

Facility Name: **Robins Air Force Base**

City: Robins Air Force Base

County: Houston

AIRS #: 04-13-153-00033

Application #: 502331

Date SIP Application Received: January 7, 2022

Date Title V Application Received: January 7, 2022

Permit No: 9711-153-0033-V-04-2

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Existing Permits**

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
9711-153-0033-V-04-0	August 5, 2020	Renewal Title V Permit
9711-153-0033-V-04-1	January 22, 2021	Minor modification to add a small parts paint booth and cure oven system C053 in Building 180

B. Regulatory Status**1. PSD/NSR/RACT**

Robins AFB has the potential to emit volatile organic compounds (VOC), nitrogen oxides (NO_x), carbon monoxide (CO) and sulfur dioxide (SO₂) at a rate in excess of 100 tons per year. Since it is a 28 source category facility, having total fossil fuel fired boiler capacity greater than 250 MMBtu/hr, the facility is considered a major source under the PSD regulations and is subject to PSD review for modifications in which any pollutant increase is more than the significance level. Robins AFB has avoided PSD review for past facility modifications by taking limits to keep emissions of VOC, NO_x, and SO₂ below the significance level. These limits are stated in permit Conditions 2.1.1 and 3.2.1 through 3.2.14.

2. Title V Major Source Status by Pollutant**Table 2: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes			✓
PM ₁₀	Yes			✓
PM _{2.5}	Yes			✓
SO ₂	Yes	✓		
VOC	Yes	✓		
NO _x	Yes	✓		
CO	Yes	✓		
TRS	n/a			
H ₂ S	n/a			

SIP CONSTRUCTION PERMIT AND TITLE V SIGNIFICANT MODIFICATION APPLICATION REVIEW

Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

In this modification Robins Air Force Base is proposing the re-assignment of building numbers, the addition of two new coating and depainting emission unit groups for Building 59D and Building 2390A, and the addition of two new High Velocity Oxygen Fuel (HVOF) Plasma booths in Building 327.

The Building 59 complex consists of two separate hangars with a central utilities area between them. These hangars have separate heating/cooling air handling units, separate filtration systems/stacks and separate access doors. It is not a single hangar with two internal docks. These hangars were originally designated and permitted as two separate buildings: Building 59 for coating and Building 62 for depaint. Over time, the two names merged to Building 59. Due to the increasing workload, Robins AFB wants to treat the Building 59 complex as the two hangars as originally permitted. In August 2020, Robins AFB and the GA EPD Stationary Source Permitting Program Manager discussed permit modifications for Building 59:

- Building 59P (old Building 59) – assign the existing permitted emission units and PSD avoidance limit associated with the existing Emission Unit Group CG06 to the northern hangar.
- Building 59D (old Building 62) – create equivalent new processes and a new PSD avoidance limit for the southern hangar and assign them to Emission Unit Group CG08.

Re-assignment of Emission Unit Group CG06 from Building Number 59 to 59P

Emission Unit Group CG06 (Coating/Depainting Group 6) with emission units ID Nos. C047, C049, CS01, D016, SG47 and SG49 are currently assigned to Building 59 and have a 40 ton PSD Avoidance Limit for VOC. Robins AFB requests that Emission Unit Group CG06 and the associated emission units be assigned to Building 59P. The existing 40 ton VOC PSD Avoidance limit will be retained with Building 59P.

New coating and depainting Emission Unit Group CG08 for Building 59D

Robins AFB requests that new coating and depainting Emission Unit Group CG08 (Coating/Depainting Group 8) with emission units ID Nos. C054, D029, SG52, and CS01 be assigned to Building 59D. They are also requesting a 40 ton PSD Avoidance Limit for VOC for Emission Unit Group CG08.

The coating, depainting, and spray gun cleaning sources and equipment in Building 59D will function the same as similarly operating and permitted processes in Building 59P. These coating/depainting sources will primarily coat/depaint aircraft but may also be used for aerospace and non-aerospace parts. The coating devices will be high efficiency (e.g., high volume low pressure [HVL] or air assisted airless[AAA] or comparable) in design for high coating transfer ratios leading to maximum application of coating to the surfaces and minimum overspray. The air flow in the hangar will be designed such that air flow will be along the longitudinal axis of the aircraft. The air filtration system will consist of a 3-stage dry particulate filter system.

New coating and depainting Emission Unit Group CG09 for Building 2390A

Robins AFB requests that a new coating and depainting emission unit group for a Narrow Body Paint Booth (NBPB) be assigned to Building 2390A. This group is designated Emission Unit Group

CG09 (Coating/Depainting Group 9) with emission units ID Nos. C055, D030, SG53, and CS01. They are also requesting a 40 ton PSD Avoidance Limit for VOC for Emission Unit Group CG09.

The coating, repainting, and spray gun cleaning sources in Building 2390A will function the same as similarly operating and permitted processes in Buildings 59P or 59D. These coating/repainting sources will primarily coat/repaint aircraft but may also be used for aerospace and non-aerospace parts. The air flow in the hangar will be designed such that air flow will be along the longitudinal axis of the aircraft. The air filtration system will consist of a 3-stage dry particulate filter system.

Addition of two new High Velocity Oxygen Fuel (HVOF) booths Emission Unit ID Nos. HV03 and HV04 in Building 327

Add two new High Velocity Oxygen Fuel metal thermal spray coating sources with Emission Unit ID Nos. HV03 and HV04 in Building 327. The two new HVOF metal thermal spray coating booths will be similar in function to the two existing and permitted HVOF booths (Emission Unit ID Nos. HV01 and HV02). These metal thermal spray sources will apply specialized powder coatings to produce or repair hard bearing surfaces on select aerospace parts. The air flow in the booths will be designed such that the air flow will be across the part being processed and directed towards the filtration system. The air filtration systems will consist of a cartridge dust collector with HEPA filtration.

As per Condition 7.1.2 Robins AFB plans to move the existing HVOF booths ID Nos. HV01 and HV02 from Building 142 to Building 327 as soon as it is practical in order to consolidate these processes in one location for operational efficiency. They are requesting that the change from Building 142 to Building 327 be included with this modification.

In addition to the other requested changes, Robins AFB proposes the following administrative changes:

- a. Table 3.1 – Remove the PSD Avoidance reference for Emission Unit Group BG02 since it does not have a PSD Avoidance cap.
- b. Table 3.1b – Emission Unit ID No. G019 change the horsepower rating from 603 horsepower to 755 horsepower.
- c. Condition 6.2.46 – For clarity, add Emission Unit Group SGC1 since requirements of Condition 6.2.46(f) apply to these emission units.
- d. The list of Insignificant Activities Based on Emissions Levels - The number of Oil/Water Separators (Basewide) should be revised from 47 to 28.

B. Emissions Change

Emission calculations were submitted by the facility and reviewed by the Division. The table below summarizes the emissions change due to the modification.

Table 3: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	0.17	0.17
PM ₁₀	Yes	0.17	0.12
PM _{2.5}	Yes	0.17	0.12
SO ₂	Yes	-	-
VOC	Yes	28.08	28.08
NO _x	Yes	-	-
CO	Yes	-	-
TRS	n/a		
H ₂ S	n/a		
Individual HAP	Yes	1.95	8.54
Total HAPs	Yes	4.28	4.28

C. PSD/NSR Applicability

This modification is not a major modification as defined by PSD/NSR. The table above shows that there is no significant increase in potential emissions.

III. Facility Wide Requirements

There are no changes associated with this modification.

IV. Regulated Equipment Requirements

A. Brief Process Description

In this modification Robins Air Force Base is proposing the re-assignment of building numbers, the addition of two new coating and depainting emission unit groups for Building 59D and Building 2390A, and the addition of two new High Velocity Oxygen Fuel (HVOF) Plasma booths in Building 327.

Re-assignment of Emission Unit Group CG06 from Building Number 59 to 59P

Emission Unit Group CG06 (Coating/Depainting Group 6) with emission units ID Nos. C047, C049, CS01, D016, SG47 and SG49 are currently assigned to Building 59. Robins AFB requests that Emission Unit Group CG06 and the associated emission units be assigned to Building 59P.

New coating and depainting Emission Unit Group CG08 for Building 59D

Robins AFB requests that new coating and depainting Emission Unit Group CG08 (Coating/Depainting Group 8) with emission units ID Nos. C054, D029, SG52, and CS01 be assigned to Building 59D.

New coating and repainting Emission Unit Group CG09 for Building 2390A

Robins AFB requests that a new coating and repainting emission unit group for a Narrow Body Paint Booth (NBPB) be assigned to Building 2390A. This group is designated Emission Unit Group CG09 (Coating/Repainting Group 9) with emission units ID Nos. C055, D030, SG53, and CS01.

Addition of two new High Velocity Oxygen Fuel (HVOF) booths Emission Unit ID Nos. HV03 and HV04 in Building 327

Add two new High Velocity Oxygen Fuel metal thermal spray coating sources with Emission Unit ID Nos. HV03 and HV04 in Building 327.

B. Equipment List for the Process

Table 3.1

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
BG02	External combustion units in Bldg 644 that are subject to 40 CFR 60 Subpart Dc. [Boilers]	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 40 CFR 60 Subpart Dc, 40 CFR 63 Subpart DDDDD		
CG01	Aerospace surface coating equipment subject to 40 CFR 63 Subpart GG and 391-3-1-.02(2)(kkk).	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(kkk), 40 CFR 63 Subpart GG	See table 3.1c.	Dry filters.
CG02	Non-aerospace surface coating equipment not subject to 40 CFR 63 Subpart GG.	391-3-1-.02(2)(b), 391-3-1-.02(2)(e)	See table 3.1c.	Dry filters.
CG03	Surface coating and repainting operations in Bldg 50 that share a PSD avoidance permit condition.	40 CFR 52.21 - PSD Avoidance	C1C1 C1C2	Dry filters.
CG04	Surface coating and repainting operations in Bldg 180 that share a PSD avoidance permit condition.	40 CFR 52.21 - PSD Avoidance	See table 3.1c.	Dry filters.
CG05	Surface coating and repainting operations in Bldg 2036 that share a PSD avoidance permit condition.	40 CFR 52.21 - PSD Avoidance	See table 3.1c.	Dry filters.
CG06	Surface coating and repainting operations in Bldg 59P that share a PSD avoidance permit condition.	40 CFR 52.21 - PSD Avoidance	See table 3.1c.	Dry filters.
CG07	Surface coating and repainting operations in Bldg 2316.	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(kkk), 40 CFR 63 Subpart GG	See table 3.1c.	Dry filters.
CG08	Surface coating and repainting operations in Bldg 59D that share a PSD avoidance permit condition.	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(kkk), 40 CFR 63 Subpart GG 40 CFR 52.21 – PSD Avoidance	See table 3.1c.	Dry filters.

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
CG09	Surface coating and depainting operations in Bldg 2390A that share a PSD avoidance permit condition.	391-3-1-.02(2)(b), 391-3-1-.02(2)(e), 391-3-1-.02(2)(kkk), 40 CFR 63 Subpart GG 40 CFR 52.21 – PSD Avoidance	See table 3.1c.	Dry filters.
CS01	Aerospace hand-wipe cleaning operations.	40 CFR 63 Subpart GG 391-3-1-.02(2)(kkk)		
HV03	HVOF metal plasma booth	391-3-1-.02(2)(b), 391-3-1-.02(2)(e)	HV3C	Cartridge dust collector with HEPA filter.
HV04	HVOF metal plasma booth	391-3-1-.02(2)(b), 391-3-1-.02(2)(e)	HV4C	Cartridge dust collector with HEPA filter.

Table 3.1a. Emission Unit Group Listing for Robins AFB

Emission Unit Group	Emission Unit Group Name	Emission Unit ID Numbers in the Group
CG01	Coating Group 1	C001, C002, C003, C004, C005, C006, C007, C008, C009, C010, C015, C020, C028, C029, C030, C036, C041, C042, C043, C044, C045, C047, C049, C050, C052, C053, C054, C055
CG02	Coating Group 2	C007, C008, C009, C010, C015, C022, C024, C039, C043, C044, C046, C048, C049, C050, C051, C053, C054, C055
CG08	Coating/Depainting Operations Group 8	C054, CS01, D029, SG52
CG09	Coating/Depainting Operations Group 9	C055, CS01, D030, SG53
DG01	Depainting Group 1	A008, D001, D002, D003, D004, D005, D007, D010, D012, D014, D015, D016, D018, D019, D020, D021, D023, D024, D026, D027, D028, D029, D030
SGC1	Spray Gun Cleaning Group 1	SG01, SG02, SG03, SG05, SG08, SG15, SG20, SG21, SG28, SG29, SG30, SG41, SG44, SG47, SG49, SG50, SG51, SG52, SG53

Table 3.1b. Emission Unit Listing for Robins AFB

Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
C047	Surface Coating-Painting [Bldg 59P]	CG01, CG06	
C049	Surface Coating Spray Booth [adjacent to Bldg 59P]	CG01, CG02, CG06	
D016	Depainting Operation [Bldg 59P]	DG01, CG06	
G019	Diesel Generator No. 1, 755 Hp [Bldg 127]	IC05	Subject to 40 CFR 63 Subpart ZZZZ. Emergency Use only.

Table 3.1b. Emission Unit Listing for Robins AFB

Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
SG47	Aerospace Spray Gun Cleaning [Bldg 59P]	SGC1, CG06	
SG49	Aerospace Spray Gun Cleaning (Spray Booth) [Bldg 59P]	SGC1, CG06	
C054	Surface Coating – Painting [Bldg 59D]	CG01, CG02, CG08	
C055	Surface Coating – Painting [Bldg 2390A]	CG01, CG02, CG09	
D029	Depainting Operations [Bldg 59D]	DG01, CG08	
D030	Depainting Operations [Bldg 2390A]	DG01, CG09	
SG52	Aerospace Spray Gun Cleaning [Bldg 59D]	SGC1, CG08	
SG53	Aerospace Spray Gun Cleaning [Bldg 2390A]	SGC1, CG09	
HV01*	HVOF Plasma Booth [Bldg 327]		
HV02*	HVOF Plasma Booth [Bldg 327]		
HV03	HVOF Plasma Booth [Bldg 327]		
HV04	HVOF Plasma Booth [Bldg 327]		
CS01	Aerospace Hand-wipe Solvent Cleaning [Basewide]	CG03, CG04, CG05, CG06, CG07, CG08 , CG09 , PG01	

* Indicating the request to change the building number for Title V ID Nos. HV01 and HV02 to Building 327.

Table 3.1c. Air Pollution Control Device Listing for Robins AFB

APCD ID No.	APCD Description	Applicable Emission Unit Groups	Applicable Emission Unit ID Number	Comments
C47C	Dry filters (three-Stage) [Bldg 59P]	CG01, CG02, CG06	C047, D016	
C49C	Dry filters (Three-stage) [adjacent to Bldg 59P]	CG01, CG02, CG06	C049	
C54C	Dry filters (Three-stage) [Bldg 59D]	CG01, CG02, CG08	C054, D029	
C55C	Dry filters (Three-stage) [Bldg 2390A]	CG01, CG02, CG09	C055, D030	

Table 3.1c. Air Pollution Control Device Listing for Robins AFB

APCD ID No.	APCD Description	Applicable Emission Unit Groups	Applicable Emission Unit ID Number	Comments
HV1C	Cartridge dust collector with HEPA filter [Bldg 327]		HV01	
HV2C	Cartridge dust collector with HEPA filter [Bldg 327]		HV02	
HV3C	Cartridge dust collector with HEPA filter [Bldg 327]		HV03	
HV4C	Cartridge dust collector with HEPA filter [Bldg 327]		HV04	

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

C. Equipment & Rule Applicability

Emission and Operating Caps –

Robins AFB is a PSD major source for VOC and has requested a 40 ton limit on VOC emissions from Emission Unit Group CG08 and CG09 for PSD avoidance. These limits are stated in new Conditions 3.2.15 and 3.2.16 of the permit amendment.

Applicable Rules and Regulations -

40 CFR 63 Subpart GG - “Aerospace Manufacturing and Rework Facilities”

This regulation applies to Emission Unit Group CG08 and CG09 with coating operations emission unit ID Nos. C054 and C055; depainting operations emission unit ID Nos. D029 and D030; aerospace spray gun cleaning emission unit ID Nos. SG52 and SG53; as well as hand wiping of parts emission unit ID No. CS01. Robins AFB shall comply with all the applicable requirements of this rule.

Georgia Rule (b) - “Visible Emissions”

Georgia Rule (b) limits the opacity of emissions from any source that is subject to at least one other emission limitation, to 40 percent, unless a more stringent opacity limit is specified in another regulation. This applies to Emission Unit ID Nos. HV03 and HV04 which are subject to Georgia Rule (e).

Georgia Rule (e) - “Particulate Emission from Manufacturing Processes”

Georgia Rule (e) applies to all processes that emit particulate matter and are not covered by a more specific rule or regulation. PM emissions are limited according to the formula: $E = 4.1P^{0.67}$, where E equals the allowable emission rate in pounds per hour and P equals the process input weight rate in tons per hour. This applies to Emission Unit Groups CG08, CG09, and Emission Unit ID Nos. HV03 and HV04.

Georgia Rule (kkk) - “VOC Emissions from Aerospace Manufacturing and Rework Facilities”

Georgia Rule (kkk) applies to Emission Unit Groups CG08 and CG09 (surface coating and depainting operations). The rule specifies VOC content limits for all specialty coatings used at the facility.

D. Permit Conditions

Condition 3.2.14 limiting VOC emissions from Emission Unit Group CG06 to 40 tons during any 12 consecutive month period has been modified to include the re-assignment of Emission Unit Group CG06 from Building Number 59 to 59P.

New Conditions 3.2.15 and 3.2.16 limit VOC emissions from Emission Unit Group CG08 and CG09 to 40 tons during any 12 consecutive month period.

Condition 3.4.3 establishing the applicability of Georgia Rule (e) has been modified to include Emission Unit ID Nos. HV03 and HV04.

Condition 3.5.4 regarding filter change-out procedures has been modified to include Emission Unit ID Nos. HV03 and HV04.

Condition 3.5.6 requiring operation of cartridge collectors with a HEPA filter on specified sources has been modified to include Emission Unit ID Nos. HV03 and HV04.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Not applicable.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Condition 5.2.12 containing pressure drop monitoring requirements for the dry particulate filter systems of the HVOF metal plasma booths has been modified to include Emission Unit ID Nos. HV03 and HV04.

VII. Other Record Keeping and Reporting Requirements

Condition 6.1.7(b)(ii) for reporting exceedances of the PSD avoidance limit for VOC has been modified to include Emission Unit Group CG08 and CG09.

Condition 6.1.7(c)(xxiii) for reporting failure to follow the specified filter change procedures has been modified to include Emission Unit ID Nos. HV03 and HV04.

Condition 6.1.7(c)(xxvii) for reporting pressure drops outside the proper operating range has been modified to include Emission Unit ID Nos. HV03 and HV04.

Condition 6.1.7(d)(ii) requiring notification for exceedances of VOC emissions has been modified to include Emission Unit Group CG08 and CG09.

Condition 6.2.4 for maintaining usage records of VOC-containing materials in the specified Emission Unit Group has been modified to include Emission Unit Group CG08 and CG09.

Conditions 6.2.5 and 6.2.6 containing the VOC emission calculations, notification, and reporting requirements for the specified Emission Unit Groups has been modified to include Emission Unit Group CG08 and CG09.

Condition 6.2.46 added Emission Unit Group SGC1 in the first sentence for clarity since requirements for this group are stated in paragraph (f) of this condition.

VIII. Specific Requirements

A. Operational Flexibility

Not applicable

B. Alternative Requirements

Not applicable

C. Insignificant Activities

In Attachment B the list of Insignificant Activities Based on Emissions Levels, the number of Oil/Water Separators (Basewide) was revised from 47 to 28.

D. Temporary Sources

Not applicable

E. Short-Term Activities

Not applicable

F. Compliance Schedule/Progress Reports

Not applicable

G. Emissions Trading

Not applicable

H. Acid Rain Requirements/CAIR/CSPAR

Not applicable

I. Prevention of Accidental Releases

Not applicable

J. Stratospheric Ozone Protection Requirements

Not applicable

K. Pollution Prevention

Not applicable

L. Specific Conditions

Not applicable

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.

//If comments were received, state the commenter, the date the comments were received in the above paragraph. All explanations of any changes should be addressed below.//