



**JUL 23 2015**

Mr. Dalls Belcher  
NAS Lemoore  
750 Enterprise Ave  
Lemoore, CA 93246-5001

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)  
District Facility # C-2106  
Project # C-1142866**

Dear Mr. Belcher:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The proposed project consists of a confined abrasive blasting operation using a blasting cabinet equipped with a dust collector and located in a building.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

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Northern Region  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

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# San Joaquin Valley Air Pollution Control District Authority to Construct Application Review

## Confined Abrasive Blasting Operation

Facility Name: NAS Lemoore  
Mailing Address: 750 Enterprise Ave  
Lemoore, CA 93246-5001  
Contact Person: Dallas Belcher  
Telephone: (559) 998-2838  
Fax: (559) 998-4077  
Email: dallas.belcher@navy.mil  
Application #(s): C-2106-178-0  
Project #: C-1142866  
Deemed Complete: May 5, 2015

Date: July 16, 2015  
Engineer: Jonah Aiyabei  
Lead Engineer: Joven Refuerzo

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### I. PROPOSAL

NAS Lemoore is applying for an Authority to Construct (ATC) permit for a new confined abrasive blasting operation using a cabinet and located in a building.

As demonstrated in Section VIII of this evaluation, the increase in health risk impact associated with hazardous air pollutant emissions from this unit exceeds one per million, and therefore this unit requires a permit in accordance with District Rule 2020.

NAS Lemoore received their Title V Permit on August 31, 2004. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. NAS Lemoore must apply to administratively amend their Title V permit.

### II. APPLICABLE RULES

Rule 2020 Exemptions (12/18/14)  
Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)  
Rule 2520 Federally Mandated Operating Permits (6/21/01)  
Rule 4102 Nuisance (December 17, 1992)  
CH&SC 41700 California Health and Safety Code (Emission Limitations)  
CH&SC 42301.6 California Health and Safety Code (School Notice)  
CH&SC § 41900 thru § 41905 California Health and Safety Code (Sand Blasting Operations)  
17 California Code of Regulations (CCR) - Subchapter 6, § 92000 thru § 92540  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:  
CEQA Guidelines

### III. PROJECT LOCATION

This facility is located within the NAS Lemoore complex, 750 Enterprise Ave., (Building 180, L Street), in Lemoore.

The applicant states that this facility is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to California Health and Safety Code 42301.6, School Notice is not required.

### IV. PROCESS DESCRIPTION

NAS Lemoore is a military base. As part of its operations, the applicant routinely services and maintains military aircraft. The proposed abrasive blasting operation will be used for stripping old paints and coatings off aircraft parts and components during the repair process

The equipment will operate a maximum of 24 hour/day, 7 days/week, and 52 weeks/year.

### V. EQUIPMENT LISTING

#### **Blasting Type:**

Confined (conducted in an enclosure), using a cabinet located inside a building

#### **Blasting Unit:**

Manufacturer	: Aerospace Facilities Group
Model	: GEN-3 ACGIH
Number of Nozzles	: 1
Nozzle Size	: 3/8" inner diameter
Blasting Material Type	: cut plastic
Abrasive Material Flow Rate	: 668 lb/hour

#### **Emissions Control Equipment:**

Type of Control Device	: Dust collector with primary cartridge filters & secondary HEPA filters
Control Device Construction	: Integral PM Control System
Location of Control Device	: Inside Building
Electrical Horsepower	: 7.5 hp

#### **Compressor:**

Manufacturer	: Aerospace Facilities Group
Model	: GEN-3 ACGIH
Compressor Rating	: 24 hp
Air Flow Rate	: 108 cfm @ 50 psi

**Equipment Description:**

ATC C-2106-178-0: CONFINED ABRASIVE BLASTING OPERATION WITH A 333 LB AEROSPACE FACILITIES GROUP MODEL GEN-3 ACGIH BLASTING CABINET SERVED BY AN INTEGRAL DUST COLLECTION SYSTEM WITH PRIMARY CARTRIDGE FILTERS AND SECONDARY HEPA FILTERS

**VI. EMISSION CONTROL TECHNOLOGY EVALUATION**

Emissions from this abrasive blasting system result from the impact of the abrasive media on the surface being blasted. Particulate Matter (PM), including particulate with an aerodynamic diameter smaller than or equal to a nominal 10 microns (PM<sub>10</sub>), is the primary air contaminant resulting directly from this abrasive blasting operation.

In order to minimize PM emissions, the operation will be allowed to use only ARB approved abrasives and blasting methods.

Since this abrasive operation is conducted in an enclosed cabinet, which significantly restricts emissions of air contaminants into the atmosphere, it is classified as a confined abrasive blasting operation.

As indicated by applicant's data sheet, the abrasive blasting equipment is an enclosed system vented to a filtration system consisting of primary cartridge filters and secondary HEPA filters for the control of PM<sub>10</sub> emissions. This PM<sub>10</sub> control system is not an "add-on" device but is part of the blasting enclosure, and is therefore considered integral filtration system. Based on the applicant's statement, the blasting unit is located inside a building.

To ensure that the equipment is properly maintained and operated, a permit condition will be listed as follows:

- {4627} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 4102]

**VII. CALCULATIONS**

**A. Assumptions**

- Maximum potential emissions are based on operation of the blasting unit 24 hours/day, 365 days/year
- PM<sub>10</sub> is the only pollutant emitted from the operation
- The PM<sub>10</sub> emission factor from the confined abrasive blasting operation is from STAPPA/ALAPCO - Table 3-2, Page 3-12 (5/30/91 edition)
- 'Uncontrolled' PM<sub>10</sub> emissions are based on the use of a standard dust collection system (baghouse, cartridge filters, or equivalent) with a control efficiency assumed to be 99% (District Policy)

- Controlled PM<sub>10</sub> emissions are based on the use of a dust collection system with HEPA filters, with a control efficiency assumed to be 99.9% (BACT/T-BACT). Although the system is also equipped primary cartridge filters, it is assumed that only the HEPA filters are required to achieve the control efficiency of 99.9%.

## B. Emission Factors

For confined operations, the uncontrolled PM<sub>10</sub> emission factor (EF) is from STAPPA/ALAPCO (Vol. I) - Table 3-2, Page 3-12, 05/30/91 edition:

$$\begin{aligned} \text{PM}_{10} \text{ EF}_{\text{Uncontrolled}} &= 0.010 \text{ lb-PM/lb-abrasive} \times 1 \text{ lb-PM}_{10}/\text{lb-PM} \\ \text{PM}_{10} \text{ EF}_{\text{Uncontrolled}} &= 0.010 \text{ lb-PM}_{10}/\text{lb-abrasive} \end{aligned}$$

## C. Calculations

As per the California Health & Safety Code § 41900 thru § 41905, abrasive blasting operations are exempt from New Source Review (NSR) rules which were not in effect on January 1, 1974. All New Source Review rules in the eight counties within the District were adopted after January 1, 1974. Therefore, the NSR requirements shall not apply to the abrasive blasting operation. Thus, for the unit involved with this project, BACT, offsets, or NSR public notification will not be required and no Daily Emissions Limitation (DEL) will be imposed.

### Uncontrolled PM<sub>10</sub> Emissions Calculations

PM<sub>10</sub> Potential to Emit from the confined abrasive blasting operation served only by a standard PM<sub>10</sub> control system is calculated as follows:

$$\begin{aligned} \text{PE}_{\text{Uncontrolled}} &= (\text{Abrasive Flow Rate, lb-abrasive/hr}) \times (\text{operation schedule, hr/day}) \\ &\quad \times (\text{EF}_{\text{Uncontrolled}, \text{ lb-PM}_{10}/\text{lb-abrasive}}) \times (1 - \text{control device efficiency}) \end{aligned}$$

$$\begin{aligned} \text{PE}_{\text{Uncontrolled}} &= (668 \text{ lb-abrasive/hr}) \times 24 \text{ hr/day} \\ &\quad \times (0.010 \text{ lb-PM}_{10}/\text{lb-abrasive}) \times (1 - 0.99) \end{aligned}$$

$$\text{PE}_{\text{Uncontrolled}} = 1.6 \text{ lb-PM}_{10}/\text{day}$$

$$\text{PE}_{\text{Uncontrolled}} = 1.6 \text{ lb-PM}_{10}/\text{day} \times 365 \text{ days/yr} = 584 \text{ PM}_{10}/\text{yr}$$

### Controlled PM<sub>10</sub> Emissions Calculations

PM<sub>10</sub> Potential to Emit from the confined abrasive blasting operation served by a PM<sub>10</sub> control system meeting T-BACT requirements is calculated as follows:

$$\begin{aligned} \text{PE}_{\text{Controlled}} &= (\text{Abrasive Flow Rate, lb-abrasive/hr}) \times (\text{operation schedule, hr/day}) \\ &\quad \times (\text{EF}_{\text{Uncontrolled}, \text{ lb-PM}_{10}/\text{lb-abrasive}}) \times (1 - \text{control device efficiency}) \end{aligned}$$

$$\begin{aligned} \text{PE}_{\text{Controlled}} &= (668 \text{ lb-abrasive/hr}) \times 24 \text{ hr/day} \\ &\quad \times (0.010 \text{ lb-PM}_{10}/\text{lb-abrasive}) \times (1 - 0.999) \end{aligned}$$

$$PE_{\text{Controlled}} = 0.2 \text{ lb-PM}_{10}/\text{day}$$

$$PE_{\text{Controlled}} = 0.2 \text{ lb-PM}_{10}/\text{day} \times 365 \text{ days/yr} = 73 \text{ PM}_{10}/\text{yr}$$

## VIII. COMPLIANCE

### Rule 2020 Exemptions

This rule specifies emissions units that are not required to obtain an Authority to Construct or Permit to Operate. This rule also specifies the recordkeeping requirements to verify the exemption and outlines the compliance schedule for emissions units that lose the exemption after installation.

Pursuant to Section 5.0, an Authority to Construct or Permit to Operate shall not be required for an emissions unit covered under District Exempt Source Categories listed in Sections 6.0 or 7.0, unless one or more of the following is true:

- The source is a NSPS source;
- The source is a HAP source;
- The APCO makes a determination that a permit shall be required because the source may not operate in compliance with all District rules and regulations; or
- The owner specifically requests a Permit to Operate.

The proposed operation is not listed under any of the exempt categories in Sections 6.0 or 7.0.

Pursuant to Section 3.10, a Low Emitting Unit is an emissions unit with an uncontrolled emissions rate of each air contaminant less than or equal to two pounds per day; or if greater than two pounds per day, less than or equal to 75 pounds per year.

Pursuant to Section 6.19, Low Emitting Units, except those which belong to a source category listed in Sections 6.1 through 6.18 shall not require an Authority to Construct or Permit to Operate. Pursuant to Section 6.19.1, Low Emitting Units, which belong to a source category listed in Sections 6.1 through 6.18, shall require an Authority to Construct or Permit to Operate unless they are specifically exempted in the applicable source category section.

Pursuant to Section 6.19.2, notwithstanding Sections 6.19 and 6.19.1, Low Emitting Units, with uncontrolled HAP emissions that may cause a significant health risk to the public, shall require an Authority to Construct or Permit to Operate.

Although the uncontrolled emissions from the proposed operation are below the Low Emitting Unit threshold, a permit will be required pursuant to Section 6.19.2 because the District's health risk analysis indicates that this operation may cause a significant health risk to the public. The cancer risk increase, based on the uncontrolled emissions calculated in the preceding section, is 2.86 per million. This is particularly due to the fact

that the coatings to be removed by abrasive blasting contain high proportions of hexavalent chromium, among other HAPs.

In addition, pursuant to the District's Risk Management Policy (APR 1905), in order to control emissions of hazardous air pollutants (HAPs) to the maximum level achievable, applicants must apply Toxic Best Available Control Technology (T-BACT) to each new and modified emissions units with a greater than de minimus increase in cancer risk (i.e. > one per million increase in cancer risk). Since the increase in cancer risk from the proposed emissions unit is greater than de minimus, a permit will be required to ensure compliance with T-BACT requirements.

### **District Rule 2201 - New and Modified Stationary Source Review**

Pursuant to the California Health & Safety Code § 41900 thru § 41905, abrasive blasting operations are exempt from the requirements of District Rule 2201.

### **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications. Continued compliance

with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application. The following permit conditions will be added to the permit:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

**District Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations; provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following conditions will be listed on the permit to ensure continued compliance:

- {52} The blasting operations shall be carried out in a manner to prevent any nuisances. [District Rule 4102]

**CH&SC 41700 - California Health and Safety Code**

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix C), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
C-2106-178-0	2.86 per million	Yes

**Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is required for this project

because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for PM<sub>10</sub>. T-BACT is satisfied with BACT for PM<sub>10</sub> (see Appendix B), which is the use of a dust collector with HEPA filters; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix C of this report, the emissions increases for this project was determined to be less than the District's significance levels.

The following permit condition will be listed on the permit to ensure compliance:

- Emissions from the abrasive blasting operation shall be controlled using a dust collector with HEPA filters. The dust collector and HEPA filters shall be operated and maintained in accordance with the manufacturers' recommendations. [District Rule 4102]

#### **17 CCR, Subchapter 6, § 92000 thru § 92540**

The Authority to Construct and Permit to Operate will contain sufficient permit conditions to ensure compliance with all of the performance requirements of the sections of the California Code of Regulations mentioned above and discussed as follows.

#### **Visible Emissions (§ 92200 CCR)**

- a) Visible emissions from the abrasive blasting operation shall be less than 40% opacity when conducted outside a permanent building.
- b) Visible emissions from the abrasive blasting operation shall be less than 20% opacity when conducted within a permanent building.

A permit condition will be listed as follows:

- {1992} Abrasive blasting operations conducted within the blasting cabinet shall not discharge air contaminants into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent to 20% opacity. [92200 CCR]

#### **Nuisance Prohibition (§ 92210 CCR)**

Compliance with the statewide regulations does not exempt any person from complying with Section 41700 of the Health and Safety Code, nor from complying with any state statutory common law nuisance prohibition.

**Performance Standards (§ 92500 CCR)**

- a) All abrasive blasting operations must be conducted within a permanent building except when one or more of the following conditions apply:
  - (i) Steel or iron shot/grit is used exclusively.
  - (ii) The item to be blasted exceeds 8 feet in any dimension.
  - (iii) The surface being blasted is situated at its permanent location or no further away from its permanent location than is necessary to allow the surface to be blasted.
- b) Abrasive blasting operations not conducted within a permanent building must use one or more of the following exclusively:
  - (i) Wet abrasive blasting.
  - (ii) Hydroblasting.
  - (iii) Vacuum blasting.
  - (iv) Abrasives certified by CARB for permissible dry outdoor blasting.
- c) Abrasive blasting of stucco and concrete shall be performed by wet blasting, hydroblasting, or vacuum blasting with the following exceptions (§ 92520 CCR):

Dry blasting with a certified abrasive may be used for:

  - (i) Window and door returns and frames.
  - (ii) Eaves, overhangs, and ceilings.
  - (iii) Sweep abrasive blasting except for stucco surfaces.
  - (iv) Completely shrouded structures or blast areas that effectively control emissions.
  - (v) Abrasive cleaning operations, other than aggregate exposure or paint removal related to new concrete construction or repair activity, if such operations are performed onsite.

Permit conditions will be listed as follows:

- {1475} All abrasive blasting shall be conducted in accordance with California Code of Regulations Title 17, Subchapter 6, Sections 92000 through 92540. [92000 through 92540 CCR]
- {1483} A used certified abrasive shall not be considered certified for reuse unless the abrasive conforms to its original cut-point fineness. [92530 CCR]

**California Health & Safety Code 42301.6 (School Notice)**

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

## California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001.

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Consistent with California Environmental Quality Act (CEQA) and CEQA Guidelines requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA.

The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's *Guidelines for Expedited Application Review* (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents.

For the proposed project, the District performed an Engineering Evaluation (this document) and determined that the project qualifies for processing under the procedures set forth in the District's Permit Services Procedures Manual in the Guidelines for Expedited Application Review (GEAR). Thus, as discussed above, this issuance of such ATC(s) is a ministerial approval for the District and is not subject to CEQA provisions.

**IX. RECOMMENDATIONS**

Compliance with all applicable prohibitory rules and regulations is expected. Issue Authority to Construct C-2106-178-0 subject to the permit conditions on the attached draft Authority to Construct.

**X. BILLING INFORMATION**

<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>
C-2106-178-0	3020-01-A	7.5 hp

**APPENDICES**

- A: Draft ATC
- B: BACT/T-BACT Analysis
- C: HRA Summary

## **APPENDIX A**

**Draft ATC**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** C-2106-178-0

**LEGAL OWNER OR OPERATOR:** NAS LEMOORE  
**MAILING ADDRESS:** BUILDING 750 CODE 50800  
LEMOORE, CA 93246-5001

**LOCATION:** NAVAL AIR STATION LEMOORE  
750 ENTERPRISE AVE  
LEMOORE, CA 93246-5001

**EQUIPMENT DESCRIPTION:**

CONFINED ABRASIVE BLASTING OPERATION WITH A 333 LB AEROSPACE FACILITIES GROUP MODEL GEN-3 ACGIH BLASTING CABINET SERVED BY AN INTEGRAL DUST COLLECTION SYSTEM WITH PRIMARY CARTRIDGE FILTERS AND SECONDARY HEPA FILTERS

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {4627} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [Rule 4102]
4. Emissions from the abrasive blasting operation shall be controlled using a dust collector with HEPA filters. The dust collector and HEPA filters shall be operated and maintained in accordance with the manufacturers' recommendations. [District Rule 4102]
5. {52} The blasting operations shall be carried out in a manner to prevent any nuisances. [District Rule 4102]
6. {1992} Abrasive blasting operations conducted within the blasting cabinet shall not discharge air contaminants into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent to 20% opacity. [92200 CCR]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

C-2106-178-0, Jun 4 2015 10:12AM - AIYABEIJ : Joint Inspection NOT Required

7. {1475} All abrasive blasting shall be conducted in accordance with California Code of Regulations Title 17, Subchapter 6, Sections 92000 through 92540. [92000 through 92540 CCR]
8. {1483} A used certified abrasive shall not be considered certified for reuse unless the abrasive conforms to its original cut-point fineness. [92530 CCR]

DRAFT

## **APPENDIX B**

### **BACT/T-BACT Analysis**

# BACT Analysis

## New BACT Determination

### Abrasive Blasting

Processing Engineer: Jonah Aiyabei

Lead Engineer: Joven Refuerzo

Date: July 16, 2015

Facility Name: NAS Lemoore  
Mailing Address: 750 Enterprise Ave  
Lemoore, CA 93246

Contact Person: Dallas Belcher  
Phone: (559) 998-2838

Project #: C-1142866  
Application #: C-2106-178-0

#### **I. Proposal**

NAS Lemoore is a military base. As part of its operations, the applicant routinely services and maintains military aircraft. The proposed abrasive blasting operation will be used for stripping old paints and coatings off aircraft parts and components during the repair process. The proposed operation triggers TBACT for PM10 emissions. Since TBACT is equivalent to BACT, and there is no BACT guideline for this class and category of source, a new BACT determination will need to be developed.

#### **II. PROJECT LOCATION**

The facility is located at 750 Enterprise Ave., Lemoore, CA.

#### **III. EQUIPMENT LISTING**

C-2106-178-0: CONFINED ABRASIVE BLASTING OPERATION WITH A 333 LB AEROSPACE FACILITIES GROUP MODEL GEN-3 ACIGH BLASTING CABINET SERVED BY AN INTEGRAL DUST COLLECTION SYSTEM WITH PRIMARY CARTRIDGE FILTERS AND SECONDARY HEPA FILTERS

#### **IV. Process Description**

Abrasive blasting is a process used to strip coatings, rust, and other unwanted material off various types of surfaces (primarily hard surfaces such as metal or composites). The blasting is conducted inside a metal chamber or cabinet. An operator uses specially designed access ports and view window to manipulate the object being blasted inside the cabinet, while a high pressure stream of the abrasive media (tiny plastic beads) is directed, through one or more nozzles, at the surface being cleaned. An air compressor provides the motive force needed to propel the abrasive medium at high pressure/speed. The force of impact of the abrasive media upon the target surface causes the coatings, rust, or other unwanted material adhering to the

target surface to fracture, dislodge and fall off as small particles and dust. As the process stream leaves the cabinet, it first goes through a media reclaimer (consisting primarily of a cyclone) which separates the blast media from the dust. The blast media can then be reused. The exhaust air stream is ducted through a dust collector to remove dust and contaminants before being released into the atmosphere.

Emissions from this abrasive blasting system result from the impact of the abrasive media on the surface being blasted. Particulate Matter (PM), including particulate with an aerodynamic diameter smaller than or equal to a nominal 10 microns (PM<sub>10</sub>), is the primary air contaminant resulting directly from this abrasive blasting operation.

The abrasive blasting cabinet is an enclosed system that is equipped with an integral dust collector with HEPA filters. The HEPA filters have a control efficiency of 99.97% for particulate matter in the 0.3 microns range. Since blasting cabinets are typically used inside buildings (workshops), the filtration system is intended to ensure that the filtered exhaust air stream can be safely released into occupied workspaces.

#### **IV. EMISSION CONTROL TECHNOLOGY EVALUATION**

##### **A. BACT Applicability**

The District's Risk Management Policy requires that T-BACT shall be applied to each new and modified emissions unit with a greater than de minimus increase in cancer risk (i.e. cancer risk greater than one per million). Since the Risk Management Review for the proposed emissions unit indicated that the projected increase in cancer risk is 2.86 per million, T-BACT is triggered.

Additionally, since the hazardous air pollutant of concern is also a criteria pollutant, T-BACT will be the same as BACT.

##### **B. BACT Policy**

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis".

##### **C. BACT Analysis for Permit Unit C-2106-178-0 - PM10 Emissions**

Since there is no BACT Guideline in the most recent District BACT Clearinghouse which governs this class and category of emissions unit, a new BACT Analysis shall be performed.

The U.S. Environmental Protection Agency (USEPA) RACT/BACT/LAER Clearinghouse, California Air Resources Board (CARB), San Diego County Air Pollution Control District (SDCAPCD), South Coast Air Quality Management District (SCAQMD), and Bay Area Air Quality Management District (BAAQMD) BACT clearinghouses were reviewed to determine potential control technologies for this class and category of operation. The SJVAPCD permit database was also searched for possible facilities within this class and category of operation.

The following guidelines and/or previous BACT determinations for PM10 and/or PM emissions from abrasive blasting cabinets were found:

USEPA RACT/BACT/LAER Clearinghouse

RBLC ID # CA-0514: fabric collector preceded by cyclone – 98% PM10 control efficiency

RBLC ID # CA-0315: dust collector – 98% PM control efficiency

RBLC ID # CA-0215: cartridge filter – 98% PM control efficiency

South Coast AQMD

BACT Guideline 10-20-2000 Rev 0 (All enclosed abrasive blasting): Baghouse; or Cartridge Dust Collector

Bay Area AQMD

BACT Guideline 1.1 (All Enclosed Abrasive Blasting): Baghouse w/ < 0.002gr/dscf (AIP); Baghouse or cartridge dust collector w/ < 0.01 gr/dscfb (Tech. Feasible)

**Step 1 - Identify All Possible Control Technologies**

The SJVUAPCD identifies the following possible control technologies:

Option 1: Dust collector with fabric or cartridge filters - 98% Control efficiency (Achieved in Practice)

The information available from the existing BACT guidelines and determinations outlined above demonstrate that fabric and cartridge filtration systems with at least 98% control efficiency are achieved in practice for abrasive blasting cabinets.

Option 2: Dust collector with HEPA filters – 99.9% Control efficiency (Technologically Feasible)

The current search did not specifically find a BACT guideline or BACT determination demonstrating that a dust collector with HEPA filters has already been installed as a control technology for abrasive blasting cabinets. However, HEPA filters have been used for a long time in a very wide variety of applications requiring the control of very fine particulate matter. In industrial applications involving the handling of particulate matter with toxic components such as lead, HEPA filtration systems are typically required for workers' safety. In addition, HEPA filtration systems are available in a wide variety of sizes, from wearable face mask devices to large industrial-scale systems. This option is therefore technologically feasible for abrasive blasting cabinets.

**Step 2 - Eliminate technologically infeasible options**

None of the options listed are technologically infeasible.

### **Step 3 - Rank remaining options by control effectiveness**

Dust collector with HEPA filters – 99.9% Control efficiency (Technologically Feasible)

Dust collector with fabric or cartridge filters - 98% Control efficiency (Achieved in Practice)

#### **d. Step 4 - Cost Effectiveness Analysis**

The only technologically feasible option listed above has been proposed by the applicant; hence a cost effectiveness analysis is not required.

#### **e. Step 5 - Select BACT**

The option with the highest control efficiency is determined to be BACT. Therefore, BACT for PM10 emissions from the proposed abrasive blasting cabinet is satisfied with a dust collector with HEPA filters.

Proposed Pages for the BACT Clearinghouse

**San Joaquin Valley  
Unified Air Pollution Control District**

**Best Available Control Technology (BACT) Guideline X.Y.Z\***

Emission Unit: Abrasive Blasting Cabinet      Industry Type: Abrasive Blasting

Equipment Rating:

Last Update: TBD

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
PM <sub>10</sub>	Dust collector with fabric or cartridge filters	Dust Collector With HEPA Filters	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

\*This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)  
X.Y.Z

2<sup>nd</sup> Qtr. '15  
DRAFT

**San Joaquin Valley  
Unified Air Pollution Control District**

**Best Available Control Technology (BACT) Guideline X.Y.Z**

Emission Unit: Abrasive Blasting Cabinet

Equipment Rating:

Facility: NAS Lemoore

References: ATC #: C-2106-178-0  
Project #: C-1142866

Location: 750 Enterprise Ave, Lemoore, CA.

Date of Determination: TBD

Pollutant	BACT Requirements
VOC	BACT NOT TRIGGERED
SO <sub>x</sub>	BACT NOT TRIGGERED
NO <sub>x</sub>	BACT NOT TRIGGERED
CO	BACT NOT TRIGGERED
PM <sub>10</sub>	Dust Collector With HEPA Filters

BACT Status:

- Achieved in practice  Small Emitter  T-BACT
- Technologically feasible BACT
- At the time of this determination achieved in practice BACT was equivalent to technologically feasible BACT
- Contained in EPA approved SIP
- The following control options were not technologically feasible
- Alternate Basic Equipment
- The following alternate basic equipment was not cost effective:

X.Y.Z

2<sup>nd</sup> Qtr. '15

DRAFT

# BACT CLEARINGHOUSE

## --Submission Form--

Category

Source Category

Military

SIC Code

9711

[View SIC Code List](#)

NAICS Code

928110

[View NAICS Code List](#)

## Emission Unit Information

Manufacturer

Aerospace Facilities Group

Type

Model

GEN-3 ACGIH

Equipment Description

CONFINED ABRASIVE BLASTING OPERATION WITH A 333 LB AEROSPACE FACILITIES GROUP MODEL GEN-3 ACGIH BLASTING CABINET SERVED BY AN INTEGRAL DUST COLLECTION SYSTEM WITH PRIMARY CARTRIDGE FILTERS AND SECONDARY HEPA FILTERS.

Capacity/Dimensions

Fuel Type

Multiple Fuel Types

Operating Schedule

24 hrs/day 8,760 hrs/yr

Function of Equipment

The abrasive blasting equipment will be used for stripping old paints and coatings off aircraft parts and components during the repair process.

## Facility/District Information

Facility Name

NAS Lemoore

Facility County

Kings

Facility Zip Code

93246

District Contact

Arnaud Marjollet, San Joaquin Valley Air Pollution District

District Contact Phone

(559) 230-6000

District Contact E-mail

[arnaud.marjollet@valleyair.org](mailto:arnaud.marjollet@valleyair.org)

## Project/Permit Information

Application or Permit Number

C-2106-178-0

New Construction/Modification

New Construction

ATC Date (mm-dd-yyyy)

TBD

PTO Date (mm-dd-yyyy)	TBD
Startup Date (mm-dd-yyyy)	TBD
Technology Status	Technologically Feasible
Source Test Available	No
Source Test Results	No

## BACT Information

Pollutant Limit(s) and Control Method(s) – Please include proper units

NOx	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
CO	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
VOC	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
PM	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
PM 2.5	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
PM 10	Limit: Control Method Type: Dust collector with HEPA Filters Control Method Description: HEPA filters	Units:  	Averaging Time:
SOx	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:
NH <sub>3</sub>	Limit: Control Method Type: Control Method Description:	Units:  	Averaging Time:

## **APPENDIX C**

### **HRA Summary**

# San Joaquin Valley Air Pollution Control District Risk Management Review

To: Jonah Aiyabei – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: January 28, 2015  
 Facility Name: NAS Lemoore  
 Location: Building 180, "L" Street, NAS Lemoore  
 Application #(s): C-2106 (Special Project)  
 Project #: C-1142866

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## A. RMR SUMMARY

RMR Summary			
Categories	Abrasive Blasting Operation (Special Project)	Project Totals	Facility Totals
Prioritization Score	N/A	N/A	>1.0
Acute Hazard Index	0.00	0.00	0.00
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	<b>2.86E-06<sup>1</sup></b>	2.86E-06	4.02E-06
T-BACT Required?	Yes		
Special Permit Conditions?	-- <sup>2</sup>		

<sup>1</sup>A worksite adjustment was used while calculating the Maximum Individual Cancer Risk.

<sup>2</sup>To be based on engineering determination.

## B. RMR REPORT

### I. Project Description

Technical Services received a request on January 22, 2015, to perform a Risk Management Review (RMR) for an abrasive blasting operation. Due to the potential release of HAPs during blasting, a RMR is required to aid in determination of eligibility for exemption.

### II. Analysis

Toxic emissions from the project were calculated using emission factors from Table 5 of the December, 2005, Study, *Residual Risk from Abrasive Blasting Emissions: Particle Size and Metal Speciation* conducted by Advanced Technology Institute. Hexavalent Chrome emission rates were calculated based on MSDS sheets provided by the applicant. It was assumed all PM10 would be paint with about 75% Barium Chromate; and calculations for Hexavalent Chrome were based on the 9.46% Chrome in Barium Chromate. PM10 emission rates were calculated and supplied by the processing engineer. Technical Services did not perform a prioritization because the facility prioritization scores totaled to greater than one. Therefore, a refined health risk assessment was required and performed.

The source was modeled as a point source. AERMOD was used, with the parameters outlined below and concatenated 3-year meteorological data for Lemoore to determine the maximum dispersion factors at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project using a worksite adjustment.

The following parameters were used for this review.

<b>Analysis Parameters</b>			
<b>Source Type</b>	Point	<b>Location Type</b>	Rural
<b>Stack Diameter (m)</b>	0.15	<b>Closest Receptor (m)</b>	1802
<b>Stack Height (m)</b>	0.3	<b>Type of Receptor</b>	Business
<b>Stack Gas Temperature (K)</b>	294	<b>PM10 Emission Rates (lbs)</b>	0.067 hr 584 yr
<b>Stack Gas Velocity (m/sec)</b>	31.05 <sup>1</sup>	<b>Hexavalent Chrome Emission Rates (lbs)</b>	0.00466 hr 40.42 yr

<sup>1</sup>Per the RMR Request Form submitted by the processing engineer, the exhaust stack vents horizontally. Therefore, the source group was designated as such in AERMOD's Source Pathway Module during refined modeling for the project per District policy.

### III. Conclusions

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **2.86E-06**, which is greater than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **with** Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

### Attachments

RMR Request Form & Attachments  
Abrasive Blasting Speciation Worksheet  
Facility Building Layout & Photo  
Risk Results