apcd air pollution control district
SANTA BARBARA COUNTY

March 29, 2022

Via Email
Read Receipt Requested

Ms. Kimberlee Harding
Vandenberg SFB, Space Launch Delta 30
1028 Iceland Avenue, 30 CES/CEIEC
Vandenberg SFB, CA 93437-6010

**Re: Conditional Approval of 2018 Air Toxics Emission Inventory Report VSFB**
**Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)**

Dear Ms. Harding:

The Santa Barbara County Air Pollution Control District (District) has reviewed your Air Toxics Emission Inventory Report (ATEIR) for inventory year 2018 dated June 11, 2021. Based on our review of this report, the District *conditionally approves* the revised ATEIR subject to changes noted in Attachment A.

Please submit a final ATEIR, response letter and health risk assessment (HRA) by October 1, 2022. In addition, updated spreadsheets and a response to ATEIR Condition Approval Comment Numbers 12 and 13 are due June 1, 2022.

Electronic copies of the final ATEIR, response letter and HRA should be sent via email to CobbsR@sbcapcd.org.

If you have any questions or require additional information, please contact me at CobbsR@sbcapcd.org or (805) 979-8320.

Sincerely,

Robin Cobbs
Engineering Division

cc: VSFB SSID 01195 Project File
VSFB SSID 01195 Toxics File
Toxics Group
Engr Chron File

Attachment A: ATEIR Conditional Approval Items
Attachment B: Excel Spreadsheet: *6 – EOD – Emissions Feb2022_Revised by APCD.xlsx*

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# VSFB 2018 ATEIR Conditional Approval Items

1. Modeling Comments.

   a. PROFBASE Parameter: Update the Modeling Protocol Tables with the PROFBASE parameter of 48 meters for the Lompoc Watt Rd meteorological data set based on the District's *Modeling Guidelines for Health Risk Assessments*, Form-15i.

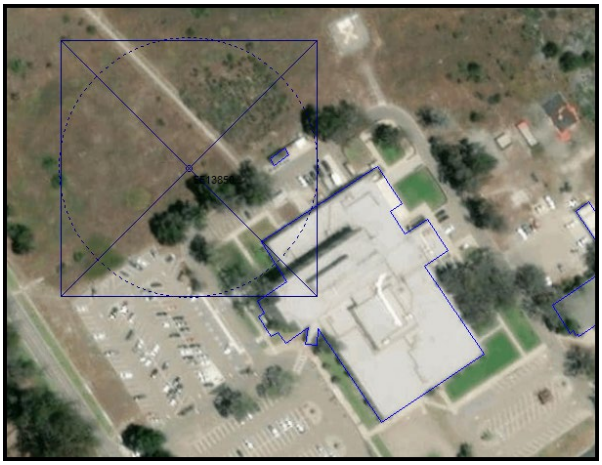
   b. Grouping Emission Sources: Some sources have identical modeling parameters but different source IDs and/or description. For example, AB4164 (Abrasive Blasting) and AB4153 (Solvent and Chemical Usage) are identical volume sources. To reduce processing time while running the dispersion model, you may eliminate a duplicate source by assigning all emissions from the two sources with identical modeling parameters to a single source. This is optional and is not required.

   c. Volume Source Revisions: There are many volume sources that must be revised due to orientation and size. In addition, some of these large volume sources overlap receptors (e.g., EE6601). For more complex building shapes, breaking the building into two or more volume sources will provide a more accurate shape. Table 1 on the following page lists the volume sources that must be revised.

      i. In addition to the sources listed in Table 1, there are other volume sources that could be revised due to size and/or orientation. However, since these issues are more minor or the source is in a remote location, revisions to these volume sources are not required at this time. During the health risk assessment (HRA) process, if an elevated risk receptor is found near a volume source with minor orientation or size issues, revisions to that volume source may be required.

      ii. Many volume sources are far larger than expected and not centered on the represented building. For example, volume source EE13850 is appropriately sized for the building, but is not centered on the building, as shown in the first screenshot. In another example, while volume source FP13330 is centered on the building, the volume source is far too large with a side length of 310 meters as shown in the second screenshot. Some of the volume sources may be oversized due to grouping. While grouping sources is allowed under Section 4.3 of the 2018 ATEIP, grouped sources must be within 100 meters of each other. If the volume source exceeds 100 meters due to grouping, create additional volume sources.

Example 1: Source EE13850 is an appropriate size, but is not centered on the building.



Example 2: Source FP13330 is centered on the building, but is too large.


**Table 1. Volume Sources Requiring Revision**

| Name | Type | Length of Side (m) | Sigma Y (m) | Issue |
|---|---|---|---|---|
| FP11070 | Food Processing | 310.55 | 72.22 | Too large. |
| FP13330 | Food Processing | 207.05 | 48.15 | Too large. |
| AB4138 | Solvent and Chemical Usage | 184.47 | 42.90 | Too large and not centered on building. |
| EE8310 | Solvent and Chemical Usage | 184.47 | 42.90 | Too large and not centered on building. |
| FP10366 | Food Processing | 175.83 | 40.89 | Too large and not centered on building. |
| EE6601 | Solvent and Chemical Usage | 147.51 | 34.30 | Too large. |
| AB4358 | Solvent and Chemical Usage | 141.36 | 32.87 | Not centered on building. |
| EE13850 | Solvent and Chemical Usage | 123.37 | 28.69 | Not centered on building. |
| 9890 | Abrasive Blasting | 123.32 | 28.68 | Too large and not centered on building. |
| 110229 | Abrasive Blasting | 123.32 | 28.68 | Too large and not centered on building. |
| AB4318 | Abrasive Blasting | 123.32 | 28.68 | Too large and not centered on building. |
| AB705831 | Abrasive Blasting | 123.32 | 28.68 | Too large and not centered on building. |
| EE9320 | Solvent and Chemical Usage | 123.32 | 28.68 | Too large and not centered on building. |
| AB703462 | Abrasive Blasting | 110.44 | 25.68 | Too large and not centered on building. |
| AB4126 | Solvent and Chemical Usage | 110.44 | 25.68 | Too large and not centered on building. |
| EE10711 | Solvent and Chemical Usage | 110.44 | 25.68 | Too large and not centered on building. |
| FP10510 | Food Processing | 108.96 | 25.34 | Too large. |
| 384074 | Solvent and Chemical Usage | 87.28 | 20.30 | Not centered on building. |
| AB4153 | Solvent and Chemical Usage | 53.83 | 12.52 | Not centered on building. |
| AB4164 | Abrasive Blasting | 53.83 | 12.52 | Not centered on building. |
| AB3954 | Solvent and Chemical Usage | 50.00 | 11.63 | Not centered on building. |
| EE860 | Solvent and Chemical Usage | 32.00 | 7.44 | Not centered on building. |
| EE861 | Solvent and Chemical Usage | 70.14 | 16.31 | Too large and not centered on building. |

2. General Comments.

   a. PAH Pollutant ID: Use pollutant ID 1151 for polycyclic aromatic hydrocarbons (PAHs) in the HRA for all devices as there is no health risk data assigned to pollutant ID 1150.

   b. Diisocyanates: The District found that multiple diisocyanates are emitted by VSFB that do not have specific pollutant IDs listed in Appendix A-1 of the California Air Resources Board's (CARB) Emission Inventory Criteria and Guidelines (EICG), and were therefore not specifically quantified in the ATEIR. The EICG, including Appendix A-1, is in the process of being updated by CARB[1]. The District is not requiring that all new draft Appendix A-1 pollutants are included in your ATEIR. However, the new pollutant group of "diisocyanates," pollutant ID 1219 should be included in your 2018 ATEIR as these pollutants have important risk data. The Office of Environmental Health Hazard Assessment's (OEHHA) March 2016 *Methylene Diphenyl Diisocyanate (Monomer and Polymeric Forms) Reference Exposure Levels: Technical Support Document for the Derivation of Noncancer Reference Exposure Levels* notes that the reference exposure levels (RELs) apply to the monomeric methylene diphenyl diisocyanate (MDI) and polymeric MDI (PMDI). OEHHA's September 2019 *Hexamethylene Diisocyanate Reference Exposure Levels (Monomer and Polyisocyanates): Technical Support Document for the Derivation of Noncancer Reference Exposure Levels* includes RELs for hexamethylene-1,6-diisocyanate (HDI) and HDI-based polyisocyanate mixtures. The District contacted OEHHA to determine if these pollutants (MDI isomers and HDI isomers) should be included in the AB 2588 emissions inventory. OEHHA stated these specific pollutants should be included and noted that **all** diisocyanates have the potential to cause sensitization and asthma with multiple exposures. Please revise the ATEIR to include all diisocyanates. Indicate both the pollutant specific CAS No. and the new pollutant ID 1219 for the pollutant group of "diisocyanates." For the HRA[2], include all MDI monomers and MDI polymers as methylene diphenyl diisocyanate CAS No. 101-68-8, and include HDI monomers and HDI polymers as the pollutant specific CAS No. From the review of VSFB's Safety Data Sheets (SDSs) for chemical usage and the paint spray booths, the District identified the following diisocyanates in Table 2 below that must be included (this list may not be complete as not every SDS was reviewed):

**Table 2. Diisocyanates that Must be Included in ATEIR**

| CAS No. | Pollutant Name | Alternative Name | Type |
|---|---|---|---|
| 9016-87-9 | Polymeric methylene diphenyl diisocyanate | Diphenylmethanediisocyanate isomers and homologues | PMDI |
| 25686-28-6 | 4,4'-Methylenediphenyl diisocyanate, oligomers | Benzene, 1,1'-methylenebis(4-isocyanato-), homopolymer | PMDI |
| 26447-40-5 | Methylenebis(phenyl isocyanate) | Diphenylmethane diisocyanate | Monomer of MDI |
| 5873-54-1 | 2,4'-diphenylmethane diisocyanate | Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]- | Monomer of MDI |
| 28182-81-2 | Homopolymer of Hexamethylene Diisocyanate | Polymeric hexamethylene diisocyanate | HDI polyisocyanate |

3. Calculation ID 1 – Abrasive Blasting. There were multiple SDSs submitted for the same type of abrasive material. The ATEIR spreadsheet, *1 - Abrasive Blasting - Emissions.xlsx*, does not contain

[1] Amendments to CARB's EICG are available here: https://ww2.arb.ca.gov/rulemaking/2020/hotspots2020.
[2] This direction may change based on updates to the HARP health table and/or updates to Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values.

enough detail on the product name to determine which specific material was used for sand and aluminum oxide grit. See comments below:

a. Sand: Three SDSs were submitted for this type of material (identified below). However, based on the weight fractions in the spreadsheet, it appears that all the sand was for one specific product (i.e., Martin Marietta Materials). Revise the spreadsheet to include the specific product name (e.g., Gordan Sand Company Golden Flint G-20). Please confirm that the Green Diamond Sand Products and that the Gordan Sand Company products were not used. If these products were used, revise the spreadsheet accordingly.

   i. Martin Marietta Materials for Natural Sand/Gravel.

   ii. Green Diamond Sand Products – Abrasive Products 1636, 1650, 2050, 3060.

   iii. Gordan Sand Company for Golden Flint G-16, G-20, G-30, G-40, G-50, G-60; Natural Fine Aggregate.

b. Aluminum Oxide Grit: Two SDSs were submitted for this type of material (identified below). However, based on the weight fractions in the spreadsheet, it appears that all the Aluminum Oxide Grit refers to one specific product (i.e., Environmental Abrasives LLC for Fused Alumina Ceramic). Revise the spreadsheet to include the specific product name. Please confirm that the AGSCO Corporation for Aluminum Oxide Brown was not used. If this product was used, revise the spreadsheet accordingly.

   i. AGSCO Corporation for Aluminum Oxide Brown.

   ii. Environmental Abrasives LLC for Fused Alumina Ceramic; White Lightening.

Please note that the District accepts the zero-control efficiency used for the permit-exempt abrasive blasting units. If the HRA shows that these units create a significant health risk, a Risk Reduction Audit and Plan (RRAP) may be used to propose control efficiencies (with documentation) for these units.

4. Calculation ID 2a – Boiler-Heater Natural Gas.

   a. Formula: Use a formula in the spreadsheet, *2a - Boiler-Heater Natural Gas - Emissions.xlsx*, to show how the annual fuel usage was determined for devices without fuel meters (i.e., fuel usage is not reported in the compliance verification report or annual report). For clarity, ensure that all values in the formula are defined.

   b. Missing Devices: The 2018 Annual Report shows natural gas usage for APCD DIDs 391690 and 391691 in Building 7000 and APCD DID 111779 in Building 6523. However, the ATEIR does not include these boilers in the spreadsheet, *2a - Boiler-Heater Natural Gas - Emissions.xlsx*. Update the spreadsheet to include these devices.

5. Calculation ID 2b – Boiler LPG. Use a formula in the spreadsheet, *2b - Boiler LPG - Emissions.xlsx*, to show how the annual fuel usage was determined for devices without fuel meters (i.e., fuel usage is not reported in the compliance verification report or annual report). For clarity, ensure that all values in the formula are defined.

6. Calculation ID 3 – Food Prep.

   a. PAH Pollutant ID: Pursuant to Comment No. 2.a. above, use pollutant ID 1151 for "PAHs" and "PAH wo/Naphthalene (Model as Benzo[a]pyrene)."

b. Burger King Emissions: It appears that emissions from Burger King are being double counted as both the restaurant and the fast-food emission factors were applied. Revise the spreadsheet, *3 - Food Prep - Emissions.xlsx*, to only use the fast-food factors for Burger King.

7. Calculation ID 4 – Process Heater.

a. DID 388395 Natural Gas Usage: The ATEIR spreadsheet, *4 - Process Heater Natural Gas - Emissions.xlsx*, shows that 367,400 scf of natural gas was used in 2018 for the Midco; Paint Booth Heater (DID 388395) while the annual report shows 373,400 scf. Confirm the correct value and revise the ATEIR as necessary.

b. DID 111748 Natural Gas Usage: DID 111748 is listed in the annual report as using the default rating method. By the default rating method, DID 111748 used 30.9 MMscf/yr. The ATEIR spreadsheet, *4 - Process Heater Natural Gas - Emissions.xlsx,* showed only 3.27 MMscf/yr. The ATEIR spreadsheet does not provide a formula or explanation for the 3.27 MMscf/yr. Use a formula in the spreadsheet, *4 - Process Heater Natural Gas - Emissions.xlsx*, to show how the annual fuel usage was determined for DID 111748. For clarity, ensure that all values in the formula are defined.

8. Calculation ID 6 – EOD.

a. Maximum Hourly Emissions: The ATEIP shows that the maximum hourly emissions will be based on the annual emissions divided by the number of operating *days*. However, the ATEIR spreadsheet, *6 - EOD - Emissions Feb2022.xlsx*, shows the maximum hourly emissions are based on the annual emissions divided by the total number of hours operated during 2018. Clarify if the number of operating days is equal to the number of operating hours (i.e., EOD operations occurred on 32 days for 1 hour or less each day). If the number of operating hours is not equal to the number of operating days, update the ATEIR spreadsheet to reflect the calculation shown in the ATEIP.

b. Bullets, Miscellaneous: The DODIC for the "Bullets, Miscellaneous" is AA40. The spreadsheet shows that emissions are calculated based on DODIC M174 instead of AA40. Table 19-3 of the Air Emissions Guide for Air Force Stationary Sources has toxic emission factors listed for AA40. Although this table was not specifically referenced in the ATEIP, this table is appropriate to use for DODIC AA40. For that reason, please update the ATEIR to use the emission factors from Table 19-3.

c. Worst-Case Emission Factors: The derived "worst-case" emission factor profile in the spreadsheet, *6 - EOD - Emissions Feb2022.xlsx*, is not a true worst-case. Although the highest emission factor for each pollutant was used to create the profile, the highest lb/item was also used. For the true worst-case, the highest ratio of emission factor to weight of item should be used. For example, for acenaphthylene (CAS No. 208-96-8), your spreadsheet showed that the worst-case emission factor was 3.3E-6 lb acenaphthylene/item. This "worst-case" emission factor was for DODIC M456 (PETN Type 1 Detonating Cord) where the weight of each item is 7.00E-3 lb/item. Dividing by the weight of that specific item, the emission factor becomes is 4.71E-4 lb acenaphthylene/lb detonating cord assembly. To calculate the worst-case emissions, your spreadsheet used the maximum weight of item for all the materials, which was 10.1 lb per DODIC M420 15-Pound Demolition Shaped Charge (M2A4). Dividing by maximum weight of item for all the materials, your emission factor becomes 3.27E-7 lb acenaphthylene/lb of charge = (3.3E-6 lb acenaphthylene/item)/(10.1 lb charge/item). In this example, your worst-case emission factor is three orders of magnitude less than the true worst-case emission factor. The District corrected this issue in the attached spreadsheet, *6 – EOD – Emissions Feb2022_Revised by APCD.xlsx*. Please update the ATEIR with the corrected spreadsheet.

9. Calculation ID 7a and b – ICE Diesel.

   a. DID 388171: The ATEIR spreadsheet, *7a and b - ICE Diesel - Emissions.xlsx*, shows that DID 388171 (Building 10525) operated for 4.6 hours for maintenance and testing (M&T) in 2018. However, the Second Half of 2018 Compliance Verification Report (2H18CVR) for Part 70 Permit 13968/Permit to Operate 13968-R1 (PT-70/Reeval 13968 R1) shows that this engine was removed in May 2017. Please review your records and revise the ATEIR as necessary.

   b. Horsepower Ratings: The horsepower ratings for two engines listed in the ATEIR spreadsheet are not consistent with the permit, PT-70/Reeval 13968 R2. Please revise the ATEIR to reflect the permit:

      i. DID 391888 (Building 21150): The ATEIR spreadsheet shows 1220 bhp while the permit equipment list for PT-70/Reeval 13968 R2 shows 382 bhp.

      ii. DID 113916 (Building 1735): The ATEIR spreadsheet shows 767 bhp while the permit equipment list for PT-70/Reeval 13968 R2 shows 757 bhp.

   c. Missing Devices: The following diesel internal combustion engines were included in the 2H18CVR with non-zero hours for M&T or NFPA 25/100, but were not included in the ATEIR spreadsheet, *7a and b - ICE Diesel - Emissions.xlsx*. Please update the spreadsheet to include these engines on the *Annual* tab, and if necessary, on the *Hourly* tab (based on Tier and rating).

      i. DID 107037 (Building 1581) 61 bhp: 13.2 hours for M&T.

      ii. DID 384070 (Building 3000) 1592 bhp: 8.4 hours for M&T.

      iii. DID 107137 (Building 21150) 540 bhp: 5.1 hours for M&T.

      iv. DID 107141 (Building 1829) 270 bhp: 5.7 hours for NFPA 25/100.

      v. DID 107142 (Building 1829) 270 bhp: 4.5 hours for NFPA 25/100.

      vi. DID 111769 (Building 1919) 67 bhp: 6.0 hours for NFPA 25/100.

   d. Hours of Operation: Discrepancies were found between the M&T hours listed in the ATEIR spreadsheet, *7a and b - ICE Diesel - Emissions.xlsx*, and the 2H18CVR for the engines listed in the table below. Please check your records and update the ATEIR as necessary.

| Building No. | DID | Rating (bhp) | ATEIR Hours | 2H18CVR Hours |
|---|---|---|---|---|
| 830 | 107000 | 685 | 36.8 | 19.1 |
| 1748 | 107032 | 166 | 15.0 | 15.1 |
| 1762 | 107007 | 50 | 14.7 | 12.7 |
| 1917 | 384076 | 680 | 11.9 | 12.5 |
| 2305 | 107143 | 231 | 18.1 | 10.6 |
| 2500 | 384069 | 1200 | 9.6 | 10.4 |
| 12000 | 114696 | 1141 | 9.5 | 8.5 |
| 23201 | 111125 | 99 | 16.2 | 14.8 |
| 661 | 386163 | 757 | 21.6 | 10.8 |
| 764 | 384071 | 685 | 21.1 | 12.4 |
| 830 | 111766 | 1490 | 19.0 | 18.3 |
| 1747 | 112689 | 755 | 15.0 | 15.2 |
| 1916 | 384077 | 563 | 12.68 | 11.65 |
| 2520 | 384066 | 1490 | 10.2 | 9.4 |

| Building No. | DID | Rating (bhp) | ATEIR Hours | 2H18CVR Hours |
|---|---|---|---|---|
| 11439 | 386166 | 145 | 28.8 | 14.4 |
| 12006 | 112255 | 2922 | 13.9 | 12.9 |
| 12006 | 112256 | 2922 | 13.8 | 11.9 |
| 232243 | 386257 | 904 | 27.4 | 12.2 |
| 232243 | 386258 | 904 | 27.8 | 15.4 |
| Basewide | 113280 | 145 | 27.0 | 27.2 |

10. Calculation ID 7e – ICE LPG. DID AB3278 is listed as 20 hp in the ATEIR spreadsheet, *7e - ICE LPG - Emissions.xlsx*. However, this device is shown as 27 hp in Appendix A of the ATEIR, *2008-2018 ATEIPs Device ID Correlation.xlsx*. Please check your records and update the ATEIR as necessary.

11. Calculation ID 9 – MVFF. The ATEIP shows that the maximum hourly emissions will be calculated based on the hourly permitted potential to emit (PTE). The maximum hourly emission in the ATEIR spreadsheet, *9 - MVFF - Emissions.xlsx*, were calculated based on the annual PTE divided by 8760 hr/yr, which does not result in a maximum hourly value. Furthermore, while daily PTE is listed in the permit, there are no hourly permitted limits for this equipment. Since no hourly PTE limits exist, the District recommends treating the MVFF maximum hourly emissions similarly to solvent usage without hourly records; revise the ATEIR to base the maximum hourly emissions on daily PTE. If you would like to use an alternative methodology, contact the District for approval.

12. Calculation ID 10 – Paint Spray Booths. It appears that some of the products listed in the 2H18CVR are mixtures. Due to the grouping of products in the 2H18CVR, the District cannot confirm all product usage listed in the ATEIR. Furthermore, the full product names are not included in the 2H18CVR, making reconciliation difficult. For example, the 2H18CVR for DID 388390 lists two coatings (Deft Inc Zinc Rich Primer and Hentzen Blue) and one solvent (Nexeo Solutions Acetone ASTM D32). However, the ATEIR lists seven products for DID 388390. For these reasons, the District's ATEIR review focused on products with high toxicity pollutants. Please be advised that if a paint spray booth is found to be a significant risk driving device during the HRA process, additional review and/or documentation may be required. Please address the following and **submit a revised spreadsheet for the paint spray booths by June 1, 2022**:

    a. Diisocyanates: Address Comment 2.b. above regarding diisocyanates for products used in paint spray booths.

    b. Crystalline Silica: Crystalline silica was not included in ATEIR spreadsheet, *10 - PSB - Emissions.xlsx*, although it is contained in some of the products used at VSFB (e.g., AMERICAN SAFETY TECHNOLOGIES AS-150 HAPS FREE SAFETY YELLOW). Crystalline silica is an Appendix A-1[3] pollutant with health risk data and must be included in the ATEIR and HRA. Please review the SDSs for crystalline silica and add this pollutant to the ATEIR.

    c. DID 107926: The reported annual usage in the 2H18CVR does not appear to match the usage reported in the ATEIR spreadsheet for the following materials:

        i. PREMIUM COMMERCIAL COATING 2.8 VOC URETHANE HARDENER is shown in the ATEIR spreadsheet with an annual usage of 0.25 gal/yr. PREMIUM COMMERCIAL COATING URETHANE ACCELERATOR is shown in the ATEIR with an annual usage of 0.06 gallons. While the 2H18CVR does not show detailed material names, the 2H18CVR

[3] Appendix A-1 of CARB's Emission Inventory Criteria and Guidelines: https://ww3.arb.ca.gov/ab2588/final/a1.pdf

shows that 1.31 gallons of PCC 87- and 2.45 gallons of PCL 6701 were used in 2018. Please check your records and update the ATEIR spreadsheet as necessary.

ii. The 2H18CVR shows 2.00 gallons for Hentzen 32292APX TOPCOAT and 0.19 gallons of PRISM M 60- TOPCOAT were used in 2018. It appears that these products were not included in the ATEIR. Provide the SDSs for these products. If these products do not contain toxic pollutants, please clarify this. Otherwise, update the ATEIR with these products.

**Building #:** 875
**Permit #:** 13698-R1
**Device ID #:** 107926
**Operator:** United Paradyne

| MATERIAL | | | | July | | August | | September | | October | | November | | December | | 2018 Annual Tot | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND NAME | STOCK ID | GENERIC PRODUCT CLASS | ROC (LBS/GAL) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | TOTA EMISSIO (LBS |
| PCC | 87- | TOPCOAT | 2.57 | 0.13 | 0.33 | 0.00 | 0.00 | 0.12 | 0.31 | 0.00 | 0.00 | 0.25 | 0.64 | 0.06 | 0.15 | 1.31 | 3.37 |
| PCL | 6701 | PRIMER | 2.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 2.04 | 0.13 | 0.27 | 0.63 | 1.29 | 0.06 | 0.12 | 2.45 | 5.00 |
| HENTZEN | 32292APX | TOPCOAT | 2.79 | 0.50 | 1.40 | 0.00 | 0.00 | 1.00 | 2.79 | 0.00 | 0.00 | 0.50 | 1.40 | 0.00 | 0.00 | 2.00 | 5.58 |
| PRISM M | 60- | TOPCOAT | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.48 |
| INTREPID | 26915D | PRIMER | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.83 |
| ZRC | 40003 | PRIMER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 |

d. DID 108716:

i. The pollutants and weight fractions listed in the ATEIR spreadsheet for two materials 04Y001 MIL-PRF-85285D (MIL-PRF-85285C) and 04Y001CAT MIL-PRF-85285D (MIL-PRF-85285C) do not match the SDSs (Product NSN 8010012933797) submitted. Please confirm that the correct SDSs were used and update the ATEIR spreadsheet as necessary.

ii. The product listed in the 2H18CVR (Hentzen Blue Polyurethane) does not appear to match the two products listed in the ATEIR spreadsheet: 04Y001 MIL-PRF-85285D (MIL-PRF-85285C) and 04Y001CAT MIL-PRF-85285D (MIL-PRF-85285C), both manufactured by Deft, Inc. Please review your records and update the ATEIR spreadsheet as necessary.

**Building #:** 2007
**Permit #:** 13968-R1
**Device ID #:** 108716
**Operator:** 576th

| MATERIAL | | | | July | | August | | September | | October | | November | | December | | 2018 Annual Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND NAME | STOCK ID | GENERIC PRODUCT CLASS | ROC (LBS/GAL) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | EMISSIONS (LBS/MONTH) | TOTAL USAGE (GALS) | TOTAL EMISSIONS (LBS) |
| Hentzen | 04BL016 | Blue Polyurethane | 2.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.50 | 3.23 |

13. Calculation ID 12 – Chemical usage. Please address the following and **submit a revised ATEIR spreadsheet for chemical usage by June 1, 2022**:

a. Diisocyanates: Address Comment 2.b. above regarding diisocyanates for chemical usage.

b. Crystalline Silica: Crystalline silica was not included in ATEIR spreadsheet, *2 - ChemUsage - Emissions.xlsx*. Crystalline silica is an Appendix A-1[4] pollutant with health risk data and must be included in the ATEIR and HRA. Please review the SDSs for crystalline silica and add this pollutant to the ATEIR.

c. Formulas: Update the "Annual Emissions (lbs)" column to include a formula for every cell. The "Annual Emissions (lbs)" column contains some formulas, but many cells have numerical values without a formula.

d. Transfer Efficiency for Aerosol Containers: Based on the SDS and product name for SO-SURE ZINC CHROMATE AEROSOL PRIMER, it appears that this product was applied via an aerosol container. For that reason, a 99 percent transfer efficiency is not applicable. The District will accept a transfer efficiency of 35 percent based on *CAPCOA's Air Toxics "Hot Spots" Program Auto Bodyshop Industrywide Risk Assessment Guidelines* for conventional (air atomized) spray guns. Update the ATEIR accordingly.

[4] Appendix A-1 of CARB's Emission Inventory Criteria and Guidelines: https://ww3.arb.ca.gov/ab2588/final/a1.pdf

e. Transfer Efficiencies by Pollutant: In addition to metals, several pollutants are listed in the spreadsheet as solids with a transfer efficiency of 99 percent. While this is appropriate for metals, it is not appropriate for the other pollutants listed in the spreadsheet as a solid. For example, cumene hydroperoxide should not be listed as a solid and no transfer efficiency applies to cumene hydroperoxide. Revise the ATEIR to list only metals and crystalline silica as solids. In addition, remove the transfer efficiencies of all pollutants except metals and crystalline silica.

f. CAS Numbers: There are several toxic metal compounds listed in the spreadsheet with a CAS number for the specific compound. While the CAS numbers are correct, these specific pollutants do not contain health data and therefore will not be treated correctly in the HRA. See comments below:

   i. Hexavalent chromium compounds. The chromium compounds listed below must be treated as hexavalent chromium with the molecular weight adjustment factor, as explained in the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. (Note: There are two hexavalent chromium compounds emitted by VSFB, barium chromate and strontium chromate, that have CAS Nos. specifically listed in OEHHA/ARB's consolidated table with risk data; these two pollutants do not need to be included as hexavalent chromium compounds and should instead be listed with their specific CAS No.)

      1. Zinc Chromate. CAS No. 13530659.
      2. CHROMIC ACID, CHROMIUM(3+) SALT (3:2). CAS No. 24613896.
      3. CHROMIC(VI) ACID. CAS No. 7738945.
      4. POTASSIUM ZINC CHROMATE HYDROXIDE. CAS No. 11103869.

   ii. Manganese Dioxide. CAS No. 1313139. This pollutant must be treated as manganese with the molecular weight adjustment factor, as explained in the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values.

g. Safety Data Sheets:

   i. The SDS for the product, DOD-P-15328D GREEN ACID ETCH, shows the CAS No. of potassium zinc chromate, 11103869, but the pollutant name of "zinc chromate". The correct CAS No. is for zinc chromate is 13530659. The preparation date of the SDS is July 10, 2009. The District searched for an updated SDS online but was unable to find one. If available, provide an updated SDS that clarifies this issue. Otherwise, contact the manufacturer to determine if the pollutant is potassium zinc chromate or zinc chromate. Update the ATEIR as necessary.

   ii. The SDS for the product, DODP15328DB, DODP15328D F-117 PRE-TREAT BASE, could not be found (Product NSN 8030008507076 with SDS Prep Date of 9/1/2004). The ATEIR shows that this product contains 8.83 percent zinc chromate (CAS No. 13530659). Please provide the missing SDS.

   iii. The SDS for the product, ANTI SEIZE SEALING COMPOUND HIGH TEMPERATURE, could not be found (Product NSN 8030002513980 with SDS Prep Date of 3/15/2011). The ATEIR shows that this product contains 70 percent lead. Please provide the missing SDS.

   iv. The SDS for the product, 3M MARINE ADHESIVE SEALANT 5200 BLACK PN 06504, PN 05205, could not be found (Product NSN 8030PHM00080059 with SDS Prep Date of 10/29/2014). The ATEIR shows that this product contains diisocyanates. Please provide the missing SDS.

h. Double Counting: It appears that some of the material usage in the ATEIR may be doubled counted by being listed twice. For example, the product, 1103A, POWERHOUSE 1100A SILICONIZED ACRYLIC LATEX SEALANT - 60 YEAR BRONZE, is listed in the ATEIR

twice; once with a usage of 47.663 lb/yr and a second time with a usage of 47.592 lb/yr. However, the 2H18CVR indicates that 47.592 lb/yr of this product were used. Please review your records and revise the ATEIR as necessary.

| AB2588 Device ID | Source Category | Product NSN | SDS Prep Date | Product Name | Pollutant CAS # | Pollutant Name | Pollutant Max % | Solid or Volatile? | MAX Month | Hourly Emission (lbs) | Annual Total (lbs) | Annual Emission (lbs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EE11439 | CHEM | 8030PHM00082174 | 2015/07/25 | 1103A, POWERHOUSE 1100A SILICONIZED ACRYLIC LATEX SEALAN | 107211 | ETHYLENE GLYCOL | 1.1 | V | 33.4653 | 0.016964 | 47.6627 | 0.5242897 |
| EE11439 | CHEM | 8030PHM00082174 | 2015/07/25 | 1103A, POWERHOUSE 1100A SILICONIZED ACRYLIC LATEX SEALAN | 107211 | ETHYLENE GLYCOL | 1.1 | V | 33.41546 | 0.0169387 | 47.591716 | 0.523508876 |

**2H18 Semi-Annual Compliance Verification Report**
**Miscellaneous ROC Containing Solvents [1]**
**Permit to Operate 13968-R1/Part 70 Permit 13968**
**SBCAPCD Device ID # 114277**

| Material Name | Quantity Used (lbs) | ROC Content (WT PCT) | ROC Emissions (lbs) |
|---|---|---|---|
| 0084-348; ZINC CHROMATE PRIMER; GREEN 34151; FLAT; AEROSOL | 0.719 | 75.88 | 0.545 |
| 0144-111; SO-SURE AEROSOL ACRYLIC LACQUER; RED 11136 | 0.172 | 78.73 | 0.135 |
| 0224-392; SO-SURE TAN OBLITERATING COMPOUND; AEROSOL | 2.722 | 66.15 | 1.801 |
| 02GN084 BASE COMPONENT | 9.510 | 28.14 | 2.676 |
| 02GN084CAT CURING SOLUTION | 2.249 | 17.60 | 0.396 |
| 02Y040A BASE COMPONENT | 0.457 | 20.21 | 0.092 |
| 02Y040A CURING SOLUTION COMPONENT | 0.094 | 38.78 | 0.036 |
| 02Y040A; MIL-PRF-23377J; COMPONENT A | 0.503 | 20.22 | 0.100 |
| 02Y040ACAT; MIL-PRF-23377J; COMPONENT B | 0.310 | 38.60 | 0.120 |
| 03082; DI-ELECTRIC GREASE (AEROSOL) | 0.625 | 90.11 | 0.563 |
| 03W127A BASE COMPONENT | 0.052 | 17.19 | 0.008 |
| 05037; WHITE LITHIUM GREASE | 0.625 | 84.76 | 0.530 |
| 0674-111; ECO-SURE INDUSTRIAL ENAMEL AEROSOL PAINT | 0.516 | 72.49 | 0.374 |
| 0674-120; ECO-SURE INDUSTRIAL ENAMEL AEROSOL PAINT | 0.516 | 75.54 | 0.390 |
| 0674-130; ECO-SURE INDUSTRIAL ENAMEL AEROSOL PAINT | 0.516 | 73.10 | 0.377 |
| 0674-170 ECO-SURE INDUSTRIAL ENAMEL PAINT | 0.103 | 72.06 | 0.074 |
| 0674-341; ECO-SURE INDUSTRIAL ENAMEL AEROSOL PAINT | 0.688 | 68.13 | 0.468 |
| 0674-390; ECO SURE INDUSTRIAL ENAMEL AEROSOL PAINT | 6.016 | 68.70 | 4.130 |
| 0724-001; PRO LUBE II; AEROSOL | 0.938 | 40.88 | 0.383 |
| 0954-000; CORROSION PREVENTIVE COMPOUND; AEROSOL | 0.906 | 37.50 | 0.340 |
| 0954-000; CORROSION PREVENTIVE COMPOUND; AEROSOL | 0.906 | 46.45 | 0.421 |
| 0954-000; CORROSION PREVENTIVE COMPOUND; AEROSOL | 2.673 | 46.45 | 1.242 |
| 0964-000 CORROSION PREVENTIVE COMPOUND; AEROSOL | 0.952 | 72.02 | 0.686 |
| 1103A; POWERHOUSE 1100A SILICONIZED ACRYLIC LATEX SEALANT - 60 YEAR BRONZE | 47.592 | 1.09 | 0.517 |
| 1201B GLYPTAL | 2.958 | 28.88 | 0.854 |

14. Calculation ID 14 – Turbines NG. The PAH emission factor listed in the ATEIR spreadsheet, *14 - Turbine NG - Emissions.xlsx*, is consistent with the ATEIP and the District's June 2020 default emission factors[5]. However, in August 2021, the District updated the default emission factors for natural gas-fired turbines which resulted in a higher PAH value. (The revisions and reasons for revisions are explained in the memo located here: https://www.ourair.org/wp-content/uploads/PAH-and-Naphthalene-Emission-Factors-for-Natural-Gas-Fired-Turbines-Memo.pdf.) While the District would not require this type of revision for a less toxic pollutant, it is important to make this update since PAHs are highly toxic and a small emissions increase could create a significant risk. For that reason, to avoid the requirement of an additional update year for AB 2588, the District recommends using the updated PAH emission factor from our default emission factors. Please update the ATEIR with the District's August 2021 *Approved Emission Factors for Toxic Air Contaminants* for natural gas turbines, available at: https://www.ourair.org/wp-content/uploads/SBCAPCD-Approved-TAC-Emission-Factors.xlsx.

[5] Santa Barbara County Air Pollution Control District's June 2020 *Approved Emission Factors for Toxic Air Contaminants* as described in the June 2020 version of *SBCAPCD-Approved TAC Emission Factors.xlsx*.

ATTACHMENT B

# Revisions to EOD Emission Calculations

The spreadsheet, *6 – EOD – Emissions Feb2022_Revised by APCD.xlsx,* is available to download at the following link until May 1, 2022:

https://sbcapcd-my.sharepoint.com/:x:/g/personal/rfc_sbcapcd_org/ERsTNJcX7N1IoR4K_tLkH4gBkCQqVwYFSBayvFZsFA0N1g?e=Qx6kH2