

**ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT**

Facility Name: Lockheed Martin RMS

Application Number: APCD2023-APP-008026

Equipment Type: New Installation 27U
Adhesive application inside spray booth for training

Facility ID: APCD2021-SITE-03766

Equipment Address: 1330 30th St, Suite E
San Diego, CA 92154

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X

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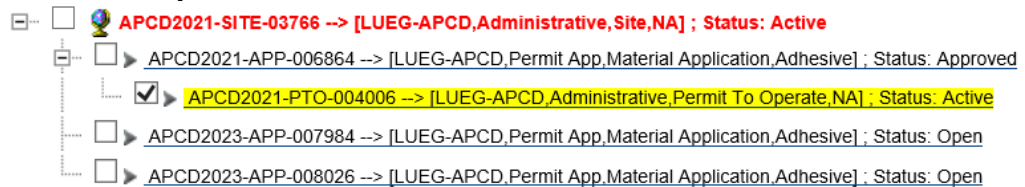
1.0 BACKGROUND

1.1 Type of Application –

This is a new installation application for an adhesive application operation performed inside an enclosed spray booth. Applicant stated this operation is for training and certification purposes only for field engineers. The materials used in the operation is similar to their existing permit, APCD2021-PTO-004006, which involves the resurfacing of radar antenna arrays on various vessels in multiple shipyard locations of San Diego.

The applicant proposed to take a ten (10) pound per day VOC limit for this operation, therefore, BACT is not triggered.

1.2 Permit History –



APCD2021-PTO-004006: Resurfacing of radar antenna arrays, adhesive operation occurring at multiple shipyards in San Diego.

APCD2023-APP-007984: Vertical Launching System (VLS) adhesive operation occurring at multiple shipyards in San Diego. SA issued.

1.3 Facility Description –

This facility provides specialized maintenance and refurbishing services on various vessels at multiple shipyards in San Diego. This application is for their own enclosed spray booth for training and certification purposes occurring at their own site, 1330 30th St. Suite E, San Diego, CA 92154.

1.4 Other Background Information – N/A

2.0 PROCESS DESCRIPTION

2.1 Equipment Description –

Adhesive material application operation consisting of:

Spray Booth –

Manufacturer: Bleeker MFG

Model: SEP-25-18

Dimensions: 18'L x 14'W x 12'H

Exhaust: One (1) fan, 16,800 cfm

Using mechanically atomized spray equipment to apply Rule 67.21 compliant adhesive materials.

2.2 Process –

The process involves the removal of the old adhesive, restoration of the surfaces, cleaning of the surfaces using a combination of manual techniques and solvents, and application of the new adhesive via spray methods. The adhesive activities occur inside of a spray booth with overspray filters.

2.3 Emissions Controls –

Exhaust stream is treated with a 4-stage pollution control system, consisting of overspray filters, pre-filter, bag-filter, and activated carbon filters.

2.4 Attachments –

Additional client attachments/submittals.

3.0 EMISSIONS

3.1 Emission Estimate Summary –

An emissions increase from the adhesive operation is expected. The operation will be limited to 10 pounds per day of VOC.

Summary of emissions is shown in Table 1:

Table 1: Estimated Potential to Emit

Pollutants	Hourly (lbs)	Daily (lbs)	Annual (lbs)
Particulate Matter (PM ₁₀)	-	0.44	162
Volatile Organic Compounds (VOCs)	-	9.9*	3650
PCBTF	6.7	-	62**
Isopropyl Alcohol	0.3	-	21

* Permit limit, based on applicant.

** Permit limit, based on Rule 1200 (see HRA section for details).

3.2 Emission Estimate Assumptions and Other Evaluation Notes –

- 1) PM and VOC are based on permit limit of 10 lbs of VOC per day with 365 days a year operation.
- 2) PCBTF and IPA are based on their actual operation schedule, which is 8 hours/day, 1 day/week, and 10 weeks/year, unless limited by Rule 1200.

3.3 Emission Calculations –

Please see attached calculation spreadsheet

3.4 Attachments –

APCD2023-APP-008026_emission_calc, refined HRA

4.0 APPLICABLE RULES

4.1 Prohibitory Rules

Rule 50 – Visible Emissions

Visible emissions cannot exceed 20% opacity for more than 3 minutes in any consecutive 60-minute period.

The facility is expected to comply.

Rule 51 – Nuisance

A person shall not 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 to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals.

The facility is expected to comply.

Rule 52 – Particulate Matter

(d) STANDARD

A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.10 grain per dry standard cubic foot (0.23 grams per dry standard cubic meter) of gas.

The facility is expected to comply based on existing and similar adhesive operations.

Rule 61.7 – Spillage and Leakage of Volatile Organic Compounds

(a) APPLICABILITY

This rule is applicable to the spillage and fugitive liquid leaks associated with the transfer and storage of volatile organic compounds.

(c) STANDARD

(1) Except as provided for in Section (b) above, no person shall:

- (i) Spill, allow the spillage or cause spillage of such compounds during the disconnection of fittings used for transfer, except for spillage which would normally occur with equipment handled in a manner designed to minimize spillage.*
- (ii) Use or allow equipment to be used to transfer fuel unless the equipment is free of defects and properly maintained in a manner designed to minimize spillage, and*
- (iii) No person shall allow fugitive liquid leaks along the liquid transfer path, including any storage tank.*

The facility is expected to comply based on similar operations. The ATC and PTO will incorporate a condition that will require all containers containing VOCs to be closed when not in use.

Rule 67.17 Storage of Materials containing Volatile Organic Compounds

(a) APPLICABILITY

This rule applies to any person who stores, transfers, applies or otherwise uses materials which contain volatile organic compounds.

(d) STANDARDS

- (1) All containers used to store, transfer, apply or otherwise employ materials containing VOC shall be closed when not in use.*
- (2) All containers used to store or transfer wastes containing VOC shall be closed except when being accessed or when empty.*
- (3) Containers specified above may be equipped with vents provided such vents are necessary to comply with applicable fire and safety codes.*
- (4) All wastes containing VOC (including paper or cloth impregnated with VOC) shall be stored in closed containers.*

Compliance with the above standard is expected. The Authority to Construct and Permit to Operate will incorporate conditions outlining the requirements above.

Rule 67.21 – Adhesive Material Application Operations

(a) APPLICABILITY

- (1) Except as otherwise provided in Section (b), this rule is applicable to all adhesive material application operations. Adhesive material application operations include all steps involved in the application, drying, and/or curing of adhesive materials, and associated surface preparation, stripping, and cleanup materials, and the cleaning of application equipment.*
- (2) Subsections (d)(4) and (d)(5) and Section (g) of this rule apply to any person who supplies, sells, offers for sale, or specifies the application of adhesive materials.*
- (3) Rule 66 shall not apply to any adhesive material application operation.*
- (4) Any adhesive material application operation subject to the requirements of Rules 67.4, 67.5, 67.9, or 67.16 shall not be subject to this rule.*
- (5) The provisions of Subsection (d)(2) of this rule shall not apply to surface preparation, stripping, or cleaning operations conducted in equipment subject to Rule 67.6.1 or Rule 67.6.2.*
- (6) Any adhesive material used in the manufacture of aircraft float systems shall be subject to this rule, and not subject to Rule 67.9.*

(b) EXEMPTIONS

(1) Adhesive Materials

The provisions of Sections (d)(1), (e), and (f) shall not apply to the following:

- (i) Adhesive materials sold, supplied, and used in single or multi-unit packages having an aggregate net weight of one pound or less or containing an aggregate of 16 fluid ounces or less. This exemption does not apply to plastic welding products specified in Subsection (d)(1)(i)(B).*
- (ii) Self-curing adhesive materials containing reactive diluents.*
- (iii) Adhesive materials that contain less than 20 grams of VOC per liter of adhesive material, as applied, less water and less exempt compounds.*
- (iv) Low-solids adhesive materials that contain less than 20 grams of VOC per liter of adhesive material, as applied.*
- (v) Aerosol adhesive materials....*

(d) STANDARDS

The VOC content of low-solids adhesive materials shall be calculated per volume of adhesive material, as applied. The VOC content of all other adhesive materials shall

be calculated per volume of adhesive material, as applied, less water and exempt compounds.

(1) A person shall not apply any adhesive material specified below with a VOC content in excess of the following limits:

(iv) <u>ALL OTHER ADHESIVE MATERIALS</u>	
If an adhesive material or specific substrate is not listed in Subsections (d)(1)(i) through (d)(1)(iii) above, the following VOC limits are applicable.	
	<u>VOC LIMITS</u> <u>(grams/liter)</u>
Adhesive primers	250
Sealants	420
Sealant primers	750

The adhesive (RTV 157) used in this operation is compliant with Rule 67.21(d)(iv) as the VOC content is 213 g/L which is below the 420 g/L limit.

The ATC/PTO will incorporate conditions outlining VOC requirements for adhesive, cleaning, stripping and preparation of non-exempt materials. Record keeping requirements will also be included.

4.2 New Source Review

Rule 20.2 New Source Review (NSR) – Non-Major Stationary Sources

This rule is applicable to any new or modified stationary source or emission unit if the stationary source is not a major stationary source. A federal major stationary source, as defined in Rule 20.1(c)(30), means “any emission unit, project or stationary source which has, or will have after issuance of an Authority to Construct or modified Permit to Operate, an aggregate potential to emit one or more air contaminants in amounts equal to or greater than any of the emission rates listed below in Table 20.1 – 5b”.

**TABLE 20.1 – 5b
Federal Major Stationary Source**

<u>Air Contaminant</u>	<u>Emission Rate (Ton/yr)</u>
Fine Particulate Matter (PM _{2.5})	100
Particulate Matter (PM ₁₀)	100
Oxides of Nitrogen (NO _x)*	
marginal or moderate	100
serious	50
severe	25
extreme	10
Volatile Organic Compounds (VOC)*	
marginal or moderate	100
serious	50
severe	25
extreme	10
Oxides of Sulfur (SO _x)	100
Carbon Monoxide (CO)	100
Lead (Pb)	100

* based on EPA’s ozone nonattainment designation for the San Diego Air Basin in 40 CFR 81.305

**TABLE 20.1 – 6b
Major Stationary Source**

<u>Air Contaminant:</u>	<u>Emission Rate (Ton/yr)</u>
Fine Particulate Matter (PM _{2.5})	100
Particulate Matter (PM ₁₀)	100
Oxides of Nitrogen (NO _x)	50
Volatile Organic Compounds (VOC)	50
Oxides of Sulfur (SO _x)	100
Carbon Monoxide (CO)	100
Lead (Pb)	100

This stationary source is not a major stationary source or a Federal Major Stationary Source, so Rule 20.2 is applicable.

Rule 20.2 – New Source Review Non-Major Stationary Sources

This rule applies to any new or modified stationary source, to any new or modified emission unit and to any relocated emission unit being moved from a stationary source provided that after completion of the project, the stationary source is not a major stationary source.

Based on the general provisions under District Rule 20.1 of New Source Review, the facility is expected to comply with the standards and requirements for Non-Major Stationary sources.

(d)(1)(i) BACT for New or Modified Emission units

Any new or modified emission unit which has any increase in its potential to emit particulate matter (PM10), oxides of nitrogen (NOx), volatile organic compounds (VOC) or oxides of sulfur (SOx) and which unit has a post-project potential to emit of 10 pounds per day or more of PM10, NOx, VOC, or SOx shall be equipped with Best Available Control Technology (BACT) for each such air contaminant.

Compliance with the requirements under subsection (d)(1)(i) is expected. The potential to emit of VOC for the operation is less than 10 lbs per day. The Authority to Construct and Permit to Operate will incorporate a 10 lbs per day limit for VOC.

(d)(2)(i) AQIA for New or Modified Emission Units

For each project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.2 - 1, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA that the project will not:

- (A) cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard, nor*
- (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor*
- (C) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), nor*
- (D) prevent or interfere with the attainment or maintenance of any state or national ambient air quality standard.*

**TABLE 20.2 - 1
AQIA Trigger Levels**

<u>Air Contaminant</u>	<u>Emission Rate</u>		
	<u>(lb/hr)</u>	<u>(lb/day)</u>	<u>(tons/yr)</u>
Particulate Matter (PM10)	---	100	15
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6

The facility's increase of emissions is below the levels listed in Table 20.2-1, therefore an AQIA is not required.

This subsection and all subsequent provisions ((d)(3) and (d)(4)) of Rule 20.2 do not apply because emissions fall below the thresholds requiring an AQIA as summarized in

Table 20.2-1 and the VOCs are not equal to or greater than 250 pounds per day or 40 tons per year.

4.3 Toxic New Source Review- Rule 1200

Rule 1200 applies to any new, relocated or modified emission unit which results in any increase in emissions of one or more toxic air contaminant(s), and for which an Authority to Construct or Permit to Operate is required. This rule requires health risks be reviewed to ensure the risks are below one in one million for cancer (with T-BACT installed), and that the health hazard index is less than one from chronic non-cancer and acute toxic air contaminants.

Rule 1200 is applicable due to increase in emissions of isopropyl alcohol and PCBTF. The hourly and annual emissions from this operation was shown in the table below. Refined HRA was performed and maximum individual cancer risk was estimated to be 8.51 in one million, which PCBTF is the TAC responsible for the risk.

Applicant agreed to take a 62 lbs of PCBTF annual limit to satisfy standards of Rule 1200.

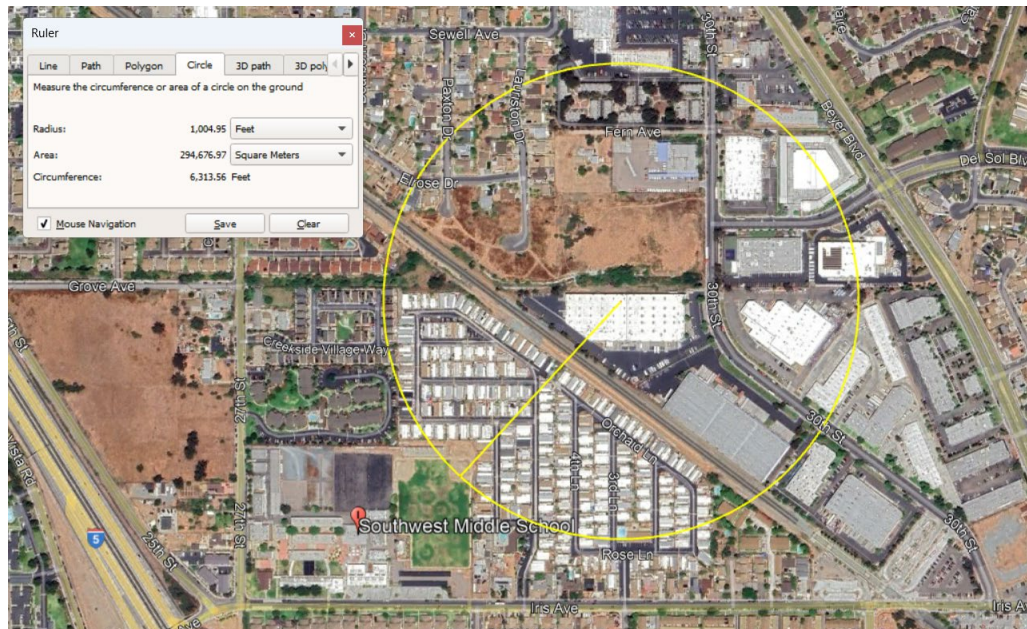
Table 2. TAC Emission Rates Summary

TAC	lbs/hr	lbs/day	lbs/year
PCBTF	6.7	53.5	62*
Isopropyl Alcohol	0.3	2.1	21

- Annual PCBTF rate of 535 lbs resulted in maximum residential cancer risk of 8.51 in one million. Applicant agreed to take a 62 lbs annual limit to satisfy Rule 1200.

4.4 AB3205 –

AB3205 requires a public notice prior to issuing an Authority to Construct for equipment emitting hazardous air contaminants at a facility within 1000 feet of a school.



AB3205 public notice is applicable. There is a school within 1,000 ft of the source.

4.5 NESHAPS AND ATCMs –

NESHAP:

40 CFR 63 Subpart II - National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)

The adhesive operation is not a major source of HAPs.

NSPS: None

ATCM: None

4.6 Attachments –

Receptor Distance images and Emission calcs

4.7 Title V –

The adhesive operation is not a federal major source.

5.0 RECOMMENDATION

It is expected that the facility will comply with all of the applicable requirements, and it is recommended that an Authority to Construct be issued with APCD2021-CON-001867 with a few modifications as shown in below table. The ATC/PTO will feature standard Rule 67.21 adhesive requirements and a 10 lbs/day VOC limit.

6.0 RECOMMENDED CONDITIONS

Please see conditions listed below.

Condition #		Modification
1	Total emissions of volatile organic compounds (VOC) from the above operation shall be less than ten (10) pounds per day. (Rule 20.2)	
2	Total emissions of volatile organic compounds (VOC) and toxic air contaminants (TAC) from the above operation shall be documented. These records shall be made available to the host site or the District upon request. (NSR, Rules 1200 and 21)	Total emissions of volatile organic compounds (VOC) and toxic air contaminants (TAC) from the above operation shall be documented. These records shall be made available to the host site or the District upon request. (NSR, Rules 1200 and 21)
	The adhesive operation described above shall only be conducted and operated at the piers and docks of the stationary sources listed in the equipment description. (Rules 1200, 20.2, 20.3, 21)	Removed
3		Annual emissions of toxic air contaminants (TACs), as defined in District Rule 1200 (Revisions Effective 09/19/23), shall be limited to the following, per twelve (12) consecutive month period:

		<p>1-Chloro-4-(trifluoromethyl)benzene (PCBTF, CAS #: 98-56-6): 62 lbs/year</p> <p>Compliance with these limits shall be demonstrated through record keeping and District defined emissions calculation method established in the conditions of this Permit. (Rule 1200 and 21)</p>
4		<p>1-Chloro-4-(trifluoromethyl)benzene (PCBTF) emissions shall be calculated as follows: Emissions/Day = U x D x Ci Where U = Daily usage of materials containing PCBTF (gallons/day) D = Density of material per SDS (pounds/gallon) Ci = Weight fraction of PCBTF in material per SDS (%)</p> <p>Emissions for each 12-month period shall be calculated by summing the daily emissions for each month included in that period. (Rule 1200)</p>
5	All equipment and/or materials associated with air contaminant emissions from this operation or that affects the air contaminant emissions shall not deviate from the above equipment description. The permittee shall submit an application to the District and wait for approval in writing prior to modifying any such equipment. (Rule 10)	
6	Adhesive materials, adhesive bonding agents, stripping, surface preparation, and cleaning materials used in this adhesive materials application operation shall comply with Rule 67.21 requirements. (Rule 67.21)	
7	All materials containing volatile organic compounds shall be stored in closed containers in accordance with Rule 67.17 requirements. (Rule 67.17)	
8	The permittee shall not use more than a total of 55 gallons of non compliant materials in a calendar year at a stationary source. These materials include: adhesive materials, surface preparation, stripping, cleanup materials, and adhesive bonding agents. In order to	

	claim this exemption, the permittee shall comply with the recordkeeping standards of Rule 67.21.	
9	<p>VOC containing materials used for surface preparation, stripping, cleanup or used as an adhesive bonding agent shall meet one of the following requirements:</p> <p>a. the VOC content does not exceed 70 grams per liter (0.58 pounds per gallon) of material; or</p> <p>b. the initial boiling point is at least 190° C (374° F); or</p> <p>c. the total VOC vapor pressure is 45 mm Hg or less at 20° C (68° F). (Rule 67.21)</p>	
10	<p>VOC containing materials used to clean application equipment shall meet one of the following requirements:</p> <p>a. the VOC content does not exceed 70 grams per liter (0.58 pounds per gallon), as applied; or</p> <p>b. the initial boiling point is at least 190° C (374° F); or</p> <p>c. the total VOC vapor pressure is 45 mm Hg or less at 20° C (68° F); or</p> <p>d. the cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation to the atmosphere, or</p> <p>e. the application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning materials are being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases, or</p> <p>f. a system that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes, or</p>	

	<p>g. other application equipment cleaning methods are used that are demonstrated to be as effective as any of the equipment described above in minimizing the VOC emissions to the atmosphere, provided that the method has been tested and approved in writing by the Air Pollution Control Officer prior to use. (Rule 67.21)</p>	
11	<p>Permittee shall maintain records in accordance with Rule 67.21. The records shall contain, at minimum, the following information:</p> <p>a. current list of all materials containing VOCs, including all adhesive materials, stripping, surface preparation and cleaning materials. The materials shall be identified as follows:</p> <p>i. the category of adhesive material as specified in Rule 67.21(d), including manufacturer name and identification, VOC content, and mix ratios; and,</p> <p>ii. VOC content, vapor pressure and/or initial boiling point, as applicable to demonstrate compliance with Rule 67.21, for each adhesive bonding agent, stripping, surface preparation and cleaning material;</p> <p>b. daily usage records of all materials used, including location of material use;</p> <p>c. current material safety data sheets (SDS) or manufacturer's specifications for all materials used. SDS and manufacturer's specifications shall, at a minimum, contain the following information: VOC content weight or weight percentage, TAC content weight or weight percentage and material density (weight per volume) or material specific gravity (material density relative to the density of water) for all materials used. (Rules 67.21 and 21)</p>	
12	<p>All records shall be retained on site for at least three (3) years and made readily available to the District upon request.</p>	

13	Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.	
14	This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.	
15	The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)	