DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

30 July 2021

Michelle L. Cottle
Chief, Environmental Branch
75th CEG/CEIE
7290 Weiner Street
Hill Air Force Base Utah 84056-5003

Director
Utah Division of Air Quality
Attention: NSR
P.O. Box 144820
Salt Lake City Utah 84114-4820

Dear Director

Hill Air Force Base (AFB) is submitting this notice of intent (NOI) to modify approval order (AO) DAQE-AN101210259-18 to add an externally vented vacuum system with dust collector for a composite, woodworking and metal working shop which is currently internally vented. A redline strikeout of DAQE-AN101210259-18 with the changes requested in this NOI is included as Attachment 1.

A vacuum system will be used in a composite, woodworking and metal shop which produces concept parts and develops repair plans using de-milled aerospace parts. The composites, wood and metals machined in the shop do not have any coatings. The sanding room exhaust filter system will have MERV 15 cartridge filters.

The potential to emit (PTE) emissions associated with the vacuum system were calculated using the control efficiencies of the vacuum filter system and data from the current operations. Detailed emission calculations are provided in Attachment 2. PTE emissions are provided in the following table:

Pollutant	AO Current PTE Emissions		New Vacuum System PTE Emissions		AO New PTE Emissions	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
PM_{10}	0.02	0.09	0.26	0.03	0.28	0.12
$PM_{2.5}$	0.02	0.09	0.30	0.03	0.32	0.12
SO_X	0	0	0	0	0	0
NO_X	0	0	0	0	0	0

Pollutant	AO Current PTE Emissions		New Vacuum System PTE Emissions		AO New PTE Emissions	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
CO	0	0	0	0	0	0
VOC	0	0	0	0	0	0
Lead	0	0	0	0	0	0
Total HAPs	9.62E-05	0.01	0	0	9.62E-05	0.01
Total GHG (CO_2e)	0	0	0	0	0	0

The changes proposed in this NOI do not result in a major modification. Therefore, the requirements of Utah Administrative Code (UAC) R307-403, R307-405, R307-406 and R307-420 do not apply. Criteria pollutant modeling is not required because the emission increases resulting from this project are below the applicable thresholds provided in UAC R307-410-4. A HAP screening analysis is not required as there are no hazardous air pollutant emissions.

The process in this NOI is not subject to any New Source Performance Standards. However, the process is subject to 40 Code of Federal Regulations 63 Subpart GG, National Emission Standards for Hazardous Air Pollutants for Aerospace Manufacturing and Rework Facilities. A best available control technology (BACT) analysis for the composite, woodworking and metal working shop vacuum system is included as Attachment 3 and includes use of a dust collection system, an opacity limitation of 10% and proper operation and maintenance.

Hill AFB requests the enhanced new source review process for this AO so the Main Base Title V Operating Permit can be modified administratively. Installation of the vacuum system dust collector is pending issuance of the AO. If you have any questions or would like to discuss this issue further, my point of contact is Dr. Erik Dettenmaier 75 CEG/CEIEA, at (801) 777-0888 or erik.dettenmaier.1@us.af.mil.

Sincerely

COTTLE.MICHELLE.L.1277363883 Digitally signed by COTTLE.MICHELLE.L.1277363883 Date: 2021.08.05 09:00:32 -06'00'

MICHELLE L. COTTLE, NH-03
Chief, Environmental Branch
75th Civil Engineer Group

Attachments:
1. DAQE-AN101210259-18 Redline
2. PTE Emission Calculations
3. BACT Determination

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

APPROVAL ORDER: Modification to Approval Order DAQE-AN1012102~~5938~~-1~~85~~ to Add New Equipment

Prepared By: Tad Anderson, Engineer
Phone: (385~~801~~) 306~~536~~-6515~~4456~~
Email: tdanderson@utah.gov

APPROVAL ORDER NUMBER

DAQE-AN1012102TBD~~59~~-21~~18~~

Date: T B D ~~November 20, 2018~~

Hill Air Force Base
Main Base
Source Contact:
Erik Dettenmaier
Phone: (801) 777-0888
Email: erik.dettenmaier.1@us.af.mil

Signed by Bryce C. Bird on TBD~~November 20, 2018~~

Bryce C. Bird
Director

Abstract

Hill Air Force Base (Hill AFB) has requested a modification to the dust collector AO DAQE-AN10121025938-185 to add an externally vented vacuum system for a composite, metal and woodworking shop sanding room exhaust filter system in building 265. The emissions associated with the new exhaust filtervacuum system in building 265 are 60.039 tonspounds per year of PM_{10}, and 0.036.09 tonspounds per yearof $PM_{2.5}$ (a subset of PM_{10})., and 0.84 pounds per year of combined HAPs. The changes in emission are at a level that theaddition of the vacuum system will result in AO PTE emissions of will remain the same: 0.0900.12 TPY of PM_{10}, 0.0900.12 TPY of $PM_{2.5}$ and 0.01 TPYof Combined HAPs.

This AO is subject to the MACT for Aerospace Manufacturing and Reworking Facilities and is subject to other federal requirements not listed in this permit. Hill AFB is classified as a major source of air pollution and subject to the Operating Permit Program. Hill AFB is a major source for VOC, HAP, GHG, $PM_{2.5}$ and PM_{10}, and a PSD source for NO_x and CO. Hill is classified as a major source of air pollution and is subject to the Operating Permit Program. Hill is a $PM_{2.5}$ SIP-listed source, a major source for VOCs, PM_{10}, NO_X, $PM_{2.5}$, HAPs, and CO, and a PSD source for NO_X and CO. The Title V permit will be administratively amendedto incorporate the conditions of this enhanced AO. Hill AFB is located in two (2) counties. Hill is in Davis County which is a NAA for $PM_{2.5}$ and ozone, and an attainment area for all other criteria pollutants. Hill is also located in the $PM_{2.5}$ and ozone NAA of Weber County. Weber County is in attainment for all other criteria pollutants.Davis County which is a NAA for $PM_{2.5}$ and ozone, and an attainment area for all other criteria pollutants. Hill AFB is also located in the $PM_{2.5}$ and ozone NAA of Weber County. Weber County is in attainment for all other criteria pollutants.

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:
Hill Air Force Base
75 CEG/CEIEA
7290 Weiner Street, Building 383
Hill Air Force Base, UT 84056-5003

Permitted Location:
Main Base
75 CEG/CEIE
7290 Weiner Street, Building 383
Hill Air Force Base, UT 84056-5003

UTM coordinates: 416,588 m Easting, 4,553,000 m Northing, UTM Zone 12
UTM Datum: NAD27
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 Director or Director's representative upon request, and the records shall include the five (5)-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. [R307-401-8]

I.5 At all times, including periods of start-up, 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 Director 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 UAC R307-107. General Requirements: Breakdowns. [R307-107]

I.7 The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8 The owner/operator shall submit documentation of the status of construction or modification to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

Section II: SPECIAL PROVISIONS

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

II.A.1 **Main Base**
Building 238, 674 and 265

II.A.2 **DC-1**
Dust Collector

Type:	Dust collector with cartridge filters
Air Flow Rate:	25,000 cfm (for information purposes only)
Efficiency:	99%
Building:	238

II.A.3 **DC-2**
Vacuum System Dust Collector

Air Flow Rate:	380 acfm (for information purposes only)
Efficiency:	99.9% at 1 micron
Building:	238

II.A.4 **DC-3**
Vacuum System Dust Collector

Type:	Cyclonic Filter Units (two 2 units)
Type:	HEPA Filter Units (4 units)
Air Flow Rate:	3,360 cfm (for information purposes only)
Filter 1 Efficiency:	99.9% @ 1-3 microns (cyclonic filter units)
Filter 2 Efficiency:	99.9% @ 0.15 microns (HEPA filter units)
Building:	674

II.A.5 **DC-6 ~~(new)~~**
Sanding Room Exhaust Filter System

Filter 1 Efficiency:	80% @ 3-10 microns
Filter 2 Efficiency:	99.97% @ 0.3-10 microns (HEPA filter)
Building:	265

II.A.6 **DC-7 (new)**
Vacuum System Dust Collector

Type:	Filter units
Filter Efficiency:	90% + @ 1.0 – 3.0 microns, 95%+ @ 3.0 – 10.0 microns
Building:	5

II.B Requirements and Limitations

II.B.1 **Site-wide Requirements**

II.B.1.a Visible emissions from the affected emissions unit shall be no greater than 10% opacity. [R307-401-8]

II.B.1.a.1 A visual opacity survey of each affected emission unit shall be performed on a monthly basis when the units operate, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified visible emission observer in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]

II.B.1.a.2 Hill AFB shall record the date of each visual opacity survey and keep a list of the emission points checked during the visual opacity survey. Hill AFB shall also keep a log of the following information for each opacity determination: date and time visual emissions observed, emission point location and description, time and date of opacity test, and percent opacity. The records required by this condition and all data required by 40 CFR 60, Appendix A, Method 9 shall be maintained. [R307-401-8]

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), A: General Provisions
MACT (Part 63), GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities
Title V (Part 70) Major Source

PERMIT HISTORY

This AO is based on the following documents:

Supersedes	AO DAQE-AN10121025938-185 dated November 20, 2018June 15, 2015
Is Derived From	NOI dated July 2021May 17, 2018

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Davis County
CDS A
PSD, Nonattainment or Maintenance Area, Title V (Part 70) Major Source, Major Criteria Source, MACT (Part 63)

ACRONYMS

The following lists commonly used acronyms and 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
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
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
PTE	Potential to Emit
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
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds

Vacuum System Potential to Emit Emissions

Pollutant	Emissions [1]	
	lb/hr	ton/yr
PM_{10}	0.26	0.03
$PM_{2.5}$	0.30	0.03

[1] Woodworking activities performed include sanding and non-sanding and are anticipated to occur at a combined maximum of 180 hrs/yr. Each of these activities has a set of emission factors. Therefore, potential to emit emissions were calculated for both 'woodworking, non-sanding' and 'woodworking, sanding' activities. Woodworking potential to emit emissions are conservatively assumed to be 100% from the activity (woodworking, sanding) which generates the largest emission rates.

Potential to Emit Emissions: Composites and Aluminum Working

Data	Externally Vented Vacuum System	Unit	Explanation
Efficiency PM_{10}	95%	%	Efficiency of dust collector (MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns from National Air Filtration Association.)
Efficiency $PM_{2.5}$	90%		
E_{total} [1]	0.09	ton/year	Total particulate matter to be controlled by vacuum system.
E_{PM10}	4.50E-03	ton/year	PM_{10} emissions (Assumption: 100% of the particulate emissions calculated are assumed to be $PM_{2.5}$. $PM_{2.5}$ is a subset of PM_{10}.)
$E_{PM2.5}$	9.00E-03	ton/year	$PM_{2.5}$ emissions (Assumption: 100% of the particulate emissions calculated are assumed to be $PM_{2.5}$.)
E_{PM10}	9.00E-03	lb/hr	Assumed operation of 1,000 hrs/yr
$E_{PM2.5}$	0.02	lb/hr	Assumed operation of 1,000 hrs/yr

[1] Based on current operations with a safety factor applied.

Potential to Emit Emissions: Woodworking (Non-Sanding Activities)

Pollutant	Hours of Operation [1]	Emission Factor [2]	Control Efficiency [3]	Potential to Emit Emissions	
	hr/yr	lb/hr		lb/hr	ton/yr
PM_{10}	180	2.00	95%	0.10	9.00E-03
$PM_{2.5}$	180	1.12	90%	0.11	0.01

[1] Based on current hours of operation with a safety factor applied.

[2] Emission factors from EPA's AP-42, Table 10.4.1 and Section B.1-48, dated February 1980.

[3] MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns (from National Air Filtration Association).

Potential to Emit Emissions: Sanding

Pollutant	Hours of Operation [1]	Emission Factor [2]	Control Efficiency [3]	Potential to Emit Emissions	
	hr/yr	lb/hr		lb/hr	ton/yr
PM_{10} [3]	180	5.00	95%	0.25	0.02
$PM_{2.5}$ [3]	180	2.79	90%	0.28	0.03

[1] Based on current hours of operation with a safety factor applied.

[2] Emission factors from EPA's AP-42, Table 10.4.1 and Section B.1-48, dated February 1980.

[3] MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns (from National Air Filtration Association).

To evaluate the appropriate best available control technology (BACT) for the composite, woodworking and metal working vacuum system, the Environmental Protection Agency (EPA)'s Reasonably Available Control Technology (RACT)-BACT-Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC) was reviewed. The RBCL provides listings of emission control determinations made by state and local air pollution control agencies as well as the regional EPA offices and includes control technologies and/or work practices that may be suitable for each process type code. In addition to the RBLC, other sources including published literature, California Air Resources Board BACT Clearinghouse and previous Utah Division of Air Quality BACT determinations for composite, woodworking and metal working vacuum systems were reviewed. The following is a list of sources reviewed / control technologies identified.

1) EPA's RBLC was reviewed to identify EPA BACT decisions for composite, woodworking and metal working vacuum systems. However, there is no category available specific to composite, woodworking and metal working vacuum systems in the RBLC. Therefore, the following process types were reviewed, using a permit date range of 01/01/2011 - 07/26/21, to identify processes similar to composite, woodworking and metal working vacuum systems:

   30.540 – particle and strand board manufacturing: board product finishing (e.g. sanders, saws and trimmers)
   - flying cutoff saw – baghouse / fabric filters, 99% efficiency, 0.50 – 0.55 lb/hr
   - panel saw line – baghouse / fabric filters, 99% efficiency, 0.44 – 0.56 lb/hr
   - sanding operations – baghouse / fabric filters, 99%, 1.27 – 1.43 b/hr

   30.700– woodworking
   - no results

   30.390 – plywood manufacturing: other plywood manufacturing processes
   - log sawing – project below PSD thresholds, no control required

   30.999 – other wood products industry sources
   - planer mill – cyclone / baghouse, 99.95% efficiency, 1.80 – 3.00 lb/hr
   - log sawing – enclosure of operations, proper maintenance and good operating practice
   - sawmill – located inside building

   99.999 – other miscellaneous sources
   - no similar sources

2) Opacity limitation: An opacity limit of 10% will reduce particulate emissions from the dust collector.

Based on the review of control technologies, Hill AFB has determined the following meets BACT requirements for the composite, woodworking and metal working vacuum system:

- Use of particulate filter system with MERV 15 filters
    - Although the dust collectors for processes in the RBCL have a greater control efficiency than MERV 15, the processes in the RBCL are for the industrial manufacturing of wood products and not for a small composite, woodworking and metal working shop. Additionally, the calculated PTE emissions for the composite, woodworking and metal working vacuum system of 0.26 lb/hr of PM_{10} and 0.30 lb/hr of $PM_{2.5}$ are well below the BACT emission limits in the RBCL. BACT determination for two industrial-scale sanding operations was determined to be the processes to be enclosed or located inside of a building with no further controls required.
- Proper operation and maintenance
- Opacity limit of 10%

Vacuum System Potential to Emit Emissions

Pollutant	Emissions [1]	
	lb/hr	ton/yr
PM_{10}	0.26	1.10
$PM_{2.5}$	0.15	0.62

[1] Woodworking activities performed include sanding and non-sanding and are anticipated to occur at a combined maximum of 180 hrs/yr. Each of these activities has a set of emission factors. Therefore, potential to emit emissions were calculated for both 'woodworking, non-sanding' and 'woodworking, sanding' activities. Woodworking potential to emit emissions are conservatively assumed to be 100% from the activity (woodworking, sanding) which generates the largest emission rates.

Potential to Emit Emissions: Composites and Aluminum Working

Data	Externally Vented Vacuum System	Unit	Explanation
Efficiency PM_{10}	95%	%	Efficiency of dust collector (MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns from National Air Filtration Association.)
Efficiency $PM_{2.5}$	95%		
E_{total} [1]	0.09	ton/year	Total particulate matter to be controlled by vacuum system.
E_{PM10}	4.50E-03	ton/year	PM_{10} emissions (Assumption: 100% of the particulate emissions calculated are assumed to be $PM_{2.5}$. $PM_{2.5}$ is a subset of PM_{10}.)
$E_{PM2.5}$	4.50E-03	ton/year	$PM_{2.5}$ emissions (Assumption: 100% of the particulate emissions calculated are assumed to be $PM_{2.5}$.)
E_{PM10}	9.00E-03	lb/hr	Assumed operation of 1,000 hrs/yr
$E_{PM2.5}$	9.00E-03	lb/hr	Assumed operation of 1,000 hrs/yr

[1] Based on current operations with a safety factor applied.

Potential to Emit Emissions: Woodworking (Non-Sanding Activities)

Pollutant	Hours of Operation	Emission Factor [1]	Control Efficiency [2]	Potential to Emit Emissions	
	hr/yr	lb/hr		lb/hr	ton/yr
PM_{10}	8,760	2.00	95%	0.10	0.44
$PM_{2.5}$	8,760	1.12	95%	0.06	0.25

[1] Emission factors from EPA's AP-42, Table 10.4.1 and Section B.1-48, dated February 1980.

[2] MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns (from National Air Filtration Association).

Potential to Emit Emissions: Sanding

Pollutant	Hours of Operation	Emission Factor [1]	Control Efficiency [2]	Potential to Emit Emissions	
	hr/yr	lb/hr		lb/hr	ton/yr
PM_{10}	8,760	5.00	95%	0.25	1.10
$PM_{2.5}$	8,760	2.79	95%	0.14	0.61

[1] Emission factors from EPA's AP-42, Table 10.4.1 and Section B.1-48, dated February 1980.

[2] MERV 15 filter, controls 90% or better of particulates 1.0 - 3.0 microns and 95% or better of particulates 3.0 - 10.0 microns (from National Air Filtration Association).

UTAH DIVISION OF AIR QUALITY
SOURCE PLAN REVIEW

Michelle L. Cottle
Hill Air Force Base
75 CEG/CEIE
7290 Weiner Street
Building 383
Hill Air Force Base, UT 84056-5003

Project Number: N101210259

RE:	Modification to Approval Order DAQE-AN101210238-15, to Add New Equipment Davis County; CDS A; PSD, Nonattainment or Maintenance Area, Title V (Part 70) Major Source, Major Criteria Source, MACT (Part 63),
Review Engineer:	Tad Anderson
Date:	October 2, 2018
Notice of Intent Submitted:	May 21, 2018
Plant Contact:	Erik Dettenmaier
Phone Number:	(801) 777-0888
Fax Number:	
Source Location:	75 CEG/CEIE, 7290 Weiner Street, Building 383, Hill Air Force Base, UT Davis County 4,553,000 m Northing, 416,588 m Easting, UTM Zone 12 UTM Datum: NAD27

DAQ requests that a company/corporation official read the attached draft/proposed Plan Review with Recommended Approval Order Conditions. If this person does not understand or does not agree with the conditions, the review engineer should be contacted within five days after receipt of the Plan Review. If this person agrees with the Plan Review and Recommended Approval Order Conditions, this person should sign below and return (FAX # 801-536-4099) within 10 days after receipt of the conditions. If the review engineer is not contacted within 10 days, the review engineer shall assume that the company/corporation official agrees with this Plan Review and will process the Plan Review towards final approval. A public comment period will be required before the Approval Order can be issued.

Applicant Contact _____
(Signature & Date)

ABSTRACT

Hill Air Force Base (Hill ABF) has requested a modification to the dust collector AO DAQE-AN101210238-15 to add a sanding room exhaust filter system in building 265. The emissions associated with the new exhaust filter system in building 265 are 6.09 pounds per year of PM_{10} , 6.09 pounds per year of $PM_{2.5}$ (a subset of PM_{10}), and 0.84 pounds per year of combined HAPs. The changes in emission are at a level that the PTE emissions will remain the same: 0.09 tons per year (TPY) of PM_{10} , 0.09 TPY of $PM_{2.5}$ and 0.01 TPY of Combined HAP's.

This AO is subject to the MACT for Aerospace Manufacturing and Reworking Facilities and is subject to other federal requirements not listed in this permit. Hill AFB is classified as a major source of air pollution and subject to the Operating Permit Program. Hill AFB is a major source for VOC, HAP, GHG, $PM_{2.5}$ and PM_{10}, and a PSD source for NO_x and CO. The Title V permit will be administratively amended to incorporate the conditions of this enhanced AO. Hill AFB is located in Davis County which is a nonattainment area for $PM_{2.5}$ and ozone, and an attainment area for all other criteria pollutants. Hill AFB is also located in the $PM_{2.5}$ and Ozone nonattainment area of Weber County. Weber County is in attainment for all other criteria pollutants.

SOURCE SPECIFIC DESIGNATIONS

Applicable Programs:

MACT (Part 63), Subpart A: General Provisions applies to Main Base
MACT (Part 63), Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities applies to Main Base
Major Criteria Source applies to Main Base
PSD applies to Main Base
Title V (Part 70) Major Source applies to Main Base
Davis County O3 NAA applies to Main Base
Davis County $PM_{2.5}$ NAA applies to Main Base
Weber County O3 NAA applies to Main Base
Weber County $PM_{2.5}$ NAA applies to Main Base

Permit History:

When issued, the approval order shall supersede or will be based on the following documents:

Is Derived From	NOI dated May 17, 2018
Supersedes	DAQE-AN101210238-15 dated June 15, 2015

SUMMARY OF NOTICE OF INTENT INFORMATION

Description of Proposal:

Project Description
Hill AFB has requested to add an exhaust filter system to a sanding room in building 265 that was internal vented. The building 265 sanding room is used to remove coatings for various aircraft parts such as pods, flaps, panels and other parts normally removed for hand sanding. The sanding room will include a

vacuum system and work benches, both with a filter system. The vacuum system and the work benches will vent into the sanding room.

The PTE emissions for this modification are in pounds (6.09 pounds per year of PM_{10}, 6.09 pounds per year of $PM_{2.5}$ (a subset of PM_{10}), and 0.84 pounds per year of combined HAPs) which will not increase the tons per year for this permit.

The exhaust filter systems in this AO are subject to 40 CFR 63, MACT for Aerospace Manufacturing and Reworking Facilities and the standards of 40 CFR 63.746, Standards: Depainting Operation.

Summary of Emission Totals:

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Estimated Criteria Pollutant Potential Emissions		
Particulate Matter - PM_{10}	0.09	tons/yr
Particulate Matter - $PM_{2.5}$	0.09	tons/yr
Estimated Hazardous Air Pollutant Potential Emissions		
Generic HAPs (CAS #GHAPS)	1	lbs/yr
Total hazardous air pollutants	1	lbs/yr

Review of Best Available Control Technology:

1. BACT review regarding New Filters-Dust Collector DC-6
   Pollutant - $PM_{2.5}$
   The BACT analysis was conducted on dust collector operations subject to 40 CFR 63 Subpart GG to control $PM_{2.5}$ emissions.
   Available Control Technologies:
   The control technologies available for the dust collection operations are based upon the control efficiencies of filters or bags for PM_{10} . The following control technologies are identified as available;

   Collection and dry particulate filter system
   Proper operation, maintenance and protocols

   Technological Feasibility for Dust Collection Operation:
   Collection and Dry Particulate Filter System
   Industry standard filters have a rating of 99.97% for PM_{10} but zero retention for $PM_{2.5}$. Ultra-Low Penetration Air (ULPA) have a 99.99% rating for particles greater than 0.12 microns. All dry particulate filters have the rating of 99.97% for PM_{10} and are technically feasible. ULPA filters are technically feasible.

   Proper Operation, Maintenance and Protocols
   HAFB uses proper equipment operation, equipment maintenance schedule and operational protocols for the dust collection operations. Implementing proper operation, maintenance and protocols is technically feasibility on the dust collection operation.

Economic Feasibility:
The use of dry particulate filters, ULPA, proper operation and maintenance is technically feasible. The use of ULPA to lower the $PM_{2.5}$ is economically infeasible (0.02% additional control is 0.00122 lb of $PM_{2.5}$ per year). The use of particulate filters, proper operations and maintenance is economically feasible.

BACT Selection:
BACT to control $PM_{2.5}$ emissions from the duct collector operation is use of particulate filters, proper operation, maintenance and protocols, and a 10% opacity limit. [Last updated October 2, 2018]

Modeling Results:

Modeling is not required as R307-410-4. The emission rate from the filter system of PM_{10} is 6.09 pounds per year. [Last updated September 18, 2018]

RECOMMENDED APPROVAL ORDER CONDITIONS

The intent is to issue an air quality Approval Order (AO) authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. The AO will be issued to and will apply to the following:

Name of Permittee:

Hill Air Force Base
75 CEG/CEIE
7290 Weiner Street
Building 383
Hill Air Force Base, UT 840565003

Permitted Location:

Hill Air Force Base- Main Base
75 CEG/CEIE
7290 Weiner Street
Building 383
Hill Air Force Base, UT 84056-5003

UTM coordinates: 416,588 m Easting, 4,553,000 m Northing, UTM Zone 12
UTM Datum: NAD27

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 Director or Director'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. [R307-401-8]

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 Director 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 UAC R307-107. General Requirements: Breakdowns. [R307-107]

I.7 The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8 The owner/operator shall submit documentation of the status of construction or modification to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

Section II: SPECIAL PROVISIONS

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

II.A.1 **Main Base**
Building 238, 674 and 265

II.A.2 **DC-1**
Dust Collector
Type: Dust collector with cartridge filters
Air Flow Rate: 25,000 cfm (for information purposes only)
Efficiency: 99%
Building: 238

II.A.3 **DC-2**
Vacuum System Dust Collector
Air Flow Rate: 380 acfm (for information purposes only)
Efficiency: 99.9% at 1 micron
Building: 238

II.A.4 **DC-3**
Vacuum System Dust Collector
Type: Cyclonic Filter Units (2 units)
Type: HEPA Filter Units (4 units)
Air Flow Rate: 3,360 cfm (for information purposes only)
Filter 1 Efficiency: 99.9% @ 1-3 microns (cyclonic filter units)
Filter 2 Efficiency: 99.9% @ 0.15 microns (HEPA filter units)
Building: 674

II.A.5 **DC-6 (new)**
Sanding Room Exhaust Filter System
Filter 1 Efficiency: 80% @ 3-10 microns
Filter 2 Efficiency: 99.97% @ 0.3-10 microns (HEPA filter)
Building: 265

II.B Requirements and Limitations

II.B.1 **Site Wide Requirements**

II.B.1.a Visible emissions from the affected emissions unit shall be no greater than 10 percent opacity. [R307-401-8]

II.B.1.a.1 A visual opacity survey of each affected emission unit shall be performed on a monthly basis when the units operate, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If visible emissions are observed, an opacity determination of that emission

unit shall be performed by a certified visible emission observer in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]

II.B.1.a.2 Hill AFB shall record the date of each visual opacity survey and keep a list of the emission points checked during the visual opacity survey. Hill AFB shall also keep a log of the following information for each opacity determination: date and time visual emissions observed, emission point location and description, time and date of opacity test, and percent opacity. The records required by this condition and all data required by 40 CFR 60, Appendix A, Method 9 shall be maintained in accordance with Provision I.S.1 of the Title V Operating Permit. [R307-401-8]

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), A: General Provisions
MACT (Part 63), GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities
Title V (Part 70) Major Source

REVIEWER COMMENTS

The AO will be based on the following documents:

Is Derived From	NOI dated May 17, 2018
Supersedes	DAQE-AN101210238-15 dated June 15, 2015

1. Comment regarding De-Aggregate:
   Hill is classified as a major source of air pollution and subject to the Operating Permit Program. Hill is a SIP-listed source, a major source for VOC and PM_{10}, and a PSD source for NO_x and CO. Hill has 36 active AOs but only one Title V permit. Hill is a military air force base and governed under the Department of Defense (DOD). It is not required (for military) nor needed to combine all the approval orders as the Title V is the combined permit. Hill is classified as if all the permits were combined and all projects and pollutants are looked as though they were one permit. For this reason, the source is allowed to de-aggregate [Last updated October 2, 2018]

2. Comment regarding Emission Estimates:
   The emission estimates for building 265 uses 6.9 pounds per gallon solids content in coating, 613 gallons per year of coating removed with the first filter particulate efficiency is 80% for 3-10 microns and the second filter particulate efficiency of 99.97% for 0.3-10 microns.

   The building 265 sanding room will include a vacuum system and work benches. The criteria pollutant and HAP emissions were calculated using the solid content of the material, quantity of the coating being removed and the new particulate filter control efficiencies. [Last updated September 18, 2018]

3. Comment regarding Separation of Operation :
   Hill AFB has two separate dust collection Approval Orders; Dust collectors subject to 40 CFR 63 Subpart GG, Aerospace Manufacturing and Reworking Facilities and the standards of 40 CFR 63.746, Standards: Depainting Operation and Dust collectors not subject to 40 CFR 63. These operations are separated into two permits to aid compliance and Title V permitting in equipment applicability and requirements for the dust collectors at Hill AFB. [Last updated September 18, 2018]

4. Comment regarding HAP emissions:
   The following are the HAP emissions in pounds per hour with the modeling ETV threshold values greater than 100 meters and vertically restricted:

HAP	Source	Modeling ETV level
Chromium (elemental)	0.0000464	0.13
Nickel (elemental)	0.0000098	0.40
Cobalt Aluminate blue spinel	0.0000029	0.0054
Chromium VI	0.0000104	0.0009

   The location of Building 265 is over 100 meters to the Main Base fence line where the public has access. [Last updated September 18, 2018]

5. Comment regarding PM_{10}/2.5 Emissions:

The NOI submitted on May 21, 2018 had the emissions of 1.22 pound of PM_{10} and 6.09 pounds of $PM_{2.5}$ per year. $PM_{2.5}$ is a subset of PM_{10} which means that the $PM_{2.5}$ counts as PM_{10}. This operation is not a combustion source so no $PM_{2.5}$ condensable present. The emission increase rate for the permit action has been changed to 6.09 for both P2.5 /PM_{10}. [Last updated September 25, 2018]

ACRONYMS

The following lists commonly used acronyms and 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
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
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
PTE	Potential to Emit
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
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds

State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

RN101210284

November 30, 2021

Michelle L. Cottle
Hill Air Force Base
75 CEG/CEIEA
7290 Weiner Street
Building 383
Hill Air Force Base, UT 840565136
erik.dettenmaier.1@us.af.mil

Dear Michelle L. Cottle,

Re: Engineer Review:
Modification to Approval Order to DAQE-AN101210259-18, to Add a New Vacuum System
Project Number: N101210284

The DAQ requests a company representative (Title V Responsible Official for enhanced Approval Order application) review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Hill Air Force Base should complete this review within **10 business days** of receipt.

Hill Air Force Base should contact **Tad Anderson** at (385) 306-6515 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email tdanderson@utah.gov the signed cover letter to Tad Anderson. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an AO for signature by the DAQ Director.

If Hill Air Force Base does not respond to this letter within **10 business days,** the project will move forward without source concurrence. If Hill Air Force Base has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature _____
(Signature & Date)

☐ By (Title V responsible official) initialing this box and signing this document, this document serves as an enhanced application and the public comment period will serve as the required comment period for Title V purposes.

The Title V responsible official certifies: based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

UTAH DIVISION OF AIR QUALITY
ENGINEER REVIEW

SOURCE INFORMATION

Project Number	N101210284
Owner Name	Hill Air Force Base
Mailing Address	75 CEG/CEIEA 7290 Weiner Street Building 383 Hill Air Force Base, UT, 840565136
Source Name	Hill Air Force Base- Main Base
Source Location	75 CEG/CEIEA 7290 Weiner Street Building 383 Hill Air Force Base, UT 84056-5136
UTM Projection	416,588 m Easting, 4,553,000 m Northing
UTM Datum	NAD27
UTM Zone	UTM Zone 12
SIC Code	9711 (National Security)
Source Contact	Erik Dettenmaier
Phone Number	(801) 777-0888
Email	erik.dettenmaier.1@us.af.mil
Project Engineer	Tad Anderson, Engineer
Phone Number	(385) 306-6515
Email	tdanderson@utah.gov
Notice of Intent (NOI) Submitted	August 9, 2021
Date of Accepted Application	November 11, 2021

SOURCE DESCRIPTION

General Description
Hill Air Force Base (Hill AFB) is located in northern Utah, just south of the city of Ogden. Hill AFB provides worldwide logistic support for some of the Air Force and Defense Department's most sophisticated weapon systems. Support operations include systems management, spare parts, and major maintenance and modification services. Hill AFB has extensive industrial facilities for painting, paint stripping, plating, parts warehousing/distribution, and wastewater treatment. In addition, Hill AFB manages and maintains other systems such as conventional air munitions, solid propellants, landing gear and training devices.

NSR Classification:
Minor Modification at Major Source

Source Classification
Located in Northern Wasatch Front O3 NAA, Salt Lake City UT $PM_{2.5}$ NAA, Davis County
Airs Source Size: A

Applicable Federal Standards
Title V (Part 70) Major Source

Project Proposal
Modification to Approval Order to DAQE-AN101210259-18, to Add a New Vacuum System

Project Description
Hill AFB has requested a modification to the dust collector AO DAQE-AN101210259-18 to add an externally vented vacuum system for a composite, metal, and woodworking shop system in building 5.

Process Description
Hill AFB uses externally vented dust collectors for vacuum systems and sanding rooms throughout the Base. The vacuum systems are used to vacuum residual blast material, residual paint from sanding and composite/woodworking/metal shops. Vacuumed air and sanding room process air passes through filter units before being vented to the atmosphere.

EMISSION IMPACT ANALYSIS

Modeling is not required as R307-410-4. The emission rate from the filter system of PM_{10} is 1.10 tons per year. Modeling is not required as R307-410-4 and R307-410-5. The emission rate from the composite, woodworking and metal working vacuum system dust collector are 1.1 tons per year of PM_{10} emissions and 0.61 tons per year of $PM_{2.5}$. [Last updated November 30, 2021]

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
Particulate Matter - PM_{10}	1.10	1.19
Particulate Matter - $PM_{2.5}$	0.62	0.71

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Generic HAPs (CAS #GHAPS)	0	1
	Change (TPY)	**Total (TPY)**
Total HAPs	0	0.01

Note: Change in emissions indicates the difference between previous AO and proposed modification.

Review of BACT for New/Modified Emission Units

1. **BACT review regarding New Filters-Dust Collector DC-6**

The BACT analysis was conducted on composite, woodworking and metal working vacuum system dust collector to control $PM_{10}/PM_{2.5}$ emissions.

Although the dust collectors for processes in the RBCL have a greater control efficiency than filters selected for this operation, the processes in the RBCL are for the industrial manufacturing of wood products and not for a small composite, woodworking and metal working shop.

The calculated PTE emissions for the composite, woodworking, and metal working vacuum system of 0.26 lb/hr of PM_{10} and 0.15 lb/hr of $PM_{2.5}$ and are below the BACT emission limits in the RBCL. BACT determination for industrial-scale composite, woodworking, and metal working operations was determined to be collected and routed through a filter capable of controlling composite, wood and metal at 95% for PM_{10} and 90% for $PM_{2.5}$.

BACT Selection:
BACT to control $PM_{10}/PM_{2.5}$ emissions from the composite, woodworking and metal working vacuum system dust collector is use of particulate filters, proper operation, maintenance and protocols, and a 10% opacity limit. [Last updated November 11, 2021]

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

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 Director or Director'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. [R307-401-8]
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 Director 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 UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]
I.8	The owner/operator shall submit documentation of the status of construction or modification to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.A THE APPROVED EQUIPMENT

II.A.1	**Main Base** Building 5, 238, 265, and 674
II.A.2	**DC-1** Dust Collector Type: Dust collector with cartridge filters Air Flow Rate: 25,000 cfm (for information purposes only) Efficiency: 99% Building: 238
II.A.3	**DC-2** Vacuum System Dust Collector Air Flow Rate: 380 acfm (for information purposes only) Efficiency: 99.9% at 1 micron Building: 238
II.A.4	**DC-3** Vacuum System Dust Collector Type: Cyclonic Filter Units (2 units) Type: HEPA Filter Units (4 units) Air Flow Rate: 3,360 cfm (for information purposes only) Filter 1 Efficiency: 99.9% @ 1-3 microns (cyclonic filter units) Filter 2 Efficiency: 99.9% @ 0.15 microns (HEPA filter units) Building: 674
II.A.5	**DC-6** Sanding Room Exhaust Filter System Filter 1 Efficiency: 80% @ 3-10 microns Filter 2 Efficiency: 99.97% @ 0.3-10 microns (HEPA filter) Building: 265
II.A.6 NEW	**DC-7 (NEW)** Vacuum System Dust Collector Type: Filter units Filter Efficiency: 90% + @ 1.0 - 3.0 microns, 95%+ @ 3.0 - 10.0 microns Building: 5

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Site Wide Requirements**
II.B.1.a	Visible emissions from the affected emissions unit shall be no greater than 10 percent opacity. [R307-401-8]
II.B.1.a.1	A visual opacity survey of each affected emission unit shall be performed on a monthly basis when the units operate, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified visible emission observer in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.1.a.2	Hill AFB shall record the date of each visual opacity survey and keep a list of the emission points checked during the visual opacity survey. Hill AFB shall also keep a log of the following information for each opacity determination: date and time visual emissions observed, emission point location and description, time and date of opacity test, and percent opacity. The records required by this condition and all data required by 40 CFR 60, Appendix A, Method 9 shall be maintained. [R307-401-8]

PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Is Derived From	NOI dated August 9, 2021
Incorporates	Additional Information dated November 10, 2021
Supersedes	DAQE-AN101210259-18 dated June 15, 2015

REVIEWER COMMENTS

1. **Comment regarding De-Aggregate:**
Hill AFB is classified as a major source of air pollution and subject to the Operating Permit Program. Hill AFB is a SIP-listed source, a major source for VOC and PM_{10}, and a PSD source for NO_x and CO. Hill AFB has 34 active AOs but only one Title V permit. Hill AFB is a military air force base and governed under the Department of Defense (DOD). It is not required (for military) nor needed to combine all the approval orders as the Title V is the combined permit. Hill AFB is classified as if all the permits were combined, and all projects and pollutants are looked as though they were one permit. For this reason, the source is allowed to de-aggregate. [Last updated November 30, 2021]

2. **Comment regarding Emission Estimates:**
The $PM_{10}/PM_{2.5}$ emissions estimates for the composite, woodworking and metal working vacuum system dust collector operation in Building 5 were broken down into composite/aluminum working, woodworking, and woodworking sanding.

   The emission estimates for composites/aluminum working in building 5 uses 95% efficiency for PM_{10} and 90% efficiency for $PM_{2.5}$. The MERV 15 filters selected for this operation were supplied by from National Air Filtration Association to control multiple media (wood, aluminum, and composites). The base emissions were calculated using AP-42, table 10.4.1 section B. Hill AFB has elected to calculate the emissions for this project using 8760 hours of operation, so an hourly emission limitation is not needed. The realistic hour of operation for this project is 180 hours per year. [Last updated November 11, 2021]

3. **Comment regarding Separation of Operation:**
Hill AFB has two separate dust collection Approval Orders; Dust collectors subject to 40 CFR 63 Subpart GG, Aerospace Manufacturing and Reworking Facilities and the standards of 40 CFR 63.746, Standards: Depainting Operation and Dust collectors not subject to 40 CFR 63. These operations are separated into two permits to aid compliance and Title V permitting in equipment applicability and requirements for the dust collectors at Hill AFB. [Last updated November 11, 2021]

4. **Comment regarding HAP emissions:**
The included HAPs in this permit have been permitted are as follows:

HAP	Source	Modeling ETV level
Chromium (elemental)	0.0000464	0.13
Nickel (elemental)	0.0000098	0.40
Cobalt Aluminate blue spinel	0.0000029	0.0054

Chromium VI	0.0000104	0.0009

The following are the HAP emissions in pounds per hour with the modeling ETV threshold values greater than 100 meters and vertically restricted. The location of Building 265 is over 100 meters to the Main Base fence line where the public has access. [Last updated November 11, 2021]

ACRONYMS

The following lists commonly used acronyms and 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
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
LB/YR	Pounds per year
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
PTE	Potential to Emit
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
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds