



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

DAQE-AN0101210200A-09

December 17, 2009

Robert Elliott
Hill Air Force Base
75 CEG/CEV
7274 Wardleigh Road
Hill Air Force Base, UT 84056-5137

Dear Mr. Elliott:

Re: Approval Order: Administratively Amend the Painting and Chemically Depainting Permit, DAQE-AN101210200-09, to Clarify Requirements by Adding Appendix as a Condition Davis County; CDS A; MACT (Part 63), Nonattainment or Maintenance Area, Title V (Part 70)
Project Number: N010121-0200

The attached document is the Approval Order 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. The project engineer for this action is Tad Anderson, who may be reached at (801) 536-4456.

Sincerely,

M. Cheryl Heying, Executive Secretary
Utah Air Quality Board

MCH:TA:kw

cc: Mike Owens
Davis County Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

APPROVAL ORDER: Administratively Amend the Painting and Chemically Depainting Permit, DAQE-AN101210200-09, to Clarify Requirements by Adding Appendix as a Condition

**Prepared By: Tad Anderson, Engineer
Phone: (801) 536-4456
Email: tdanderson@utah.gov**

APPROVAL ORDER NUMBER

DAQE-AN0101210200A-09

Date: December 17, 2009

Hill Air Force Base

Main Base

Source Contact:

Mr. Glenn Palmer

Phone: (801) 775-6918

**M. Cheryl Heying
Executive Secretary
Utah Air Quality Board**

Abstract

The State of Utah is Administratively Amending the Painting and Chemically Depainting permit, DAQE-AN101210200-09, to clarify requirements by adding appendix as a condition in the permit. The Painting and Chemically Depainting will be performed using methods approved by NESHAP's and state rules. The emissions for this process will remain the same: 201.2 tons per year of VOCs.

Hill Air Force Base (AFB) is classified as a major source of air pollution subject to the Operating Permit Program (OPP). The Title V Permit will be administratively amended to incorporate the conditions from this AO. Hill AFB is located in Davis County which is a maintenance area for ozone, but is an attainment area for other criteria pollutants

This AO will continue to incorporate emission controls promulgated by the NESHAP, 40 CFR 63, Subpart GG: Aerospace Manufacturing and Rework Operations as well as USEPA's Control Techniques Guideline (CTG) document for Aerospace Manufacturing and Rework operations. The maximum allowable emissions from painting (aerospace and non-aerospace related) and from chemical paint stripping operations will remain at the current rate of 201.2 tons of VOCs per year. There is no increase in allowable emissions and no ambient impact modeling is required. Since there is no emissions increase and no change in the limitation that would effect the emissions, a 30-day public comment period is not required.

This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order. This AO is issued to, and applies to the following:

Name of Permittee:

Permitted Location:

Hill Air Force Base
75 CEG/CEV
7274 Wardleigh Road
Hill Air Force Base, UT 84056-5137

Main Base
00-ALC/EM
7274 Wardleigh Road
Hill Air Force Base, UT 84056-5137

UTM coordinates: 416588 m Easting, 4553000 m Northing
SIC code: 9711 (National Security)

Section I: GENERAL PROVISIONS

- I.1 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
- I.2 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
- I.3 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
- I.4 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the five-year period prior to the date of

the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five (5) years. [R307-401]. [R307-415-6b]

- I.5 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
- I.6 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]
- I.7 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

II.A.1 Main Base Main Base

II.A.2 Coating Operations Surface Coating processes not subject to NESHAP GG (MACT)

Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations (CTG).

Surface Coating processes not subject to NESHAP with (paint like) specialty coating.

Primer and Topcoat application operations subject to NESHAP GG (MACT)

II.A.3 Cleaning Operations Cleaning operations subject to NESHAP GG (MACT)

Depainting (Chemical) operations subject to NESHAP GG (MACT)

Chemical depainting and surface cleaning of non-aerospace surfaces not subject to NESHAP GG (MACT)

II.B Requirements and Limitations

II.B.1 Site Wide Requirements

II.B.1.a Flexibility Provisions - Hill AFB will be allowed to add or modify any paint booth, chemical stripping operation, and/or any other piece of equipment associated with painting or chemical stripping at the main base or Little Mountain, provided that each of the following conditions is met:

1. The proposed addition or modification does not cause an increase in the currently established base-wide (including Little Mountain) allowable VOC emissions limit of 201.2 tons per rolling 12 month total.
2. The new or modified installation or piece of equipment must meet the corresponding Pre-Approved BACT determination as discussed in condition II.B.1.m. If new BACT for this type of process is established, DAQ has the right to re-open this AO to change BACT for this process accordingly.
3. Notification (notify and go) of installation of new equipment must be submitted to DAQ seven days prior to the installation of the new equipment. Relocation or removal of equipment which does not involve a modification (increase in emissions or installation of new air pollution control equipment) will not require prior notification. Notification shall include equipment size, type, location, whether it is applicable to federal standards, conformity with BACT Standards, estimated emissions, and impact of estimated emissions from equipment to the emissions limit in this AO.
4. A copy of any pertinent testing protocols, as required by the Pre-Approved BACT (i.e., initial compliance testing for new pollution control equipment) must be included with the notification submittal. Where applicable, initial compliance testing must be performed within 180 days of the start up of the new emission source.
5. An analysis of the applicability of offset requirements (offset analysis) and current actual emissions for the painting and chemical depainting operations must be included with each notify and go submission. The analysis shall take into account actual emissions from the painting and chemical depainting operation and proposed actual emission increase due to the addition of the new equipment.
6. Hill AFB shall generate a list (equipment list) of all operating painting/depainting equipment that is subject to state and federal rules within three working days upon request from a representative of the Executive Secretary. This equipment list shall contain painting and depainting equipment type, NESHAP's applicability, location and AQUIS ID's.

[R307-401]

II.B.1.b Cleaning operations Subject to NESHAP GG (MACT)
Cleaning operations of aerospace vehicles or components that are subject to MACT standard described in 40 CFR 63.744 and all the monitoring, record keeping and reporting requirements described therein. To be in compliance, Hill AFB must comply will all the requirements of the

most recent version of 40 CFR 63.741-753 Subpart GG -- National Emission Standards for Aerospace Manufacturing and Rework Facilities. [R307-401]

- II.B.1.c Primer and Topcoat application operations Subject to NESHAP GG (MACT)
 Surface coating operations of aerospace vehicles or components are subject to all the MACT standards described in 40 CFR 63.745 and all the monitoring, record keeping and reporting requirements described therein. To be in compliance, HAFB must comply will all the requirements of the most recent version of 40 CFR 63.741-753 Subpart GG -- National Emission Standards for Aerospace Manufacturing and Rework Facilities. [R307-401]
- II.B.1.d Depainting (Chemical) operations Subject to NESHAP GG (MACT)
 Chemical depainting operations of aerospace vehicles or components are subject to all the MACT standards described in 40 CFR 63.746 and all the monitoring, record keeping and reporting requirements described therein. To be in compliance, Hill AFB must comply will all the requirements of the most recent version of 40 CFR 63.741-753 Subpart GG -- National Emission Standards for Aerospace Manufacturing and Rework Facilities. [R307-401]
- II.B.1.e Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations (CTG)
 Applications of specialty coatings to aerospace vehicles or components are subject to all the RACT standards described in the Control Techniques Guidelines (CTG) document - Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations and all the monitoring, record keeping and reporting requirements described therein. To be in full compliance, however, Hill AFB must comply with all the requirements of the most recent version of this CTG. [R307-401]
- II.B.1.f Surface Coating processes not Subject to NESHAP GG (MACT)
 Application of surface coatings to metal items not subject to the aerospace NESHAPs (non-aerospace vehicles or components) are subject to the RACT standards described in Utah Administrative Code (UAC) R307-340- Davis and Salt Lake Counties and Ozone Nonattainment Areas: Surface Coating Processes and all the monitoring, record keeping and reporting requirements described therein. To be in compliance, Hill AFB must comply with all the requirements of the most recent version of these rules R307-340. [R307-401]
- II.B.1.g Surface Coating processes not subject to NESHAP with (paint like) specialty coating
 Applications of specialty coatings to non aerospace vehicles or components that are not subject to the RACT standards of the CTG in condition II.B.1.e are subject to specialty coat VOC limits listed in Condition II.B.1.I of this AO. [R307-401]
- II.B.1.h Depainting (Chemical) operations not Subject to NESHAP GG (MACT)
 Chemical depainting and surface cleaning of non-aerospace surfaces, must consist of the use of solvent application techniques that minimize emissions while providing high transfer efficiency, such as low-pressure spray wands, airless delivery systems, rollers or hand wiping applications. In addition, good work practice techniques for the proper handling and storage of solvent and solvent laden rags, as described in R307-340-4, must be followed. [R307-401]

II.B.1.i Operation Limitations
All painting equipment and operations subject to this AO must be applied inside a paint booth except for the following operations:

- 1 Painting performed using non-spray application methods
- 2 Painting with hand-held spray cans (aerosol paints)
- 3 Touch-up painting (defined as incidental painting to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-cycle and out-of-sequence painting.)
- 4 Stenciling
- 5 Incidental painting as required for assembly or joining of dissimilar metal components as long as paint is applied by either aerosol spray or a non-spray method.
- 6 Painting of items deemed by the Executive Secretary as not technically feasible to be moved inside a paint booth. This specifically includes museum aerospace displays, established touch-up operations, and assorted painting operations at Little Mountain to support Little Mountain test operations.

[R307-401]

II.B.1.i.1 Monitoring: On a semi-annual basis, the permittee shall review operations for compliance with this requirement. [R307-401]

II.B.1.i.2 Record keeping: The permittee shall maintain operation exemption notes. [R307-401]

II.B.1.i.3 Reporting: Records of monitoring activities shall be available to the Executive Secretary upon request. [R307-401]

II.B.1.j VOC Limitation
VOC emissions shall not exceed 201.2 tons per rolling 12-month period from painting equipment or operations, solvent uses associated with painting booths, and chemical depainting operations that fall into section II.B.1.b, II.B.1.c, II.B.1.d, II.B.1.e, II.B.1.f, II.B.1.g and II.B.1.h at Hill AFB main base and little mountain sites. [R307-401]

II.B.1.j.1 Monitoring: The VOC emissions shall be recorded by the 30th day of each month (28th for February) using the throughput data from the previous 12 months. [R307-401]

II.B.1.j.2 Record keeping: Records of material shall be kept on a daily basis for equipment and operations subject to conditions II.B.1.b, II.B.1.c, II.B.1.d, II.B.1.e, II.B.1.f, II.B.1.g and II.B.1.h and annually for equipment and operations exempted out of paint booths/bays in condition II.B.1.i (except for exemption II.B.1.i (6) which is daily).

1. Name of VOC-containing material
2. VOC content of material

3. MSDS for each material
4. Quantity of material used
5. Monitoring records required above

These records may be kept in electronic form. Records of material usage for equipment and operations may be based on purchase and/or issue records. Records of consumption of the materials as applicable under the categories defined above shall be kept for all periods when respective operations are performed. [R307-401]

II.B.1.j.3 Reporting: Required records of consumption shall be made available to the Executive Secretary upon request. [R307-401]

II.B.1.k Painting emission controls
 All non-NESHAP paint booths shall be equipped with a waterfall or a set of paint arrestor particulate filters to control particulate emissions unless only the exempt operations of: painting performed using non-spray application methods or painting with hand-held spray cans (aerosol paints) are conducted in the booth. As applicable all air exiting the booth shall pass through a control system before venting to the atmosphere. [R307-401]

II.B.1.k.1 Monitoring: Except as described in this condition, while in operation visual inspections of all paint booth filters and waterfalls shall be conducted weekly by designated personnel to determine compliance with this permit condition, specifically inspectors should check for:

- A) Proper installation of filter pads,
- B) Good condition of filter pads,
- C) Proper water flow through the waterfalls

A weekly visual inspection is not required if the only operations conducted in the booth during a week are the exempt operations of: painting performed using non-spray application methods or painting with hand-held spray cans (aerosol paints). [R307-401]

II.B.1.k.2 Record keeping: A log shall be kept on the results of visual inspections of the paint booth filters. [R307-401]

II.B.1.k.3 Reporting: Records of monitoring activities shall be available to the Executive Secretary upon request. [R307-401]

II.B.1.1 Non-Aerospace specialty Coating VOC limits

(1) When applied to parts and components not subject to 40 CFR 63, Subpart GG, the following specialty coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, shall contain VOCs not exceeding the following limits:

Coating Type	VOC Content(g/L)
Ablative Coating	600
Adhesion Promoter	890
Adhesive Bonding Primer Cured at 250 F or below	850
Adhesive Bonding Primer Cured above 250 F	1030
Commercial Interior Adhesive	760

Cyanoacrylate Adhesive	1020
Fuel Tank Adhesive	620
Nonstructural Adhesive	360
Rocket Motor Bonding Adhesive	890
Rubber-based Adhesive	850
Structural Autoclaveable Adhesive	60
Structural Nonautoclaveable Adhesive	850
Antichafe Coating	660
Chemical Agent-Resistant Coating	550
Clear Coating	720
Commercial Exterior Aerodynamic Structure Primer	650
Compatible Substrate Primer	780
Corrosion Prevention Compound	710
Cryogenic Flexible Primer	645
Cryoprotective Coating	600
Electric or Radiation -Effect Coating	800
Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	800
Elevated temperature Skydrol Resistant Commercial Primer	740
Epoxy Polyamide Topcoat	660
Fire-Resistant (interior Coating)	800
Flexible Primer	640
Flight Test Coatings - Missile or Single Use Aircraft	420
Flight Test Coatings - All Other	840
Fuel-Tank Coating	720
High-Temperature Coating	850
Insulation Covering	740
Intermediate Release Coating	750
Lacquer	830
Bonding Maskant	1230
Critical Use and Line Sealer Maskant	1020
Seal Coat Maskant	1230
Metallized Epoxy Coating	740
Mold Release	780
Optical Anti-Reflective Coating	750
Parts Marking Coating	850
Pretreatment Coating	780
Rain erosion-Resistant Coating	850
Rocket Motor Nozzle Coating	660
Scale Inhibitor	880
Screen Print Ink	840
Extrudable/Rollable/Brushable Sealant	240
Sprayable Sealant	600
Self-priming Topcoat	420
Silicone Insulation Material	850
Solid Film Lubricant	880
Specialized Function Coating	890
Temporary Protective Coating	320
Thermal Control Coating	800

Wet Fastener Installation Coating	675
Wing Coating	850

- (2) The permittee may comply with the VOC content provisions of paragraph (1) by using approved air pollution control equipment provided that the control system has combined VOC emissions capture and control equipment efficiency of at least 81 percent by weight.
- (3) The VOC content provisions of paragraph (1) do not apply to:
 - (a) manufacturing or rework operations involving space vehicles,
 - (b) rework operations performed on antique aerospace vehicles or components, or
 - (c) the following activities where cleaning and coating of aerospace components and vehicles may take place:
 - (i) research and development
 - (ii) quality control
 - (iii) laboratory testing
 - (iv) electronic parts and assemblies (except for cleaning and coating of completed assemblies)
- (4) The following coating applications are exempt from the VOC content limits of paragraph (1):
 - (a) Touch up, aerosol and DOD classified coatings,
 - (b) Coatings used on space vehicles,
 - (c) Facilities that use separate formulations in volume of less than 50 gallons per year, subject to a maximum exemption of 200 gallons for all formulations applied annually

[R307-401]

II.B.1.m

PRE-APPROVED BACT DETERMINATION

A. Aerospace Operations

1. Cleaning Operations

Compliance with the Maximum Achievable Control Technology (MACT) requirements for Cleaning Operations, as described in 40 CFR 63.744, Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities satisfies the requirements of Best Available Control Technology (BACT) for the Standards: Cleaning Operations.

2. Primer and Topcoat application operations

Compliance with the Maximum Achievable Control Technology (MACT) requirements for Primer and Topcoat application Operations, as described in 40 CFR 63.745, Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities satisfies the requirements of Best Available Control Technology (BACT) for the Standards: Primer and Topcoat application operations.

3. Depainting Operations

Compliance with the Maximum Achievable Control Technology (MACT) requirements for Depainting operations, as described in 40 CFR 63.746, Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities satisfies the requirements of Best Available Control Technology (BACT) for the Standards: Depainting operations.

4. Specialty Coating Operations
Compliance with the Maximum Achievable Control Technology (MACT) requirements for Specialty Coating Operations, as described in Control Techniques Guidelines (CTG) Series - Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations dated December 1997 - 453/R-97-004.
- B. Non-Aerospace Operations
 1. Surface Coating operations
Compliance with the RACT requirements for Surface Coatings of Miscellaneous Metal Parts and Products as described in R307-340-11. UAC satisfies the requirements of BACT for the coating of non-aerospace surfaces. Operations involving coatings of Non-Aerospace surfaces which do not meet the definition of Miscellaneous Metal Parts must undergo a complete BACT analyses specific to that operation.
 2. Specialty coating operations
Hill Air Force Base has agreed to voluntarily limit the VOC content of all specialty coatings on base to those levels specified by the CTG document Control of Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations (see Condition II.B.1.m.4), regardless of the type of surface to which the specialty coating is applied. This voluntary RACT application also satisfies requirements of BACT for control of VOC emissions from the surface coating and cleaning of non-aerospace vehicles and components.
 3. Touch-ups
Once again, due to the brief nature of the emissions associated with touch-up operations, No Controls is the appropriate BACT determination for these operations.
 4. Architectural Painting & Facility Maintenance
Architectural painting operations, including facility maintenance, are not covered under this Approval Order.
 5. Chemically Depainting Operations
BACT requirements for chemical depainting and surface cleaning of non-aerospace surfaces, consist of the use of solvent application technique that minimize emissions while providing high transfer efficiency, such as low-pressure spray wands, airless delivery systems, rollers or hand wiping applications. In addition, good work practice techniques for the proper handling and storage of solvent and solvent laden rags, as described in R307-340-4, must be followed. [R307-340]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. 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 UAC R307.

MACT (Part 63), GG: Aerospace Mfg/Rework

PERMIT HISTORY

This AO is based on the following documents:

Supersedes

DAQE-AN101210200-09 dated October 22, 2009

ACRONYMS

The following lists commonly used acronyms and their associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO _x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM ₁₀	Particulate matter less than 10 microns in size
PM _{2.5}	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO ₂	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds