



DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF AIR QUALITY

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DAQE-067-95

January 31, 1995

James R. Van Orman  
Director, Environmental Management  
Headquarters Ogden Air Logistics Center  
Department of the Air Force  
Hill Air Force Base, Utah 84056

Re: . Modified Approval Order to DAQE-1006-94, Paint Booth Consolidation

Dear Mr. Van Orman:

The attached document is an Approval Order with Fee Statement in the amount of \$400.00 for the above referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Arjun Ram. He may be reached at (801) 536-4066.

Sincerely,

Russell A. Roberts, Executive Secretary  
Utah Air Quality Board

RAR:AR:dn

4.2.4-226

Abstract

This Approval Order (AO) consolidates the permit requirements for all paint booths at Hill Air Force Base (HAFB). This AO covers booths that are presently permitted, those that require permits (proposed booths and existing booths in operation), and grandfathered booths. The sum of the allowable volatile organic compound (VOC) emissions from booths that are presently permitted is 201.2 tons per year. HAFB anticipates that no more than 201.2 tons per year of VOCs will be emitted out of all the paint booths at the base, including emissions from presently operating and permitted booths, booths operating without a permit, grandfathered booths, and future booths. HAFB will centrally monitor and manage the VOC emissions from the paint booths on the base. The following emissions are expected from the facility:

Volatile Organic Compounds (VOCs)	201.2 tons per year
Total Suspended Particulates (TSP)	1.5 tons per year
PM <sub>10</sub>	0.6 tons per year

General Conditions:

1. This AO applies to the following company:

Department of the Air Force  
Headquarters Ogden Air Logistics Center (AFMC)  
Hill Air Force Base, Utah 84056-5990  
Telephone: (801) 777-0359  
Fax: (801) 777-4306

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

Universal Transverse Mercator (UTM) Coordinate System: 4,552,000 meters  
Northing, 415,000 meters Easting

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Air Conservation Rules (UACR), Utah Administrative Codes (UAC), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence unless specifically defined otherwise herein.
3. Hill Air Force Base shall install and operate the paint booths according to the information submitted in the Notice of Intent dated July 29, 1993, and additional information submitted to the Executive Secretary dated January 12, 1994; February 14, 1994; May 4, 1994; and September 20, 1994.
4. A copy of this AO shall be posted on site. The AO shall be available to the employees who operate the air emission producing equipment. These employees shall receive instruction as to their responsibilities in operating the equipment according to all of the relevant conditions listed below.

5. The approved installations shall consist of the paint booths listed in Table 1 and Table 2, which are given below. This AO is also applicable to several portable, custom built paint booths which are used to paint such portions of the aircraft that typically cannot be painted in other installed paint booths, listed in Table 1 and Table 2. The conditions in this AO that are applicable to individual paint booths shall apply to each of the paint booths listed in Table 1 and Table 2, unless indicated otherwise. The information provided in Table 1 and Table 2 about the characteristics of each paint booth is only to be used to identify the booths and the stacks.

**Table 1:** The following booths have been permitted by previously issued AOs. This AO shall replace all painting related conditions in the AO for the individual paint booths given in the table below:

Building (AQIS #)	Previous AO (if issued)	Manufacturer	Design Flowrate (CFM)	Type	Stack Diameter (inches)
5D (3314)	BAQE-977-1	Binks	10,500	Water Fall	34"
5N (3859)	DAQE-167-92	DeVilbiss	2,000	Dry	12"
48 (3649)	7/18/83	Custom	140,000	Dry	60"
220 (3116)	DAQE-167-92	Binks (9 Bays)	18,500 per bay	Water Fall (each bay)	2 @ 48" (each bay)
220 (3117)	DAQE-036-87	DeVilbiss (6 bays)	11,500 per bay	Water Fall (each bay)	60" (each bay)
238 (34265)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34268)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34271)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34274)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34277)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34280)	BAQE-525-88	Binks	12,000	Water Fall	36"
238 (34244)	BAQE-525-88	Binks	8,000	Water Fall	24"
270 (3903)	BAQE-454-89	IBI	470,000	Dry	6 @ 60"
507 (3050)	BAQE-551-89	DeVilbiss	25,000	Water Fall	2 @ 42"
507 (3053)	6/27/78	DeVilbiss	14,000	Water Fall	48"
507 (3054)	6/27/78	DeVilbiss	14,000	Water Fall	48"
507 (3055)	6/27/78	DeVilbiss	14,000	Water Fall	48"
507 (3056)	6/27/78	DeVilbiss	14,000	Water Fall	48"
507 (3057)	6/27/78	DeVilbiss	27,175	Water Fall	42"

507 (3058)	6/27/78	DeVilbiss	27.175	Water Fall	42"
507 (3251)	6/27/78	DeVilbiss	27.175	Water Fall	42"
509 (3150)	BAQE-494-89	DeVilbiss	16.000	Water Fall	34"
509 (3151)	BAQE-494-89	DeVilbiss	16.000	Water Fall	34"
509 (3153)	BAQE-494-89	DeVilbiss	2.141	Dry	16"
509 (34058)	BAQE-494-89	DeVilbiss	2.141	Dry	16"
514 (3102)	BAQE-174-91	DeVilbiss	5.250	Dry	24"
534 (3737)	BAQE-359-88	Custom	12.000	Dry	16"
751 (34161)	DAQE-752-93	Binks	3.500	Dry	18"
847 (3156)	BAQE-030-88	Binks	193.600	Water Fall	8 @ 36"
1133 (3734)	BAQE-029-88	Custom	43.000	Dry	60"
1251 (3741)	BAQE-101-89	Binks	27.000	Dry	42"
1424 (34256)	BAQE-355-88	Binks	25.200	Water Fall	48"
1701 (3915)	BAQE-039-91	DeVilbiss	18.000	Dry	34"
1701 (3919)	BAQE-039-91	JBI	190.000	Dry	6 @ 60"
1913 (3728)	BAQE-026-88	DeVilbiss	17.900	Dry	42"
1938 (3560)	BAQE-642-88	Binks	10.000	Dry	36"
2026 (3732)	BAQE-977-1	Binks	15.000	Dry	34"

**Table 2:** The following booths have been constructed. They shall be permitted to operate under the conditions of this AO.

Building (AQIS #)	Manufacturer	Design Flowrate (CFM)	Type	Stack Diameter (inches)
5E (3332)	Binks	5,000	Dry	18"
12 (3953)*	Custom	10,500	Dry	36"
48 (3650)	JB I	15,000	Water Fall	48"
100J (3286)	Binks	7,700	Dry	36"
100J (3292)	DeVilbiss	13,500	Water Fall	48"
220 (3982)	DeVilbiss	25,200	Water Fall	6 @ 36"
238 (34407)	DeVilbiss	45,000	Water Fall	2 @ 20"
505 (3263)	Paasch	7,500	Water Fall	42"
509 (34901)	DeVilbiss	18,200	Water Fall	40"
509 (34902)	DeVilbiss	18,200	Water Fall	40"
515 (34409)	DeVilbiss	48,000	Dry	2 @
590 (3929)	Protectaire	6,000	Water Fall	36"
592 (3931)	Protectaire	10,000	Water Fall	36"
810 (34217)	DeVilbiss	8,000	Dry	42"
847 (3247)	Binks	15,000	Water Fall	48"
847 (3248)	Binks	16,000	Water Fall	48"
988 (34408)	DeVilbiss	6,000	Dry	42"

\*Grandfathered booth that is permitted under this consolidated permit

The requirements of Condition #10 (use of high VOC paints) voids the AO DAQE-548-91, dated August 6, 1991.

6. A Notice of Intent is required if HAFB plans to construct new paint booths at the Base (refer to Condition #1 for Base location) in the future. Such new paint booths may be appended to the list of paint booths in Table 1 (Condition #5) of this consolidated AO. For new paint booths, the Executive Secretary shall be notified in writing upon start-up of the installation, as an initial compliance inspection is required. Eighteen months from the date of this AO the Executive Secretary shall be notified in writing of the status of construction/installation if construction/installation

is not completed. At that time the Executive Secretary shall require documentation of the continuous construction/installation of the operation and may revoke the AO in accordance with R307-1-3.1.5. UAC.

Limitations and Tests Procedures

7. Visible emissions from any point or fugitive emissions source associated with the paint booths shall not exceed 10% opacity. Opacity observations of emissions from the paint booths shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9, but the requirement for observations to be made at 15-second intervals over a six-minute period shall not apply. Any time interval with no visible emissions shall not be included.
  
8. The VOC emissions from all painting operations at HAFB shall not exceed a combined total of 201.2 tons per year for high-VOC and low-VOC paints. This limit includes painting operations in paint booths, identified in Condition #5, as well as other painting operations identified in Condition #11. Compliance with the annual limitations shall be determined on a rolling 12-month total. HAFB shall calculate a new 12-month total before the fifteenth day of each month using data from the previous 12 calendar months. Records of paint/thinner consumption shall be kept on a daily basis for all periods when the paint booths are in operation. Records of paint/thinner consumption, including rolling 12-month totals, shall be made available to the Executive Secretary or his representative upon request, and shall include a period of two years ending with the date of the request. For reporting VOC emissions from clean-up operations, refer to Condition #13 B. The records shall include the following data for each item (paint/thinner) used by the paint booths:
  - A. Name of paint or thinner
  - B. VOC content of the paint (pounds of VOC per gallon of paint)
  - C. Amount of paint used on a daily basis for each paint booth

VOC emissions from the paint shall be determined as follows:

$$\text{VOC emission (tons)} = \frac{(\text{VOC content of paint (lb/gal)}) * (\text{gallons of paint consumed})}{2,000 \text{ lb/ton}}$$

VOC emissions from solvents and thinners shall be determined as follows:

$$\text{VOC emission (tons)} = \frac{(\text{Density (lb/gal)}) * (\text{gallons of thinner or solvent consumed})}{2,000 \text{ lb/ton}}$$

The VOC emissions from each painting operation shall be calculated using the above procedure, for each paint booth. The combined total of the VOC emissions thus determined for all painting operations at HAFB shall not exceed 201.2 tons on a rolling 12-month basis.

9. Particulate control devices for the existing booths are given in Table 1 and Table 2 (Condition #5). All paint booths that HAFB plans to construct at the Base (refer to

Condition #1 for Base location) in the future shall be equipped with a water wall, or set of paint arrestor particulate filters to control particulate emissions, or equivalent. All air exiting the booth shall pass through this control system before being vented to the atmosphere. Equivalency shall be determined by the Executive Secretary.

10. The volatile organic content of the paints used in the booths shall not exceed 3.5 pounds per gallon without prior approval in accordance with R307-1-3.1, UAC, except for 3,500 gallons of high VOC paint (VOC content greater than 3.5 pounds per gallon) per rolling 12-month that may be used for:
  - A. specific painting operations for which low VOC paints (VOC content less than 3.5 pounds per gallon) are not commercially available, or
  - B. Painting operations that require high VOC paints because of performance specifications and corrosion control requirements.

High solids (low VOC) paints shall not be thinned or otherwise reduced beyond manufacturers recommendations. These parameters shall be tested if directed by the Executive Secretary using the appropriate American Society for Testing Materials (ASTM) method or another method approved by the Executive Secretary.

11. HAFB shall be permitted to paint (touch up) up to a maximum of 10 square feet area on any component or aircraft outside of the paint booths specified in Table 1 and Table 2 (Condition #5), within the Base (refer to Condition #1 for Base location). The following two situations are exemptions to this condition:
  - A. The use of 150 gallons of high VOC paint (this is included in the use of 3,500 gallons of high VOC paint allowed base-wide, as per condition #10) and 100 gallons of low VOC paint (high and low VOC paints are defined in Condition #10) at HAFB museum in accordance with DAQE-461-92.
  - B. The use of up to 200 gallons of paint per year for touch up painting associated with painting C-130 aircraft at HAFB.

Records shall be maintained on the amount of paint used for such "touch up" painting operations (including the paint used in the exemptions stated above), and the resulting emissions (determined according to the procedure described in condition #8) shall be accounted for in the rolling 12-month VOC emissions limit of 201.2 tons per year from all painting operations at HAFB.

12. HAFB shall operate paint guns and solvent cleaning stations for paint guns and other painting equipment according to the following conditions (in accordance with Section 4.9.4, UACR):
  - A. HAFB shall use paint gun cleaners to clean all paint guns. Fabricated paint gun cleaners shall only be used to clean those paint guns for which commercial paint gun cleaners are not available.

- B. A cover shall be installed which shall remain closed except during actual loading, unloading, or handling of parts in the cleaner. The cover shall be designed so that it can easily be operated with one hand.
- C. An internal draining rack for cleaned parts shall be installed on which parts shall be drained until dripping ceases. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- D. Waste or used solvent shall be stored in covered containers. Waste solvents or waste materials which contain solvents shall be disposed of by recycling, reclaiming, by incineration in an incinerator approved to process hazardous materials, or by an alternate means approved by the Executive Secretary.
- E. Tanks, containers, and all associated equipment shall be maintained in good operating condition and leaks shall be repaired immediately or the solvent cleaner shall be shut down.
- F. All painting operations for the exterior of the aircraft shall use High Volume Low Pressure (HVLV) spray guns, except in applications where the use of high VOC paint is required, as described in Condition #10 of this AO.
- G. Written procedures for the operation and maintenance of paint guns and solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment.

### Reporting

- 13. HAFB shall centrally manage and monitor the VOC emissions from all the paint booths (specified in Table 1 and Table 2, Condition #5), from portable paint booths, and from clean-up operations. The VOC emissions from the paint booths and clean-up operations shall be determined according to the method described in Condition #8. For each calendar year (January 1st to December 31st), HAFB shall submit to the Executive Secretary the following information before March 31st of the following year (except for item D under this condition):
  - A. A list of paints used in quantities greater than 1% of the Base-wide total annual paint usage. This list shall identify paint type, quantity, and VOC content in pounds per gallon. The Manufacturer's Material Safety Data Sheet (MSDS) for each of the listed paints shall be included with this list.
  - B. A list of thinners, solvents, and chemical compounds, consumed in the clean-up operations as defined in Condition #8. This shall only include VOC emissions from cleaning operations that use other than commercial paint gun cleaners. This list will identify material type, quantity, and VOC content in pounds/gallon. The MSDS for each of the listed paints shall be included with this list.
  - C. An inventory of all the paint booths with the monthly totals of all VOCs emitted from paints and thinners/solvents. These monthly totals shall be

- summed up to give an annual quantity of paints and thinners/solvents. This list will also be used to update the status of all booths located at HAFB.
- D. The total amounts of each Hazardous Air Pollutant (HAP) as defined in Title III of the Federal Clean Air Act as Amended in 1990, emitted from all the paint booths. This list will be submitted in conjunction with the annual Base-wide emission inventory of HAPs submitted to the Division of Air Quality (DAQ).
  - E. The amounts of VOCs or HAPs reclaimed (if any) shall be quantified and subtracted from the quantities calculated above, to provide the monthly and annual total VOC emissions.
  - F. Records of consumption of VOC emitting materials used in painting operations at HAFB shall be kept for all periods when any painting operations are performed at the Base. Records of consumption shall be made available to the Executive Secretary upon request, and shall include a period of two years ending with the date of the request.
14. All sources of HAPs are subject to the Operating Permit Program if one of the following conditions is met:
- A. The emissions of any one of the 189 HAPs listed in the 1990 Clean Air Act is over 10 tons/yr.
  - B. The emissions of any combination of these HAPs are over 25 tons/yr.
15. HAPs Reporting Criteria: HAFB is permitted to change the paint/solvent/thinner used in their painting operations without prior approval from DAQ, subject to the conditions listed in support document DAQE-068-95, dated January 30, 1995.

#### Miscellaneous

16. HAFB shall be permitted to use any of the paint booths (listed in Table 1 and Table 2, Condition #5) to perform any painting operation, provided that the booth manufacturer's operating specification and recommendations are complied with. HAFB is permitted to move any of the paint booths from its location given in Table 1 and Table 2 (Condition #5) to any other building location within the Base (Refer to Condition #1 for Base location). HAFB is required to submit a list of new locations for paint booths that have relocated during any calendar year, before March 31st of the following year. This AO shall then be revised by DAQ including the new locations of the paint booths in Table 1 and/or Table 2 in Condition #5.
17. All installations and facilities authorized by this AO shall be adequately and properly maintained. All pollution control vendor-recommended equipment shall be installed, maintained, and operated. Instructions from the vendor or established maintenance practices that maximize pollution control shall be used. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, etc., shall be installed and operated properly and

easily accessible to compliance inspectors. A copy of all manufacturers' operating instruction for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon their request.

18. The owner/operator shall comply with R307-1-3.5, UAC. This rule addresses emission inventory reporting requirements. The annual reporting requirements for compliance demonstration given in Condition #13 may be used as a guideline to comply with emission inventory reporting requirements. However, HAFB is required to submit any additional information in the appropriate format that may fulfill compliance with R307-1-3.5, UAC.
19. The owner/operator shall comply with R307-1-4.7, UAC. This rule addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. The total of excess emissions shall be reported to the Executive Secretary as directed for each calendar year. For the paint booths, any excess particulate emissions resulting from the malfunction or breakdown of particulate control devices (filters, baghouses, etc.), shall be reported to the Executive Secretary for each calendar year, before March 31st of the following calendar year.
20. Under section 40 of the Code of Federal Regulations, Part 51, Subpart H (51.150 to 153), it is required that sources plan emergency measures based upon the severity of the Non-Attainment area in which they operate. In Utah, these rules require that CO sources in CO Non-Attainment areas and sources of Ozone precursors in Ozone Non-Attainment areas, who emit at least 25 tons per year (see SIP section VII.B.) of either pollutant, submit an Emergency Episode Plan which provides for additional pollution reductions in the event of an Air Pollution Alert, Warning or Emergency Episode. These plans can include total shut-down of the process. The plan shall identify what control/production measures the owner/operator shall implement when an emergency episode is declared by the Executive Director of the Department of Environmental Quality. Specific control/production measures shall be outlined for all three levels (Alert, Warning, Emergency). HAFB shall submit to the Executive Secretary an emergency plan within 60 days of the date of this AO. The values for the various levels are listed in R307-1-5, UAC. Also see 40 CFR, Part 51, Subpart H (40 CFR 51.150 to 153) and appendix L. The emergency plan shall be approved by the Executive Secretary. The Alert Level actions to be taken should be curtailment of all unnecessary activities causing air pollution. The other two levels of actions should be a progressive curtailment of production and activities causing pollution, to the point of complete shutdown of operations.

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-1-3.1.1, UAC.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the UACR.

Annual emissions from all the paint booths listed in Table 1 and Table 2 (Condition #5) of this AO are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	PM <sub>10</sub> . . . . .	0.60
B.	Total Suspended Particulate (TSP) . . . . .	1.50
C.	VOC . . . . .	201.20

These calculations are for the purposes of determining the applicability of prevention of significant deterioration (PSD) and nonattainment area major source requirements of the UACR. They are also to be used for purposes of determining compliance.

In accordance with the requirements of Title V of the 1990 Clean Air Act, the following pollutants may be subject to an operating permit fee. Both the fee rate and the class of pollutants are subject to change by State, the federal agencies, or both.

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	Total Suspended Particulate (TSP) . . . . .	1.50
B.	VOC . . . . .	201.20

In accordance with the requirements of Title V of the 1990 Clean Air Act, certain sources are subject to an operating permit fee. Both the fee rate and the class of pollutants are subject to change by State, the federal agencies, or both. As of the date of this Approval Order, sources with emissions of 10 tons per year or more of a single hazardous air pollutant, or sources with emissions of 25 tons per year or more of any combination of hazardous air pollutants, are subject to these operating permit fees. Hazardous air pollutants are determined to be any one of the 189 pollutants listed in the 1990 Clean Air Act Amendments, November 15, 1990. A list of these 189 pollutants is attached to this AO.

The paint booths listed in Table 1 and Table 2 (Condition 5) may be subject to Title V due to the emissions of hazardous air pollutants. Within 90 days of the date of this AO, HAFB shall submit a breakdown of their emissions categorized by chemical compound, with the annual emissions of each, listed in terms of weight. The list shall be submitted to:

Utah Division of Air Quality  
Attn: Cheryl Heying - Manager, Operating Permits Section  
150 North 1950 West  
Salt Lake City, Utah 84114-4820

Approved By:



Russell A. Roberts, Executive Secretary  
Utah Air Quality Board