March 2011

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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 volatile organic compounds, a regulated air pollutant.

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

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of applicability determinations for all sources, including those that have been modified or permitted since the issuance of the last renewal Major Facility Review Permit. The review also included 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 A3288.

This facility received its initial Title V permit on June 1, 2000. The permit was renewed on September 13, 2005 under application 11369 with an expiration date of September 12, 2010. This application is for the second permit renewal. The facility submitted a complete renewal Title V application on April 21, 2010, after the due date of March 12, 2010. Therefore, they are not operating under an application shield pursuant to Regulation 2, Rule 6, section 407 and their current permit has expired as of September 12, 2010. The facility has entered into a compliance and enforcement agreement with the District that allows it to continue to operate without a valid Title V permit as long as they pay a civil penalty to the District. The agreement expires on May 11, 2010.

Since the last renewal Title V permit was issued, the standard sections of Title V permits issued by the District have changed. Accordingly, these sections will be updated in the new renewal permit. The proposed permit shows all changes to the permit in strikeout/underline format.

B. Facility Description

BAE Systems San Francisco Ship Repair, Inc. is a marine repair facility located at the foot of 20th Street in San Francisco, California. The facility performs maintenance, alterations, repair, and modernization of ships, including cruise liners, tankers, bulk carriers and container ships, military vessels, and local ships. Their operations include cleaning, welding, abrasive blasting, coating, and hand lay-up of polyester resin for touch-up and repair. Emissions from this facility include particulate emissions from the blasting operations including lead from the removal of lead-based paint, volatile organic compound and volatile organic hazardous air pollutant emissions from the coating, polyester resin operations, and solvent cleaning operations, as well as combustion emissions from two prime diesel engines, and exempt natural gas combustion sources. There has been no significant change in emissions at this facility since the issuance of the first renewal Title V permit in 2005.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

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

<u>Changes to permit:</u>

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

SIP Regulation 2, Rule 4 - Permits, Emissions Banking and BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review will be added to Standard Condition 1.A.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

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

Significant sources are those sources that have a potential to emit of more than 2 tons 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.

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

Devices Permitted Since Application was submitted:
S-16 Abrasive Blast Room was permitted on April 23, 2007 under application 15850. The permit conditions for S-16 were subsequently modified on 1/21/11 under application 22063. The engineering evaluations are attached to this statement of basis document as appendices.

Devices with Changed Permit Status:
None

District permit applications not included in this proposed permit:

Application 16031 for a Title V minor revision (NSR application 22063) is for the new source S-16 Abrasive Blast Room. As of the date of this draft permit, the NSR application has not been issued. The Title V permit will be revised to reflect the addition of S-16 after the renewal permit has been issued.

Corrections to Devices Shown in Application:

S-13 Diesel Engine was incorrectly permitted as a standby engine. It is actually operated as a prime engine on a dry dock. It is subject to the state ATCM for Harbor Craft. Consequently, the source description and permit conditions have been changed to reflect actual operation.

S-15 Diesel Engine was incorrectly permitted as a standby engine. It is actually operated as a prime engine on a pier to provide back-up power to a dry dock. Consequently, the source description and permit conditions have been changed to reflect actual operation.

III. Generally Applicable Requirements

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

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered "significant sources" as defined in BAAQMD Rule 2-6-239.

Changes to permit:

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

- 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
- SIP Regulation 8, Rule 2, Miscellaneous Operations
- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- California Health and Safety Code Section 93116 et seq., Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- California Health and Safety Code Title 17, Subchapter 10, Article 2, Sections 95100 through 95109, Mandatory Greenhouse Gas Emissions Reporting
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

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

IV. Source-Specific Applicable Requirements

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

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

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

<u>Changes to permit:</u>

Table IV-F for S-15 Prime Diesel Generator Engine will be added to the permit.

Table IV-G for S-16 Abrasive Blast Room will be added to the permit.

Complex applicability determinations:

40 CFR Part 64, Compliance Assurance Monitoring (CAM) does not apply to the following sources at this facility since they do not exhaust to abatement devices.

S-1 Paint Spraying/Abrasive Blasting Operation
S-2 Abrasive Blasting Operation
S-10 Paint Spray Booth

S-12 Polyester Resin Operation
S-13 Auxiliary Harbor Craft Prime Diesel Engine on Dry dock #2
S-15 Prime Diesel Generator Engine

S-16 Abrasive Blast Room is abated by S-16 Baghouse. However, the pre-abatement emissions for this source are less than 100 tons per year. Therefore, CAM does not apply to S-16. The maximum annual pre-abatement PM10 emissions for this source are:

(750,000 lb abrasive/yr)(ton/2000 lbs)(82 lbs PM10/ton abrasive) = 30,750 lbs PM10/yr
= 15.375 tons per year

S-1 Paint Spraying/Abrasive Blasting Operation and S-10 Paint Spray Booth continue to be subject to 40 CFR 63, Subpart II, National Emission Standards for Shipbuilding and Ship Repair (Surface Coating). No new NESHAPs apply to this facility.

V. Schedule of Compliance

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

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

<u>Changes to permit:</u>
None

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.

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.

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

Changes to permit:

The permit condition #18943 for S-13 Diesel Engine will be deleted and replaced with condition #24809 because the engine was incorrectly permitted as an emergency standby engine when it is actually operated as a prime engine.

Permit condition #24810 for S-15 Prime Diesel Generator Engine will be added to the permit.

Permit condition #23507 for S-16 Abrasive Blast Room will be added to the permit.

VII. Applicable Limits and Compliance Monitoring Requirements

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

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

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

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

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of 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_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-13 Prime Diesel Engine, Dry Dock S-15 Prime Diesel Generator Engine	BAAQMD 9-1-301	Ground level concentrations of SO2 shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None

SO2 Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO_2 concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). S-13 Prime Diesel Engine and S-15 Prime Diesel Generator Engine will be fired on low-sulfur California diesel fuel with a maximum sulfur content of 0.05% by weight and therefore will not emit large amounts of SO_2. As a whole the facility will not emit large quantities of SO2 and will not cause significant ground level SO2 concentrations. Therefore, ground level monitoring will not be required by the APCO to determine compliance with Regulation 9-1-301.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-13 Prime Diesel Engine, Dry Dock, S-15 Prime Diesel Generator Engine	BAAQMD Regulation 6-1-303.1	Ringelmann 2.0	None
S-13 Prime Diesel Engine, Dry Dock, S-15 Prime Diesel Generator Engine	BAAQMD Regulation 6-1-310	0.15 gr/dscf	None

PM Discussion:

BAAQMD Regulation 6, Rule 1 "Particulate Matter, General Requirements"

Visible Emissions

BAAQMD Regulation 6-1-303.1 limits visible emissions from internal combustion engines to no darker than 2.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Because the S-13 Prime Diesel Engine and S-15 Prime Diesel Generator Engine will be fired exclusively on California low-sulfur diesel fuel, visible emissions are not expected. In addition, the engines are only operated on a limited basis while ships are being moved into or out of the associated dry dock. Therefore, no monitoring will be required to verify compliance with Regulation 6-1-303.1.

Particulate Weight Limitation

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from "heat transfer operations" to 0.15 gr/dscf @ 6% O_2. These are the "grain loading" standards.

S-13 Prime Diesel Engine particulate emissions are calculated as follows:

(0.998 g PM/bhp-hr)(320 bhp)(lb/453.6 g)(7000 gr/lb)(hr/60 min)/(720 dscfm)
= 0.11 gr/dscf

The source complies with the grain loading standard in Regulation 6, Section 310.

S-15 Prime Diesel Generator Engine particulate emissions are calculated as follows:

(0.998 g PM/bhp-hr)(155 bhp)(lb/453.6 g)(7000 gr/lb)(hr/60 min)/(360 dscfm)
= 0.11 gr/dscf

The source complies with the grain loading standard in Regulation 6, Section 310.

Changes to permit:

The "type of limit" has been changed to "FP" for BAAQMD Regulation 6-310 and 6-311, since it is a filterable particulate standard.

Table VII-F for S-15 Prime Diesel Generator Engine will be added to the permit.

Table VII-G for S-16 Abrasive Blast Room will be added to the permit.

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.

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.

Changes to permit:
None

X. Glossary

Changes to permit:
The glossary was updated.

XI. Appendix A - State Implementation Plan

Changes to permit:
This section has been deleted. The address for EPA's website is now found in the introductions to Sections III and IV of the permit.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

A _____ office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, presents a review of the compliance record of _____ (Site #: _____). The Compliance and Enforcement Division staff has reviewed the records for _____ for the period between _____ through _____. This review was initiated as part of the District evaluation of an application by _____for a Title V permit. During the period subject to review, activities known to the District include:

- There were no Notices of Violation issued during this review period.
- The District did not receive any alleged complaints.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.
- There were no monitor excesses or equipment breakdowns reported or documented by District staff.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was originally submitted on April 21, 2010. This version is the basis for constructing the proposed Title V permit. Revisions were made to the Title V renewal application 21887 as a result of changes at the facility that were made pursuant to permit application 22494. Changes to the permit ***conditions, application, sources, etc.*** include the following:

S-13 Prime Diesel Engine, Drydock was incorrectly permitted as a standby engine. The permit description and permit conditions were changed to reflect its operation as a prime engine under application 22494. The permit evaluation is attached as Appendix C to the statement of basis.

S-15 Prime Diesel Engine, Pier was incorrectly permitted as a standby engine. The permit description and permit conditions were changed to reflect its operation as a prime engine under application 22494. The permit evaluation is attached as Appendix C to the statement of basis.

APPENDIX A

BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

March 3, 2011

TO: BRIAN BATEMAN – DIRECTOR OF ENGINEERING

FROM: KELLY WEE – DIRECTOR OF ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

BAE SYSTEMS SAN FRANCISCO SHIP REPAIR INC. SITE #A3288

Background

This review was initiated as part of the District evaluation of an application by BAE Systems San Francisco Ship Repair Inc. 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 five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Compliance Review

Staff reviewed BAE Systems San Francisco Ship Repair Inc. Annual Compliance Certifications for 3/1/2006 to 3/1/2011 and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for BAE Systems San Francisco Ship Repair Inc for 3/1/2010 through 3/1/2011. During this period BAE Systems San Francisco Ship Repair Inc. activities known to the District include:

> The District issued three(3) Notices of Violation. One was issued for the 2nd semi-annual monitoring report and annual certification submission after the due date, one was issued for failure to submit the Title V permit renewal application and one was issued for exceeding their through put limit for their sandblasting operation. These violations all returned to compliance before the end of the review period. BAE personnel have implemented procedures to prevent these violations from occurring in the future.

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The District did not receive any air pollution complaints alleging BAE Systems San Francisco Ship Repair Inc. as the source.

The District did not receive any notifications for Reportable Compliance Activities (RCA).

There is an enforcement agreement for BAE Systems San Francisco Ship Repair Inc due to the late submittal of their Title V permit renewal application. BAE Systems San Francisco Ship Repair Inc is in compliance with the agreement conditions.

Conclusion

The Compliance and Enforcement Division has made a determination that for the five year period BAE Systems San Francisco Ship Repair Inc was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule.

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BAE Systems-BAAQMD
Compliance and Enforcement Agreement

This Compliance and Enforcement Agreement is entered into this 27 day of August, 2010, between BAE Systems San Francisco Ship Repair Inc. ("BAE") and the Bay Area Air Quality Management District ("BAAQMD" or "District"), hereinafter collectively referred to as the "Parties."

RECITALS

WHEREAS,

A. The District is the regional agency with primary responsibility for the control of air pollution from stationary sources in the San Francisco Bay Area Air Basin; and,

B. BAE leases from the Port of San Francisco and operates a shipyard ("Facility") in San Francisco, California; and,

C. The Facility is subject to Title V of the Federal Clean Air Act, and has been operating under a valid Title V permit (referred to herein as the "Title V Permit," and which is also referred to in District Regulations as a "Major Facility Permit"), issued by the District pursuant to District Regulation 2-6; and,

D. An application for renewal of the Title V Permit was due on March 12, 2010; and,

E. BAE submitted an application for renewal of the Title V Permit on April 21, 2010 ("Application for Renewal"); and,

F. Because the Title V renewal application was submitted late, the Title V Permit will expire on September 12, 2010 if not reissued by that date; and,

G. The District anticipates that it will not be able to issue a renewal to the Title V Permit by September 12, 2010; and

H. Given that BAE serves an important function to the local, regional, and national economy by providing a maintenance facility for marine vessels, the District believes BAE should be allowed to continue to operate notwithstanding the anticipated expiration of the Title V permit until such time as the District determines whether to renew and reissue the Title V Permit; and,

I. The District believes a civil penalty is appropriate to resolve the non-compliance associated with late submittal of the Title V renewal application. The Parties wish to resolve all outstanding violations pertaining to the Facility in this Agreement, including those alleged in Notices of Violation 47420, 47421, 47422, 47423; and

J. the District is vested with:

(i) enforcement authority for the air pollution control program in accordance with California Health & Safety Code Sections 40001, 40701, 40752, 42400-42421, and

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42451-42454; and

(ii) discretion over the application of this enforcement authority given the facts and circumstances of each enforcement matter;

NOW, THEREFORE, based on the foregoing recitals, and in consideration of the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

AGREEMENT

1. **Civil Penalty:** BAE shall pay a Civil Penalty to the District in the amount of TWENTY-SEVEN THOUSAND DOLLARS ($27,000.00). Payment in satisfaction of this Paragraph shall be mailed to:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
OFFICE OF DISTRICT COUNSEL
BRIAN C. BUNGER, DISTRICT COUNSEL
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109

2. **Compliance Obligations:** During the Term of the Agreement, BAE shall comply with all terms and conditions of its Title V Permit as if the permit were in full force and effect. Any incident of non-compliance with the terms and conditions of the Title V Permit during the Term of the Agreement will subject BAE to enforcement consistent with the authorities in Health & Safety Code Sections 42400 through 42410. Discrete and occasional violations of the terms and conditions of the Title V Permit shall not be considered grounds for termination of this Agreement per Paragraph 7 below.

3. **Continued Operation Pending Compliance:**

A. Provided BAE:

(i) pays the penalty described in Paragraph 1 above; and

(ii) consistent with Paragraph 2 above, complies with the terms and conditions of the Title V Permit during the Term of the Agreement; and

(iii) is otherwise in compliance with the terms of this Settlement Agreement;

the District shall not, during the Term of the Agreement, seek an injunction or abatement order or otherwise take legal action against BAE seeking to force BAE to cease operation on the grounds that it does not have a valid Title V Permit.

B. Nothing in this paragraph shall preclude the District from taking enforcement action of any kind with respect to violations of District regulations related to facts and circumstances other than those described in this Settlement Agreement, or from taking action to enforce the terms of this Settlement Agreement.

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4. **Settlement and Release of Claims:** BAE's compliance with this Agreement and payment of the Civil Penalty as provided in Paragraph 1 above will settle, resolve, and conclude the allegations stated herein and all claims that have been or could have been asserted between the District and BAE for or relating to the allegations that are the basis for NOVs 47420, 47421, and 47422, 47423 and for operation without a Title V Permit for Term of the Agreement. As consideration for payment of the Civil Penalty, the District hereby releases BAE, its parents, affiliates, subsidiaries, divisions, and successors-in-interest, including any of its officers, directors, agents, servants, employees or representatives, from any and all liabilities, claims, causes of action, damages, fines, costs, attorneys' fees, or civil or criminal penalties that the District has claimed in the past, now claims, or may be able to claim in the future, for violations described in NOVs 47420, 47421, 47422, 47423 and for violations related to operating without a Title V permit during the Term of the Agreement

5. **Reservation of Rights:** The District reserves the right to rely upon the alleged violations described herein and may offer proof thereof in connection with any other administrative or judicial proceeding not related to this Agreement or the violations or conduct alleged herein. BAE reserves the right to contest any such showing.

6. **Term of Agreement:** This Agreement shall commence on the Execution Date and shall continue in effect until either the District takes final action on the Application for Renewal (i.e., issues or denies the application) or May 12, 2011, whichever comes first.

7. **Default of BAE**: If BAE fails to perform any of its obligations, BAE will be in violation of this Agreement and the District may at its sole discretion terminate this Agreement upon written notice to BAE, seek civil or criminal penalties, or otherwise take enforcement action against the BAE for the violation of District Regulations referenced herein. The address for the purpose of any communication with BAE concerning any default under this Agreement is:

Mr. Hugh Vanderspek
General Manager
BAE Systems San Francisco Ship Repair Inc.
Foot of 20th Street/P.O. Box 7644
San Francisco, CA 94120-7644

With a copy to:

BAE Systems Ship Repair Inc.
Legal Department
2205 East Belt Street, Foot of Sampson Street
San Diego, CA 92113

8. **Limitations of Agreement:** This Agreement is binding upon BAE and the District only with respect to the matters specifically addressed and does not otherwise bind the BAE and/or the District.

9. **Successors Bound:** The terms of this Agreement shall inure to the benefit of and be binding upon the Parties and their respective predecessors, successors, subsidiaries, partners, limited partners, agents, principals, and assigns.

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10. **Savings Clause:** If any provision of this Agreement or the application of this Agreement to either BAE or the District or both is held by any judicial authority to be invalid, the application of such provision to the other Party and the remainder of this Agreement shall remain in force and shall not be affected thereby, unless such holding materially changes the terms of this Agreement.

11. **Understanding of Agreement and Authority to Sign:** Each of the undersigned represents and warrants that he or she has read and understands and has full and complete lawful authority to grant, bargain, convey, and undertake the rights and duties contained in this Agreement, and that he or she has full and complete lawful authority to bind any respective principals, successors, subsidiaries, partners, limited partners, agents and assigns to this Agreement. Each of the undersigned understands and agrees that this representation and warranty is a material term of this Agreement, without which it would not have been executed.

12. **Opportunity to Consult with Counsel:** The Parties affirm and acknowledge they have read this Agreement, that they know and understand its terms, and that they have signed it voluntarily and after the opportunity to seek the advice of counsel of their own choosing. The Parties have had the opportunity to consult with their attorneys and any other consultant each deemed appropriate prior to executing this Agreement.

13. **California Law Governs:** This Agreement shall be governed by and construed in accordance with the laws of the State of California notwithstanding the choice-of-law rules of California or any other state.

14. **Integrated Agreement:** The mutual obligations and undertakings of BAE, on the one hand, and the District, on the other hand, expressly set forth in this Agreement are the sole and only consideration of this Agreement and supersede and replace all prior negotiations and proposed agreements between the BAE and the District, written or oral, on the specific matters addressed in this Agreement. BAE and the District each acknowledge that no other party, nor the agents nor attorneys of any other party, has made any promise, representation or warranty whatsoever (express or implied), not contained herein, to induce the execution of this Agreement. This Agreement constitutes the full, complete and final statement of BAE and the District on the matters addressed by this Agreement.

15. **Paragraph Headings:** The paragraph headings in this Agreement, which appear in bold-face type at the beginning of each Paragraph, are inserted only for convenience and ease of reference and are not to be considered in the interpretation of any provision of the Agreement.

16. **Signature by Counterparts:** This Agreement may be executed in one or more counterparts, each of which shall have the same force and effect as an original, but all of which together shall constitute one and the same instrument.

17. **Joint Preparation:** BAE and the District have jointly prepared this Agreement. This Agreement shall be deemed to have been jointly drafted by the Parties for the purpose of applying any rule of construction to the effect that ambiguities are to be construed against the party drafting the agreement.

18. **Amendments:** This Agreement may be amended and supplemented only by a written instrument signed by both BAE and the District or their successors-in-interest. However, such

execution may be in counterparts and, when so executed, shall be deemed to constitute one and the same document.

19. **Breach:** Any material breach of this Agreement by either Party shall make the Agreement subject to termination upon notice by the non-breaching Party.

20. **Waiver:** The waiver of any provision or term of this Agreement shall not be deemed as a waiver of any other provision or term of this Agreement. The mere passage of time, or failure to act upon a breach, shall not be deemed as a waiver of any provision or term of this Agreement.

21. **Execution Date, Term and Expiration.** The Execution Date of this Compliance and Enforcement Agreement shall be the date the Executive Officer of the District executes it. This Compliance and Enforcement Agreement and all of its terms and conditions shall become effective as of the Execution Date and shall be final and binding upon the Parties.

IN WITNESS WHEREOF, the Parties acknowledge, agree to and accept this Agreement.

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT
939 Ellis Street
San Francisco, CA 94109

By: _____
Jack P. Broadbent
Air Pollution Control Officer/
Chief Executive Officer

Date: 9/8/10

Approved as to form:

_____
Adan Schwartz
District Counsel

Date: 9/3/10

BAE SYSTEMS SAN FRANCISCO SHIP
REPAIR INC.
Foot of 20th Street
San Francisco, CA 94120

By: _____
Hugh Vanderspek
General Manager

Date: 8/30/10

Approved as to form:

_____
Raymond Parra
Senior Counsel, BAE Systems Ship Repair Inc.

Date: 8/27/10

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APPENDIX B

GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority which allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

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)

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from

new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

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

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

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

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

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

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.

SO2
Sulfur dioxide

THC
Total Hydrocarbons (NMHC + Methane)

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

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

TPH
Total Petroleum Hydrocarbons

~~**TRMP**~~
~~Toxic Risk Management Plan~~

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
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^2	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
tpy	=	tons per year
yr	=	year

APPENDIX C

Application 22494 Evaluation Report

(i) ENGINEERING EVALUATION

BAE Systems San Francisco Ship Repair Inc
Plant: 3288
Application: 22494

BACKGROUND

BAE Systems San Francisco Ship Repair Inc has applied to change the conditions for the following equipments:

S-13 Auxiliary Harbor Craft Engine on Dry dock #2
Caterpillar, Model D336, Model Year: 1965
320 BHP, 1.92 MMBTU/hr
S-15 Diesel Generator for Eureka Dry dock
Komatsu, Model 56D105, Model Year: 1965
154.8 BHP, 1.01 MMBTU/hr

Located at Foot of 20th Street, San Francisco, CA 94120

S-13 and S-15 have been in operation since 1965 and were thus installed before May 17, 2000 when Regulations 1 and 2 were modified to require engines at or greater than 50 HP to require a Permit to Operate. Consequently, S-13 and S-15 were "Loss-Of-Exclusion" (LOE) sources i.e., a source that was previously excluded from permitting per section 1-110.2, which was later deleted on May 17, 2000. S-13 and S-15 are not subject to the New Source Review Requirements (i.e. NSPS, BACT, cumulative increase, offsets, toxic review, public notification requirements triggered by proximity to a K-12 school), but they are subject to the Airborne Toxic Control Measure (ATCM).

S-13 and S-15 were previous permitted in the District as Emergency Standby generators which were later found out not to be the case since both S-13 and S-15 are performing non-emergency operations (ballasting and deballasting in the drydocks and/or shipyards). The applicant decided to apply for Administrative Condition Changes after discussion with the staffs of the Engineering Division. Conditions for S-13 are to be changed to reflect requirements in the ATCM for Harbor Craft and District Regulations. Conditions of S-15 are to be changed to "Low-use" prime engine to reflect the requirements in the ATCM for Stationary Compression Ignition Engines and the District Regulations. There will be no emission increase due to the condition changes.

S-13 is an auxiliary engine on a floating dry-dock, which is considered to be a Harbor Craft under the definition in ATCM Section 93118.5. Airborne Toxic Control Measure for Commercial Harbor Craft

ATCM 93118.5(d)(36)

"Harbor Craft" (also called "Commercial Harbor Craft") means any private, commercial, government, or military marine vessel including, but not limited to, passenger ferries, excursion vessels, tugboats, ocean-going tugboats, towboats, push-boats, crew and supply vessels, work boats, pilot vessels, supply boats, fishing vessels, research vessels, U.S. Coast Guard vessels, hovercraft, emergency response harbor craft, and barge vessels that do not otherwise meet the definition of ocean-going vessels or recreational vessels.

ATCM 93118.5(d)(84)

"Vessel" or "Marine Vessel" means any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, except those used primarily for recreation.

S-13 is not subject to ATCM section 93115. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines. Since S-13 is an auxiliary engine on a floating dry dock.

S-15 is a Prime Engine located on land and provides electric power to the Eureka dry-dock nearby, so S-15 is subject to ATCM for In-use Prime Stationary Compression Ignition Engines. (ATCM 93115.7(b))

S-15 will operate as a "Low-use" Engine, so it will operate for less than 20 hrs/yr and is thus exempt from the provision of ATCM 93115.7(b)(1) [Basis: ATCM 93115.3(j)]

EMISSIONS

There is no limit on operating hour0073 for S-13 since ATCM 93118.5(e)(6) does not apply to engines on dry-docks. The operation hours for S-13 will be assumed based on its regular operating schedule, which is about 80 hrs/yr max.
S-15 can only be allowed the maximum of 20 hours per year to qualify for low usage.

Basis for S-13:
320 hp output rating
80 hr/yr of operation
14 gallons/hr max fuel use rate

Basis for S-15
154.8 hp output rating
20 hr/yr operation
7.4 gallons/hr max fuel use rate

For S-13 and S-15
Since no emission factors where provided and a CARB Executive order was not issued for this engine, the AP-42 emission factors were used:

NOx	14.07 g/bhp-hr
CO:	3.03 g/bhp-hr
THC (~POC):	1.12 g/bhp-hr
PM_{10}:	1.00 g/bhp-hr)

Annual Emissions:

Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance. See Table 1.

Daily Emissions:
Daily emissions are calculated based on 24-hr/day. See Table 1 and Table 2 for emissions detail.

Table 1 – Estimated Emissions from S-13

From CARB/EPA Certified Data Pollutant	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NOx	14.07	793.37	0.3967	238.01
POC	1.12	63.15	0.0316	18.95
CO	3.03	170.85	0.0854	51.26
PM10	1.00	56.39	0.0282	16.92
SO2*	0.001515	0.12	0.00006	0.04

Note: * From Table 3.4-1 of AP-42 lb SO2/MMBTU
15ppm ULSD

Table 2- Estimated Emissions from S-15

From CARB/EPA Certified Data Pollutant	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NOx	14.07	95.95	0.0480	115.14
POC	1.12	7.64	0.0038	9.17
CO	3.03	20.66	0.0103	24.80
PM10	1.00	6.82	0.0034	8.18
SO2*	0.001515	0.03	0.00002	0.04

Note: * From Table 3.4-1 of AP-42 lb SO2/MMBTU
15ppm ULSD

PLANT CUMULATIVE INCREASE

Emissions from S-13 and S-15 do not count towards the facility's cumulative increase since S-13 and S-15 is not defined as a new or modified source pursuant to Regulation 2-1.

TOXIC RISK SCREENING ANALYSIS

S-13 and S-15 are not subject to any of the requirements in the District's Regulation 2, Rule 5. A Toxic Risk Screen Analysis was not required for this source since S-13 and S-15 are neither a new nor modified source, and are not subject to Regulation 2-1-316.

BACT and OFFSETS

S-13 and S-15 are not subject to BACT requirements from Regulation 2-2 because they are a Loss-Of-Exemption source. Offsets are not required because S-13 and S-15 are neither a new nor modified source pursuant to Regulation 2-1 nor 2-2.

CARB Stationary Diesel Engine ATCM

The State Office of Administrative Law approved the Airborne Toxic Control Measure (ATCM) on November 8, 2004. State law requires the local air districts to implement and enforce the requirements of the ATCM.

Effective January 1, 2005, in-use prime CI engines that are greater than 50 bhp and are not certified to any Tier level are required to meet the following PM limit

1) 85% reduction from baseline levels; or
2) 0.01g/hp-hr ; or
3) 30% reduction from baseline levels and 0.01 g/hp-hr by no later than July 1st, 2011.

(Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.7 (b)(1)).

ATCM 93115.3 (j) Request for Exemption for Low-Use Prime Engines Outside of School Boundaries:
The district APCO may approve a Request for Exemption from the provisions of section 93115.7(b)(1) for any in-use stationary diesel-fueled Cl engine located beyond school boundaries, provided the approval is in writing, and the writing specifies all of the following conditions to be met by the owner or operator:
(1) the engine is a prime engine;
(2) the engine is located more than 500 feet from a school at all times;
(3) the engine operates no more than 20 hours cumulatively per year.
(Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.3 (j)).

Note: the written approval from the District is attached to the engineering evaluation.

S-15 is an "in-use" prime engine, and the engine is located more than 500 feet from a school at all times; S-15 is allowed up to 20 hrs of operation and is exemption from the PM limit in ATCM 93115.7(b)(1)

CARB Commercial Harbor Craft ATCM

"Commercial Harbor Craft ATCM" Section 93118.5(e)(6) In-Use Engines and Vessels – Schedules for Meeting Tier 2 or Tier 3 Standards.

Section 93118.5(e)(6)(A) For Pre-Tier 1 and Tier-1 Certified Engines on Ferries, Excursion Vessels, Tugboats, Towboats, Push Boats, and Multipurpose Harbor Craft Only.

Section 93118.5(e)(6)(A) (1). Applicability.
This subsection (e)(6) applies to any person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires an in-use ferry, excursion vessel, tugboat, towboat, push boat, or multipurpose harbor craft with a pre-Tier 1 or Tier-1 certified engine for use in any of the Regulated California Waters. This subsection applies to all such engines on all such vessels.

S-13 is not subject to requirement for meeting Tier 2 or Tier 3 Standards since S-13 is not classified as an in-use ferry, excursion vessel, tugboat, towboat, push boat, or multipurpose harbor craft.

S-13 is subject to 93118.5(g) recordkeeping requirements.

STATEMENT OF COMPLIANCE

Source S-13 and S-15 are subject to and expected to be in compliance with the requirements of District Regulation 1-301 (*Public Nuisance*), Regulation 6-1-303 (*Ringelmann No. 2 Limitation*), Regulation 9-1 (*Sulfur Dioxide*) and Regulation 9-8 (*NOx and CO from Stationary Internal Combustion Engines*). In order to ensure compliance with the requirements of these regulations, the facility will be conditionally permitted to meet the requirements.

From Regulation 1-301, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property. For purposes of this section, three or more violation notices validly issued in a 30 day period to a facility for public nuisance shall give rise to a rebuttable presumption that the violations resulted from negligent conduct.

S-13 and S-15 are subject to the limitations of Regulation 6-1-303 (*Ringelmann No. 2 Limitation*). Regulation 6, Rule 1, Section 303 states that a person shall not emit for a period or periods aggregating more than three minutes in any hour, a visible emission that is as dark or darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, nor shall said emission, as perceived by an opacity sensing device in good working order, where such device is required by District Regulations, be equal to or greater than 40% opacity. This low PM10 emitting engine is not expected to produce visible emissions or fallout in violation of this regulation, and it will be assumed to be in compliance with Regulation 6 pending a regular inspection

S-1 is also subject to the SO_2 limitations of Regulation 9-1-301 (*Limitation on Ground Level Concentrations of Sulfur Dioxide*), Regulation 9-1-302 (*General Emission Limitation*) and 9-1-304 (*Fuel Burning*). From Regulation 9-1-301, the ground level concentrations of SO_2 will not exceed 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours. Per Regulation 9, Rule 1, Section 302, a person shall not emit from any source a gas stream containing sulfur dioxide in excess of 300 ppm (dry). And Regulation 9, Rule 1, Section 304, states that a person shall not burn any liquid fuel having sulfur content in excess of 0.5% by weight. Compliance with both Regulations 9-1-302 and 9-1-304 is likely since California law mandates using diesel fuel with a 0.015% by weight sulfur.

Regulation 9-8 "NOx and CO from Stationary Internal Combustion Engines." From Regulation 9-8-110 and Regulation 9-8-111, this source is not subject to the requirements of Regulations 9-8-301 (*Emission Limits on Fossil Derived Fuel Gas*), 9-8-302 (*Emission Limits on Waster Derived Fuel Gas*), 9-8-304 (*Emission Limits on Compression Ignited Engines*), 9-8-501 (*Initial Demonstration of Compliance*), and 9-8-503 (*Quarterly Demonstration of Compliance*).

S-13 and S-15 are subject to Regulation 9-8-502.1 (*Recordkeeping*). The requirements of this Regulation are included in the permit conditions

This application is considered to be ministerial under the District's proposed CEQA guidelines, Regulation 2-1-311 (*Ministerial Projects*) 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 2.3.

S-13 and S-15 are not defined as a new or modified source and therefore not subject to the public notification requirements of Regulation 2-1-412 (*Public Notice and Schools*).

Offsets, PSD, NSPS, Toxic Risk Screening, and NESHAPS are not applicable.

(ii)

(iii) PERMIT CONDITIONS

For S-13,
COND# 24809 ----------
S-13 Auxiliary Harbor Craft Engine on Dry-dock #2
BAE Systems San Francisco Ship Repair Inc (Oct 2010)

1. The total hours of operation for S-13 is limited to no more than 80 hrs per year.
   [Basis: ATCM 93118.5(e)(6)]
2. Visible particulate emissions from S-13 shall not be as dark as or darker than No. 2 on Ringlemann Chart for a period or periods aggregating more than three minutes in any hour.
   [Basis: District Regulation 6-301]

3. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
   a. Hours of operation.
   b. Fuel usage for each engine(s).

   [Basis: "Stationary Diesel Engine ATCM" section 93118.5(g), title 17, CA Code of Regulations]

End of Conditions

For S-15
COND# 24810----------
S-15 Diesel Generator for Eureka Dry-dock
BAE Systems San Francisco Ship Repair Inc (Oct 2010)

1. Operating for S-15 is limited to no more than 20 hours per year.

   [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.3(j)]

2. Visible particulate emissions from S-15 shall not be as dark as or darker than No. 2 on Ringlemann Chart for a period or periods aggregating more than three minutes in any hour.

   [Basis: District Regulation 6-301]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.
   [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 60 months if the facility has been issued a Title V Major Facility Review Permit. Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
   a. Hours of operation.
   b. Fuel usage for each engine(s).

   [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or, Regulation 2-6-501)]

5. The engine shall be located more than 500 feet from a school at all times
"School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.
[Basis: "Stationary Diesel Engine ATCM" section 93115.3(j)]

End of Conditions

RECOMMENDATION

Perform a Change of Condition to **BAE Systems San Francisco Ship Repair Inc** for:

S-13 Auxiliary Harbor Craft Engine on Dry dock #2
Caterpillar, Model D336, Model Year: 1965
320 BHP, 1.92 MMBTU/hr

S-15 Diesel Generator for Eureka Dry dock
Komatsu, Model 56D105, Model Year: 1965
154.8 BHP, 1.01 MMBTU/hr

By: _____

(iv) Yu Zhang Liu

Air Quality Engineer Intern
Engineering Division

Attachment: written approval letter

APPENDIX D

Application 15850 Evaluation Report

Engineering Evaluation Report

BAE Systems San Francisco Ship Repair, P#3288
Foot of 20th Street, San Francisco
Application #15850

Background

BAE Systems San Francisco Ship Repair (BAE) has applied for an Authority to Construct and Permit to Operate an new Abrasive Blast Room. This new operation will consists of a 40'x60' enclosed work area with factory metal roll up doors for access, equipped with a pneumatic recovery system. The used blast media and other debris is collected and separated at the reclaim system through centrifugal action. Reusable blast media is collected in a 100 cubic foot storage hopper. The blaster will use emerald creek garnet abrasive to blast metal surfaces that have small to moderate amounts of rust. The entire room is abated by a cartridge type, reverse pulse dust collection system.

S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

The applicant has indicated that it meets the definition of a Small Business.

Emission Calculations

S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by
A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm
The blaster is typically equipped with 4 blasting nozzles, but not all will be used at the same time. The operation will be sporadic with the average operation and not operated at all on some days. The blasting activities including other blasting operations at this site occur 5 days/week, 52 weeks/year. The applicant has indicated it will use up to 200,000 pounds of abrasive per year. The emissions have been calculated based on the standard emission factors in the Permit Handbook for Confined Abrasive Blasting for sand (worst-case emissions) and the manufacturer's expected abatement efficiency of 99.7% by weight for the dust collector.
Annual Average Uncontrolled PM10 Emissions:
(200,000 lbs abrasive/yr)(ton/2000 lbs)(82 lbs PM10/ton abrasive) = 8,200 lbs PM10/yr
Abated Annual PM10 Emissions: (8,200 lbs PM10/yr)(1-99.7/100) = 24.6 lbs/yr = 0.0123 tpy

Although there is no limitation on maximum hours of operation per day, the maximum blasting capacity is 4800 lbs/hr, or 1200 lbs/hr/nozzle. For use of only one nozzle at a time, the maximum annual abrasive throughput of 200,000 lbs/year is equivalent to 167 hours of operation per year, which is less than an hour per day on average. The calculation of maximum daily emissions assumes operation of one nozzle for no more than 4 hours per day:
Operating time = (4 hrs/day)(1200 lbs abrasive/hr)(ton/2000 lbs) = 2.4 tons shot/day
Uncontrolled Emissions: (2.4 tons abrasive /day)(82 lbs PM10/ton abrasive) = 196.8 lbs PM10/day
Abated PM10 Emissions: (196.8 lbs PM10/yr)(1-99.7/100) = 0.59 lbs/day

Pollutant	Annual Emissions, lbs/yr	Annual Emissions, tpy	Max Daily Emissions, lbs/day
PM10	24.6	0.0123	0.59

Cumulative Increase

The cumulative increase tracks increases in emissions that have occurred at each facility. The cumulative increase for all facilities were reset in 1991. This facility has had no entries since 1991, so the emissions from this unit will become the cumulative increase.

Pollutant	Existing, tpy	Increase, tpy	New, tpy
PM10	0	0.0123	0.0123

Compliance Determination

Public Nuisance, District Regulation 1

District Regulation 1, Section 301 prohibits all sources from causing public nuisance. This source is not expected to be a source of public nuisance since the particulate emissions generated by the operation will be abated by a Dust Collector at all times.

California Environmental Quality Act (CEQA) Requirements, District Regulation 2, Rule 1

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial 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 11.1, Confined Abrasive Blasting.

Public Notice Requirements, District Regulation 2, Rule 1

The public notification requirements of District Regulation 2, Rule 1, Section 412 apply to modifications which cause an increase in Toxic Air Contaminant emissions within 1000 feet of a K-12 school. The applicant indicated that there are no K-12 schools within 1000 feet of the facility, however the District's database indicates Downtown High, 110 Bartlett Street, is located 0.13 miles (688 feet) from the site. However further review of the location of the site and school has shown that the school is actually more than a mile from the facility. There are no other schools within 1000 feet of the facility, therefore the public notice requirements do not apply.

Best Available Control Technology (BACT) Requirements, District Regulation 2, Rule 2

BACT is triggered when the maximum emissions from a source are 10 lbs per day or more. The emissions from S-16 are less than 1 lb per day, therefore BACT review is not triggered.

Emission Offsets and Prevention of Significant Deterioration (PSD) Requirements, District Regulation 2, Rule 2

The PM10 emission offset requirements are specified in District Regulation 2, Rule 2, Section 303. PM10 emission offsets must be provided for new or modifies sources located at a Major Facility that will result in a cumulative increase minus any contemporaneous reductions in excess of 1.0 ton per year since April 5, 1991. This site is a major facility subject, however the cumulative increase for the facility is less than 1.0 tons PM10 per year, therefore PM10 emission offsets are not required.

The PSD requirements in District Regulation 2, Rule 2, Section 304 apply to major modifications at a major facility. Installation of this new abrasive blasting room is not a major modification, therefore the PSD requirements do not apply.

Health Risk Assessment Requirements, District Regulation 2, Rule 5

The District's regulation concerning toxic air contaminant (TAC) emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants. All TAC emissions from new and modified sources are subject to risk assessment review, if emissions of any individual

TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1. This new abrasive blasting room, S-16, will be used to prepare metal surfaces for painting. Only unpainted metal will be blasted to remove rust. As no painted surfaces will be blasted, the source will not cause emissions of any Toxic Air Contaminant, therefore no Health Risk Screening has been required.

Major Facility Review, District Regulation 2, Rule 6

This facility is a major facility, currently subject to the requirements of 40 CFR Part 70, codified in District Regulation 2, Rule 6. This facility was required to obtain a Title V Federal Operating Permit. The District issued the initial Title V permit to this facility on June 1, 2000. The permit was renewed on September 13, 2005. The proposed installation of the new abrasive blasting room, S-16, constitutes a minor revision to the Title V permit, and the revision will be processed after action is taken on this application.

District Regulation 3, "Fees"

District Regulation 3 specifies the fees required for applications requesting Authorities to Construct, Permits to Operate, and also the operating permit fees. The applicant has paid the fees required for Small Businesses under Regulation 3.

District Regulation 6, "Particulate Matter and Visible Emissions"

The operation of S-16 is subject to the requirements in Regulation 6, "Particulate Matter and Visible Emissions." Section 301 of the rule limits visible emissions to less than Ringelmann 1, and Section 305 prohibits public nuisance due to fallout of visible particles. Visible emissions are not expected to be an issue for this operation as it is abated by a dust collector. Section 6-310 specifies the particulate weight limit from the operation to 0.15 gr/dscf. As shown below, the operation complies with this limit with an outlet grain loading from the dust collector of less than 0.0004 gr/dscf:

Hourly abrasive throughput rate = (1200 lbs abrasive/hr)(ton/2000 lbs) = 0.6 tons abrasive /hr

Uncontrolled Outlet Grain Loading:

(0.6 tons abrasive/hr)(82 lbs PM10/ton abrasive)(hr/60 min)(7000 gr/lb)/(48,000 dscf/min) = 0.12 gr/dscf

Abated Outlet Grain Loading: (0.12 grs/cf)(1-99.7/100) = 0.00036 gr/dscf

Section 6-311 also limits emissions to a specified rate according to the process weight. For a process weight of 1200 lbs/hour, the emission limit is 3.05 lbs/hour. As shown below, the operation complies with this limit.

Uncontrolled Hourly Emissions: (0.6 tons abrasive /hr)(82 lbs PM10/ton abrasive) = 49.2 lbs PM10/hr

Abated Hourly PM10 Emissions: (49.2 lbs PM10/hr)*(1-99.7/100) = 0.148 lbs/hr

District Regulation 10, Standards of Performance for New Stationary Sources

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):

Title 40 of the Code of Federal Regulations, Part 60 contains the federal standards for new stationary sources. These regulations have been adopted by reference in District Regulation 10. There are no standards that apply to abrasive blasting operations, therefore Regulation 10 and 40 CFR Part 60 do not apply to this new operation.

40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards:

Title 40 of the Code of Federal Regulations, Parts 61 (NESHAPS) and 63 (MACT) contain the federal standards for sources of hazardous air pollutant (HAP) emissions. This new abrasive blasting operation will not be a source of hazardous air pollutant emissions and there are no NESHAPs that apply to this operation.

The MACT standard, Subpart II, National Emission Standards for Shipbuilding and Ship Repair – Surface Coating, applies to shipbuilding and ship repair operations at any facility that is a major source. This facility is a major source and is therefore subject to this regulation, however the standards in the regulation apply only to surface coating operations and the handling, transfer, and storage of volatile organic HAP containing materials. The abrasive blasting room is not a surface coating operation, nor a volatile organic HAP transfer or storage operation, and is therefore not subject to Subpart II of 40 CFR Part 63.

The MACT standard, Subpart VVVV, National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing, applies to manufacturing of fiberglass or aluminum recreational boats. This facility does not manufacture or repair recreational boats, therefore Subpart VVVV of 40 CFR Part 63 does not apply.

40 CFR Part 70, State Operating Permit Programs (Title V):
This facility is currently subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6, discussed above.

Permit Condition #23507
BAE Ship Repair, P#3288
Application #15850
Conditions for S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

1. The owner/operator shall ensure that the total amount of abrasive throughput used at S-16 does not exceed 200,000 pounds of abrasive in any 12-month period.

(basis: Cumulative Increase)

2. The owner/operator shall ensure that emissions from S-16 shall be abated by the properly maintained Dust Collector, A-16, at all times that S-16 is operating.

(basis: Cumulative Increase)

3. To demonstrate compliance with the above conditions, the owner/operator of S-16 shall maintain the following records in a District-approved log:
   a. Daily throughput of abrasive at S-16, summarized on a monthly basis.
   b. Daily hours of operation for S-16 per nozzle, summarized on a monthly basis.
   c. At the end of each month, the monthly throughput and operating records shall be totaled for the previous 12 month period.

   These records shall be maintained onsite for a minimum of 5 years from the date that the record was made and shall be made available for District inspection upon request.

(basis: Cumulative Increase)

Recommendation
I recommend waiving an Authority to Construct and issuing a Permit to Operate for the following source:
S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

Tamiko Endow Date
Air Quality Engineer

APPENDIX E

Application 22063 Evaluation Report

Engineering Evaluation Report

BAE Systems San Francisco Ship Repair, P#3288
Foot of 20th Street, San Francisco
Application #22063

Background

BAE Systems San Francisco Ship Repair (BAE) has applied for a Change of Conditions for their Abrasive Blast Room, S-16. This source was permitted in 2007 with an abrasive use limit of 200,000 lbs in any 12-month period. A Notice of Violation was issued due to exceedance of this throughput limit.

The Blast Room consists of a 40'x60' enclosed work area with factory metal roll up doors for access, equipped with a pneumatic recovery system. The used blast media is collected and separated at the reclaim system through centrifugal action. Reusable blast media is collected in a 100 cubic foot storage hopper. The entire room is abated by a cartridge type, reverse pulse dust collection system. The source was originally permitted to for use of emerald creek garnet abrasive to blast only unpainted metal surfaces to remove rust.

With this application, BAE has requested a Change of Condition to allow continuous use of the Abrasive Blast Room and to also allow blasting of painted metal parts. Based on the coatings submitted for review, processing of the coated metal parts will result in emissions of toxic air contaminants (TACs). To address this issue, BAE has agreed to accept limits on processing of coated metal parts to remain below the health risk screening analysis trigger levels in District Regulation 2, Rule 5.

S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

Emission Calculations

S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System
Abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm
The emissions from the source have been evaluated at continuous operation to maximize operational flexibility. The maximum emissions resulting from continuous operation have been based on the maximum outlet grain loading (0.002 gr/dscf) supplied by the manufacturer of the dust collector and the unit's maximum exhaust flowrate.
Maximum Controlled PM10 Emissions:
(0.002 gr/dscf)(48,000 cfm)(60 min/hr)(24 hrs/day)(lb/7000 gr) = 19.7 lbs PM10/day
(0.002 gr/dscf)(48,000 cfm)(60 min/hr)(8760 hrs/yr)(lb/7000 gr) = 7,208.2 lbs PM10/yr

Table 1
Maximum Abated PM10 Emissions from S-16/A-16

Pollutant	Annual Emissions, lbs/yr	Annual Emissions, tpy	Daily Emissions, lbs/day
PM10	7,208.2	3.604	19.7

Cumulative Emission Increase

The District tracks cumulative emission increases that have occurred at each facility. The cumulative emission increases for all facilities were reset in 1991. Since that date, this facility has had one PM10 emission increase from Application 15850, the original permitting of this abrasive blasting room, S-16.

Per Regulation 2, Rule 2, Section 604, the emission increase for a modified source is calculated as the maximum permitted emission level of the modified source, minus the baseline emissions from the source. The baseline emission calculation procedure in Section 2-2-605 specifies that the baseline period consists of the 3 year period preceding the application for modification of the source, or shorter period if the source is less than 3 years in operation. However, periods where the actual emission rate exceeded regulatory or permitted limits must be excluded from this average.

S-16 was issued a Permit to Operate under Application 15850 in April, 2007. The source was issued a permit condition limiting abrasive use to 200,000 lbs throughput in any 12-month period. For the first year of operation, beginning 9/2007, the source was operated within the permit condition limits with an approximated total abrasive throughput of 160,837 tons for the year, as reported by the Applicant. For second full year of operation, the source exceeded the permit limit on abrasive throughput. The source was shutdown in April 2010, part way through the 3rd year of operation when the violation of the permit conditions was noted. Since the permitted abrasive throughput limit was exceeded for the second and partial third year of operation, the baseline emissions have been based on the actual emissions from year 1 only.
September 2007 - August 2008: 160,837 lbs abrasive

With this baseline usage rate and the emission factors used to estimate emissions from this source when originally permitted under Application #15850 (82 lbs PM10/ton abrasive from the District's Permit Handbook Chapter for confined abrasive blasting and 99.7% control by weight for the dust collector), the baseline emissions for this source are 19.8 lbs/yr or 0.0099 tpy. The difference between the maximum post-modification emissions (3.604 tpy) and the baseline emissions is 3.594 tpy. This increase will be added to the cumulative emission increases for this facility, as summarized in Table 2 below.

Table 2
Cumulative PM10 Emission Increase, Plant 3288

Pollutant	Existing, tpy	Increase, tpy	New, tpy
PM10	0.012	3.594	3.606

Compliance Determination

District Regulation 1, Public Nuisance

District Regulation 1, Section 301 prohibits all sources from causing public nuisance. This source is not expected to be a source of public nuisance since the particulate emissions generated by the operation will be abated by a Dust Collector at all times.

District Regulation 2, Rule 1, California Environmental Quality Act (CEQA) Requirements

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial 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 11.1, Confined Abrasive Blasting.

District Regulation 2, Rule 1, Public Notice Requirements
The public notification requirements of District Regulation 2, Rule 1, Section 412 apply to modifications which cause an increase in Toxic Air Contaminant emissions within 1000 feet of a K-12 school. The applicant indicated that there are no K-12 schools within 1000 feet of the facility, however the District's database initially indicated that Downtown High, at 110 Bartlett Street, is 0.13 miles (688 feet) from the site. BAE has provided an aerial map of their facility which shows that the school is actually more than a mile from the facility. The map allowed correction of the facility's UTM coordinates in the District's database.

After correction of the UTM coordinates for this facility, the District's database now shows the closest school is 0.64 miles (3,386 feet) from the facility. As there are no schools located within 1000 feet of the facility, the public notice requirements do not apply.

District Regulation 2, Rule 2, Best Available Control Technology Requirements
Regulation 2, Rule 2, Section 301 requires Best Available Control Technology (BACT) review of new and modified sources if the potential emissions from the source equal or exceed 10 lbs per day. The PM10 emissions from S-16 based on continuous operation equal 19.7 lbs per day and therefore BACT review is triggered. BACT for enclosed abrasive blasting is found in the District's BACT/TBACT Workbook, Document 1.1, dated 12/16/1991 and is summarized below:

Table 3
BACT for Enclosed Abrasive Blasting

Pollutant	BACT2	BACT1	A-16 Emissions
PM10	0.01 gr/dscf	0.002 gr/dscf	0.002 gr/dscf

The BACT1 emission limit applies to any source that triggers BACT review, unless it can be shown that the limit is technologically infeasible or not cost effective. Under those circumstances, the less stringent BACT2 limit would apply instead. The Abrasive Blast Room, S-16, is currently abated by a Dust Collector, A-16, which per the manufacturer's specifications meets the BACT1 emission limit of 0.002 gr/dscf. Therefore, BACT has been met and will be enforced through permit conditions.

District Regulation 2, Rule 2, Emission Offsets and Prevention of Significant Deterioration (PSD) Requirements
The PM10 emission offset requirements are specified in District Regulation 2, Rule 2, Section 303. PM10 emission offsets must be provided for new or modified sources located at a PSD Major Facility that is major for PM10 emissions and which will result in a cumulative increase, minus any contemporaneous reductions, in excess of 1.0 ton per year since April 5, 1991.

For PSD, a major facility is a facility which has the potential to emit 100 tons per year or more of a regulated air pollutant if one of the source categories listed in 40 CFR Part 52.21(b)(1)(i)(a). Ship repair is not one of listed categories, and therefore falls under the definition in 40 CFR Part 52.21(b)(1)(i)(b), which defines a major facility as one with a potential to emit of 250 tons per year or more.

Fugitive emissions must be included in the analysis of potential to emit if the facility is one of the listed source categories under 40 CFR Part 52.21(b)(1)(iii). Ship repair operations are not one of the specifically identified source categories, however the list does include "any source category which is being regulated under section 111 or 112 of the Clean Air Act as of 8/7/1980." The standards for Section 112 include regulation of Shipbuilding and Ship Repair (see 40 CFR Part 63, Subpart II) however this regulation was not effective until 12/15/95. Since ship repair was not being regulated under Sections 111 or 112 of the Clean Air Act as of 8/7/80, fugitive

emissions from this facility are not included for the purpose of determining whether it is a PSD major source.

The potential PM10 emissions from this facility have been calculated on the attached spreadsheet, based on standard factors from EPA's AP-42 Compilation of Air Pollutant Emission Factors, and assumptions of continuous operation at full capacity. The potential emissions are summarized in Table 4 below:

Table 4
Maximum Potential PM10 Emissions for Plant #3288

Source#	Source Name	Non Fugitive PM10 (tpy)	Fugitive PM10 (tpy)
1	Paint Spray Operation	negligible	--
2	Sandblasting Operation	--	1,047.7
9	Packaged Boiler, natural gas	0.00002	--
10	Paint Spray Booth	negligible	--
12	Polyester Resin Operations	negligible	--
13	Diesel Engine	0.008	--
14	Boiler, natural gas	0.00002	--
15	Standby Diesel Generator	0.004	--
16	Abrasive Blasting Room	3.604	--
	Facility Total	**3.616**	1,047.7

Since the potential non-fugitive PM10 emissions from this facility do not exceed 250 tons per year, BAE Systems is not considered a major source of PM10 emissions and PM10 emission offsets are not required.

The PSD requirements in District Regulation 2, Rule 2, Section 304 apply to major modifications at a major facility. For PM10, a major modification, as defined in Regulation 2, Rule 2, Section 221, is any modification at an existing PSD major facility that will cause an increase of 15 tons PM10 per year or more. The emission increase from this Change of Condition is less than 15 tons per year and as discussed above, this facility is not major for PM10 emissions under 40 CFR Part 52, therefore the PSD requirements do not apply.

District Regulation 2, Rule 5, Health Risk Assessment Requirements
The District's regulation concerning toxic air contaminant (TAC) emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants. All TAC emissions from new and modified sources are subject to risk assessment review, if emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1.

This abrasive blasting room, S-16, was originally permitted for processing of unpainted metal surfaces only and no TAC emissions were expected to occur, therefore a health risk analysis was not required when it was originally permitted. However, BAE has now requested the permit for this source be revised to allow blasting of painted metal surfaces and has provided product data sheets for the types of coatings that will be processed. Several of the coatings contain TACs that would remain in the dry film after application and curing of the coating – specifically crystalline

silica and metal compounds (copper, cadmium, nickel, and lead compounds). The weight fractions of these components in the dry film has been supplied by the coating manufacturers.

To evaluate whether processing of these coatings would trigger the Health Risk Analysis requirement in Regulation 2, Rule 5, the maximum emissions of each TAC were assessed. Based on a worst case assumption that that each coating would be processed full time at S-16, the associated maximum emissions calculated in the attached spreadsheet. These worst case hourly and annual TAC emissions are summarized below:

Table 5
Worst-Case TAC Emissions from Coatings
Based on Unlimited Operation

Coating	TAC Content	Potential Annual TAC Emissions (lbs/yr)	Rule 2-5 Chronic Trigger (lbs/yr)	Potential Acute TAC Emissions (lbs/hr)	Rule 2-5 Acute Trigger (lbs/hr)
Amercoat 235 Epoxy	None				
Amerlock 2 VOC Epoxy	None				
Interguard 264 Enamel	None				
Amercoat 140 Enamel	None				
Amershield Black Urethane	None				
Interthane 990HS Urethane	Crystalline Silica	1.2E-01	1.2E+02		
Interspeed 640 Black Antifoulant	**Cadmium Compnds** Copper Compnds **Lead Compnds** Nickel Compnds Crystalline Silica	**7.7E-02** **9.4E+00** 2.4E-01 1.7E-01	2.6E-02 3.2E+00 4.3E-01 1.2E+02	 1.0E-02 2.7E-05	 2.2E-01 1.3E-02
PPG Industries ABC #3 Black Antifoulant	**Copper Compnds** **Lead Compnds**	 **4.6E+00**	 3.2E+00	**3.9E-01**	2.2E-01

As shown above, the Interthane Urethane contains crystalline silica, but does not contain enough of this TAC to exceed the trigger level, even if this coating was processed continuously at S-16 for the entire year. Therefore, processing of this coating does not trigger a Health Risk Analysis under Regulation 2, Rule 5. The epoxy coating formulations, the enamel formulations, and the Amershield Urethane formulation do not contain any TAC compounds that would remain in the dry coating, therefore processing of these coatings also does not trigger a Health Risk Analysis.

The emissions of three metal TACs (cadmium, copper, and lead compounds) from processing of antifoulant coatings could result in emissions exceeding the Health Risk Analysis Trigger levels, if surfaces covered with these coatings were processed for the entire year. BAE has indicated

that processing of coated surfaces is just a portion of the operation of S-16 and has agreed to accept specific permit condition limits to prevent emissions of these TACs from exceeding the respective risk screening trigger levels.

The maximum number of hours that surfaces coated with these antifoulants can be processed without exceeding the risk screening trigger levels has been assessed on the attached spreadsheet. Processing of the PPG Antifoulant must be limited to maintain emissions below the acute exposure level for copper compounds; a limit of 30 minutes/hour accomplishes this. Both antifoulant coatings contain lead; since the Interspeed 640 Black Antifoulant contains a higher level of lead, the limitation on this coating of 2,900 hours per year will also be adequate to limit the lead emissions from the PPG Antifoulant to below the chronic trigger level. The annual limitation of 2,900 hours for processing of the two antifoulant coatings and an additional hourly limit of 30 minutes/hour for the PPG Antifoulant will result in the TAC emissions summarized in Table 6 below.

Table 6
Maximum TAC Emissions for Antifoulant Coatings
Based on Specified Hourly and Annual Limitations

Coating	TAC Content	Maximum Annual TAC Emissions (lbs/yr)	Rule 2-5 Chronic Trigger (lbs/yr)	Maximum Acute TAC Emissions (lbs/hr)	Rule 2-5 Acute Trigger (lbs/hr)
Interspeed 640 Black Antifoulant	Based on 2900 hours/yr:				
	Cadmium Compnds	2.5E-02	2.6E-02		
	Copper Compnds			1.0E-02	2.2E-01
	Lead Compnds	3.1E+00	3.2E+00		
	Nickel Compnds	7.9E-02	4.3E-01	2.7E-05	1.3E-02
	Crystalline Silica	5.5E-02	1.2E+02		
PPG Industries ABC #3 Black Antifoulant	Copper Compnds (30 min/hour)			2.1E-01	2.2E-01
	Lead Compnds (2900 hours/yr)	1.5E+00	3.2E+00		

Since the processing limitations above will ensure that TAC emissions remain less than the trigger levels in Table 2-5-1, a Health Risk Screening Analysis is not required by Regulation 2, Rule 5. These limitations will be included in the permit conditions and compliance with these limits will be tracked through recordkeeping.

District Regulation 2, Rule 6, Major Facility Review

The Title V federal permitting requirements of 40 CFR Part 70 have been codified and are enforced through District Regulation 2, Rule 6. This facility is a Title V major facility and was required to obtain a Title V Federal Operating Permit. The District issued the initial Title V permit to this facility (previously San Francisco Drydock) on June 1, 2000. The permit was renewed on September 13, 2005 and renewal of the Title V permit is currently being processed under Application 21887. This proposed change in permit conditions for the abrasive blasting room below will be included in the Title V permit renewal currently being developed.

District Regulation 3, "Fees"

District Regulation 3 specifies the application fees for this Change of Condition. BAE has paid the filing, initial, and late fees billed under Invoice 2ME39.

District Regulation 6, Rule 1, "Particulate Matter – General Requirements"
The operation of S-16 is subject to the requirements in Regulation 6, Rule 1. Section 301 of the rule limits visible emissions to less than Ringelmann 1, and Section 305 prohibits public nuisance due to fallout of visible particles. Visible emissions and public nuisance are not expected to be an issue for this operation, as it is abated by a dust collector.

Section 6-1-310 specifies the particulate weight limit of 0.15 gr/dscf. Per the manufacturer, the dust collector that abates the Abrasive Blasting Room meets an outlet grain loading of 0.002 gr/dscf. Therefore compliance with Section 6-1-310 is expected.

District Regulation 10, Standards of Performance for New Stationary Sources

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):

Title 40 of the Code of Federal Regulations, Part 60 contains the federal standards for new stationary sources. These regulations have been adopted by reference in District Regulation 10. There are no standards that apply to abrasive blasting operations, therefore Regulation 10 and 40 CFR Part 60 do not apply to this new operation.

40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):

Title 40 of the Code of Federal Regulations, Part 61 (NESHAPS) contains the federal standards for sources of hazardous air pollutant (HAP) emissions. There are no NESHAPs that apply to this operation.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards

Subpart II, Shipbuilding and Ship Repair

Title 40 of the Code of Federal Regulations, Part 63, Subpart II applies to shipbuilding and ship repair operations at any facility that is a major source and which applies coatings in excess of 264 gallons per year or more.

This facility is a major source and greater than 265 gallons of coating per year are applied at the the paint spray operations at this facility. Therefore, this facility is subject to Subpart II, however the standards in the regulation apply only to surface coating operations and the handling, transfer, and storage of volatile organic HAP containing materials. The abrasive blasting room is not a surface coating operation, nor a volatile organic HAP transfer or storage operation, and is therefore not subject to Subpart II of 40 CFR Part 63.

Subpart VVVV, Boat Manufacturing

Title 40 of the Code of Federal Regulations, Part 63, Subpart VVVV applies to manufacturing of fiberglass boats or aluminum recreational boats. This facility does not manufacture or repair recreational boats, therefore Subpart VVVV of 40 CFR Part 63 does not apply.

Subpart HHHHHH, Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

Title 40 of the Code of Federal Regulations, Part 63, Subpart HHHHHH applies to area sources of methylene chloride paint stripping, autobody refinishing, and spray coating of compounds containing chromium, lead, manganese, nickel, or cadmium to metal or plastic parts other than motor vehicles or mobile equipment. This facility does perform spray coating of metal parts with compounds containing the listed metal HAPs, however the facility is a major source and subject to Subpart II for this operation. Since the coating operations at this facility meet the definition of major source, this facility is not an area source, and therefore Subpart HHHHHH of 40 CFR Part 63 does not apply.

Subpart XXXXXX, Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

Title 40 of the Code of Federal Regulations, Part 63, Subpart XXXXXX applies to area sources with the potential to emit metal fabrication or finishing metal HAP (MFHAP) of cadmium, chromium, lead, manganese, and nickel compounds or any of these metals in the elemental form, except lead, and which are primarily engaged in one of the following operations: electrical and electronic equipment finishing/manufacturing, fabricating metal products, fabricated plate work (boiler shops), fabricating structural metal, manufacturing non-electric heating equipment, industrial machinery and equipment finishing/manufacturing, iron and steel forging, primary metal products manufacturing, and valves and pipe fitting manufacturings.

Although the facility does cause emissions of the listed metal HAPs, the facility does not manufacture or fabricate any of the electronic equipment, metal products, plate work, structural metal, heating equipment, industrial equipment/machinery, valves/pipes, or the miscellaneous metal products listed in Table 1 of Section 63.11523. In addition, the facility does not forge iron or steel. Therefore, Subpart XXXXXX of 40 CFR Part 63 does not apply.

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is currently subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6, discussed above.

Permit Conditions

The existing permit condition will be modified as shown below in strikeout/underline formatting:

Permit Condition #23507
BAE Ship Repair, P#3288
Applications #15850, 22063

Conditions for S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

1. The owner/operator shall ensure that only unpainted metal surfaces and metal surfaces coated with the following coatings are processed at S-16 :

Amercoat 235 Epoxy
Amerlock 2 VOC Epoxy
Amercoat 140 Enamel
Interguard 264 Enamel

Amershield Black Urethane
Interhane 990HS Urethane
Interspeed 640 Black Antifoulant Coating
PPG Industries ABC #3 Black Antifoulant Coating
(basis: Cumulative Increase, Regulation 2, Rule 5)

2. The owner/operator shall ensure that processing of coated metal surfaces at S-16 does not exceed the following limits:
   a. Combined limit for both the Interspeed 640 Black and PPG Industries ABC #3 Black Antifoulant Coatings: 2,900 hours in any consecutive 12-month period
   b. For PPG Industries ABC #3 Black Antifoulant Coating: 30 minutes per hour

(basis: Regulation 2, Rule 5)

3. The owner/operator shall ensure that emissions from S-16 are abated by the properly maintained Dust Collector, A-16, at all times that S-16 is operating.

(basis: Cumulative Increase, BACT)

4. The owner/operator shall ensure that the emissions from A-16 do not exceed 0.002 grains per dry standard cubic foot of exhaust volume and shall ensure compliance with this limit by maintaining A-16 per the manufacturer's servicing and maintenance recommendations.

(basis: BACT)

5. To demonstrate compliance with the above conditions, the owner/operator of S-16 shall maintain the following records in a District-approved log:
   a. Daily hours of operation;
   b.
   c. For all coated parts processed at this source, a record of the coating name and the processing duration (hours);For PPG Industries ABC #3 Black Antifoulant Coating, the processing duration in minutes per hour;
   d. Maintenance records for A-16, including the date and description of service;
   e. At the end of each month, the total hours of operation from Part 5(a) shall be summed for the month;
   f. At the end of each month, the hours of operation from Part 5(b) shall be summed for the month for each coating;
   g. At the end of each month, the maximum number of minutes per hour of S-16 operation subject to Part 2(b) shall be noted for the month; and
   h. At the end of each month, the sums from Parts 5(e) and (f) shall be totaled for the previous 12 month period.

   These records shall be maintained onsite for a minimum of 5 years from the date that the record was made and shall be made available for District inspection upon request.

(basis: Cumulative Increase, BACT, Regulation 2, Rule 5, Regulation 2, Rule 6)

Recommendation

I recommend issuing a Change of Conditions for the following source:

S-16, Abrasive Blast Room with 4 Blasting Nozzles and Pneumatic Recovery System, abated by
A-16, Dust Collector, Clemco Industries Model CDF-48, 48,000 cfm

_____ _____
Tamiko Endow Date
Air Quality Engineer