NORTH CAROLINA DIVISION OF						Region: Washington Regional Office			
Amplication Deview						NC Facility ID: 2500159			
Application Review						Inspector's Name: Robert Bright			
Issue Date:						Date of Last Inspection: 05/09/2024			
Facility Data	a					Pe	rmit Applicabili	ty (this application only)	
Applicant (Fa	acility's Nan	ne): Fleet Reading	ess Center Ea	st		SIP: 15A NCAC 02D .0521 and 02D .1111 NSPS: NA			
Facility Add	ress:					NESHAP: 40 CFR 63, Subpart GG			
Fleet Readin	ess Center E	ast				PSD: NA			
A Street - Ma	arine Corps A	Air Station				PS.	D Avoidance: NA		
Cherry Point	, NC 205	33				wit	th G S $143-2151$	07(a) and 15A NCAC 20	
SIC: 9711 / N	Vational Secu	urity				.07	702(a)(27)		
NAICS: 928	8110 / Nation	nal Security				112	2(r): NA		
E 111 CI	· 🥵 👉 🕞					Ot	her: NA		
Facility Class Fee Classific	sification: Be ation: Before	etore: Title V Af e: Title V After:	ter: Title V Title V						
Contact Dat	a					Ар	oplication Data		
Facility Con	tact	Authorized C	ontact	Technical Co	ntact	An	Application Number: 2500159.244		
Stanhan Lasl	ovias	Contain Danda	I Dorti			Date Received: 08/14/2024 Application Type: Modification Application Schedule: TV-Minor			
Air Quality F	Program	USN	J. Delu	Air Quality Program Manager					
Manager	rogram	Commanding	Officer						
(252) 464-83	96	(252) 464-700	0	(252) 464-839	6	Ex Ex	isting Permit Dat	$a = 0.550 (T_{12})$	
Fleet Reading	ess Center	Fleet Readines	ss Center	Fleet Readine	ss Center	Existing Permit Number: 05506/148 Existing Permit Issue Date: 04/23/2024			
East	NG	East - MCAS	NG	East		Existing Permit Expiration Date: 12/31/2027			
Cherry Point 28533+0021	, NC	28533+0021	NC	Cherry Point, 28533+0021	28533+0021		8		
Total Actu	al emissions	in TONS/YEAR	:	20000 0021		<u> </u>			
СҮ	SO2	NOX	VOC	со	PM10		Total HAP	Largest HAP	
2023	3.29	13.19	57.16	10.46	3.30		6.77	2.94 [Polycyclic Organic Matter (Inc]	
2022	3.27	15.06	59.46	10.28	3.66		10.42	3.69 [Methylene chloride]	
2021	3.06	13.36	57.41	7.68	2.92		6.94	2.46 [Methylene chloride]	
2020	2.36	10.66	31.39	4.74	4.61		6.66	3.26 [Methylene chloride]	
2019	2.90	24.33	59.11	7.57	5.08		10.57	4.23 [Methylene chloride]	
Review Eng	<b>ineer:</b> Mark	Cuilla (following	Ed Martin R	etirement)	Comments	/ Re	commendations	:	
Doviou Fra	incor's Sim	aturo. T	Data: 2/1//20	25	Issue 05506	0/T49 2 Def	$\frac{1}{10000000000000000000000000000000000$		
Mark Cuilla	(following F	Ed Martin Retirem	ent)	23	Permit Expi	iratio	$Date: \frac{12}{31/20}$	027	
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### 1. Purpose of Application

Fleet Readiness Center East (FRC East) currently holds a Title V Permit (05506T48) with an expiration date of December 31, 2027, for providing depot-level maintenance, engineering and logistics support for Marine Corps and Navy aircraft in Cherry Point, Craven County, North Carolina.

The purpose of this permit application is to request a minor modification in accordance with 15A NCAC 02Q .0515. Application No. 2500159.24A was received on August 14, 2024, and the application was considered incomplete since the previous Responsible Official, Captain James M. Belmont, was no longer there and the facility had not notified DAQ of the new RO. In addition, the zoning was not included. That additional information was received on October 28, 2024 as noted in Section 3 below and the application was deemed complete on that date.

The facility is requesting to add two new MACT GG-affected significant paint booth and associated spray gun cleaning operations, emission sources ID Nos. D0229 and D0230, equipped with 3-stage paint overspray filtration system and carbon adsorption capture system control devices to be located in a building(s) that has yet to be numbered. Each of the new booths will be equipped with a 3-stage paint overspray filtration system (CD-D0229A and CD-D0230A) and carbon adsorption capture system (CD-D0229B and CD-D0230B). The carbon adsorption capture system installed on the paint booths will not be utilized for 40 CFR 63 Subpart GG compliance.

# 2. Facility Description

The Fleet Readiness Center East (FRC East) is a tenant command aboard the Marine Corps Air Station (MCAS) at Cherry Point. MCAS Cherry Point is in Craven County. This is the largest Marine Corps Air Base in the world. The FRC East sits on 150 acres of land and occupies over 100 buildings and structures, with approximately 1.5 million square feet under roof. The FRC East is charged with providing support for Marine Corps and Navy aircraft including the CH46 (dual rotors), CH53 (single rotor) helicopters, V-22 Osprey and various other aircraft including the F-35 in the military fleet and nine primary aircraft engines. Painting, bead blasting, anodizing and engine testing comprise the air quality related operations at this facility.

# 3. Application Chronology

August 14, 2024	Permit application 2500159.24	A was received for a	a Title V mino	r modification
0	11			

September 24, 2024 The minor modification 10-day letter was sent to FRC East stating the application was considered administratively complete as of August 14, 2024. The letter was sent to the previous Responsible Official, Captain James M. Belmont, via email at which time a reply was received stating "I have turned over command of Fleet Readiness Center East to CAPT Randy Berti (randy.j.berti.mil@us.navy.mil) and am in the process of retiring."

September 30, 2024 Sent an additional information request to Stephen Laskovics requesting the following:

- A formal notification of the new Responsible Official. We may have to issue the permit to the previous RO.
- Submittal of a Zoning Consistency consistent with 15A NCAC 02Q .0507(d) as this was not included in the application.
- Information on toxics emissions and operation in terms of how many hours the booths D0229 and D0230 will operate per day and per year so that DAQ can do a toxics risk analysis even though MACT/NESHAP sources under 40 CFR Part 61 and 63 are exempt from the toxic air pollutant procedures per 15A NCAC 02Q .0702(a)(27).
- The name of the new building for booths D0229 and D0230.
- The pressure drop to put in Section 2.2 A.2.g.ii for booths D0229 and D0230 filters.

October 22, 2024 Sent a second additional information request to Stephen Laskovics to determine if additional modeling is needed for fluorides emissions shown in the facilities last annual inventory that exceeded the 2016 modeled rates (daily and hourly) and which sources in Building 245 are contributing to this large exceedance of the modeled rates. Also, asked what the difference is for the two operating scenarios that causes OS86 to be so much greater than OS112.

October 25, 2024	Called Stephen Laskovics to ask about the previous two additional information requests above. He said he had not received those emails. It turns out the email address used for those previous two emails, as taken from the electronic data base for the facility, was not correct and therefore he had not received them. Discussed the items that had been requested and told him the previous emails would be sent for his response.
October 28, 2024	<ul> <li>Received an email from Stephen Laskovics with the following response to the September 30, 2024 request for additional information:</li> <li>A letter making notification of the new RO was sent digitally and mailed out to the WaRO.</li> <li>Attached is a copy of the Zoning Consistency. Marine Corps Air Station Cherry Point is the zoning authority so our consistency request is more of a formality.</li> <li>The toxics on form B should be the most accurate to use, and the footnotes under Table 4 in the application submittal should explain any operating time questions you have.</li> <li>The new building numbers will have to be listed as TBD for the time being. Buildings are assigned numbers sequentially as constructed at MCCAS CP, and there is no assignment as of yet.</li> <li>The information to put in Section 2.2 A.2.g.ii for booths D0229 and D0230 filters will have to be TBD as well. We do not assign operational ranges until the equipment is installed and set by the manufacturer.</li> </ul>
October 31, 2024	Letter received in the Washington Regional Office. It was a notification of a change in responsible official to Captain Robert J Berti, Commanding Officer of the Fleet readiness Center
October 31, 2024	A Teams call was held among FRC East (Stephen Laskovics), their modeling/inventory consultant (Mathew Willis), and DAQ (Joe Voelker and Ed Martin) to discuss the high fluorides (as noted in the October 22, 2024 email above), noticed in processing the toxics risk analysis. FRC East has determined that at some point the paint had been reformulated resulting in a higher concentration of fluorides even though the gallons of paint used has not changed. FRC East stated that emissions on Form B for the new paint booths D0229 and D0230 are based on the new formulation. This meeting satisfies the information request on October 22, 2024.
November 1, 2024	The draft permit was sent for supervisor's review.
November 6, 2024	The permit review was sent for supervisor's review
February 11, 2024	The draft permit and review were sent to the Facility and Washington Regional Office (WaRO) for comment.
February 24, 2025	Facility had minor comments regarding the language added to Sections 2.2 A.2.g.v and 2.2 B.2.f.ii referencing the TBD monitoring parameters

# 4. Permit Changes

Page No.	Section	Description of Changes
Cover		Updated Responsible Official, dates, etc.
4-7	1	Added sources D0229 and D0230. Added associated control devices CD-D0229A and CD-D0229B Added footnote † for current minor modification.
9	2.1 A	Added sources D0229 and D0230. Added associated control devices CD-D0230A and CD-D0230B
10	2.1 A regulation table	Added source D0106 is not subject to 20 percent opacity for 15A NCAC 02D .0521 (to correct previous permit).
10	2.1 A.1.a and b	Added source D0106 is not subject to 20 percent opacity and is subject to 40 percent opacity (to correct previous permit).
33	2.2 A.2.g.ii	Added pressure drops for new sources D0229 and D0230 (as TBD) in a new building (number TBD). See permit review
33	2.2 A.2.g.ii	Removed For convenience, these values are contained in the following table, excluding any ongoing administrative amendments.
35	2.2 A.2.g.v	Added the following requirement for the new filtration systems (ID Nos. CD-D0229A and CD-D0230A) For the filtration systems (ID Nos. CD-D0229A and CD-D0230A) the Permittee shall submit an application to incorporate the monitoring parameters indicated in the table above prior to commencing operation. The permit revision will be processed pursuant to 15A NCAC 02Q .0514 (Administrative Permit Amendments). [15A NCAC 02Q .0508(f)]
35	2.2 A.2.g.vi	Added the following requirement for making revisions to the parameters in the table Revisions to the existing parameters in the table above shall be made as follows: If the replacement of filter media requires recommended operating parameter(s) that are different than those in the table above, the Permittee <u>shall</u> submit an application to revise the parameter(s) in the table above. The permit revision will be processed pursuant to 15A NCAC 02Q .0515 (Minor Modification Procedures). [15A NCAC 02Q .0508(f)]
43	2.2 B.2.a	Corrected modeled emission rates for Maleic Anhydride and Non-specific Chromium VI Compounds. The existing permit incorrectly reflected the modeled ambient concentrations.
44	2.2 B.2.b	Simplified the Nickel Metal and Nickel, Soluble Compounds table to remove unnecessary columns
45	2.2 B.2.f	Removed the following statement as it does not apply to this state-enforceable only permit condition addressing 15A NCAC 02D .1100: The Permittee shall be deemed in noncompliance if the pressure drop is not recorded and maintained within the prescribed limits in the table above.

The following changes were made to Air Permit No. 05506T48.\*

45	2.2 B.2.f.ii	Added the following requirement for scrubbers (ID Nos. CD-E0207A and CD-E0089) to submit an application to incorporate the monitoring parameters indicated in the table prior to commencing operation. These scrubbers were part of a previous permitting action but the permit has not yet been updated to include the required monitoring parameters. For the scrubbers ( <b>ID Nos. CD-E0207A and CD-E0089</b> ), the Permittee shall submit an application to incorporate the monitoring parameters indicated in the table above prior to commencing operation. The permit revision will be processed pursuant to 15A NCAC 02Q .0316 (Administrative Permit Amendments).
46	2.2 B.2.o.i	Removed the following statement as it does not apply to this state-enforceable only permit condition addressing 15A NCAC 02D .1100: The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the pressure drop across any filter or cyclone operates outside of these parameters.
46	2.2 B.2.o.ii	Added a requirement to for cyclone (ID No. CD-E0207B) to submit an application to incorporate the monitoring parameters indicated in the table prior to commencing operation. This cyclone was part of a previous permitting action but the permit has not yet been updated to include the required monitoring parameters.
53	4	Updated General Conditions to version 8.0 07/10/2024. This changed General Condition D in the first sentence from two copies to one copy of all documents.

\*This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.

# 5. Source Description and Regulatory Requirements

A. Paint booths (ID Nos. D0229 and D0230) with 3-stage paint overspray filtration system (ID No. CD-D0229A and CD-D0230A) and carbon adsorption capture system (ID No. CD- D0229B and CD-D0230B) and associated spray gun cleaning operations respectively.

### **Description**

The new paint booths will be approximately 51.1 feet x 35.0 feet x 30'(h) and move approximately 240,000 cubic feet per minute (CFM) of air. The booth will be primarily used to apply low observable (LO) coatings to the F-35 joint strike fighter aircraft. The booth will also be climate controlled and recirculate approximately 80% of the air stream. The new F-35 scuff and refresh paint booths will be used to prepare (sand/clean) substrate and reapply coatings to the F-35 joint strike fighter aircraft exteriors.



The filtration systems use a three-stage Method 319 certified system to control inorganic PM, at an overall efficiency of 99.9%, to an after-control emission rate of 5.91E-03 lb/hr for each booth.

The organic controls use a carbon adsorption capture system, on the recirculation air stream portion only, to control VOCs, at an overall control efficiency of 76%, to an after-control emission rate of 1.30E+01 lb/hr for each booth.

### Applicable Regulatory Requirements

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Hazardous Air Pollutants and Volatile Organic Compounds	MACT Standards for Aerospace Manufacturing and Rework Facilities - Primer and Top Coat Application Operations See Section VI.2.b. below * The carbon adsorption capture systems (ID No. CD- D0229B and CD-0230B) installed on paint booth (ID No. D-0229 and D-0230) will not be utilized for 40 CFR 63 Subpart GG compliance. However, if the carbon adsorption capture system (ID No. CD-D0229B) is utilized for compliance with 40 CFR 63.745(d), then the owner or operator shall conduct an initial performance test pursuant to 40 CFR 63.749(d) to demonstrate compliance with the overall reduction efficiency according to the procedures of 40 CFR 63.750(g) unless a waiver is obtained under 40 CFR 63.7(e)(2)(iv) or 63.7(h) is obtained.	15A NCAC 2D .1111 40 CFR Part 63, Subpart GG

The following provides a summary of limits and/or standards for the emission source(s) described above.

### 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

Visible emissions from paint spray booths (ID Nos. D0229 and D0230) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring/Recordkeeping/Reporting

No monitoring, recordkeeping or reporting is required.

Compliance with 2D .0521 is expected with the operation of the 3-stage paint overspray filtration system.

### **15A NCAC 02D .1111: EMISSION STANDARDS FOR AEROSPACE MANUFACTURING AND REWORK FACILITIES (40 CFR 63, Subpart GG) - Primer and Top Coat Application Operations**

Standards for Primer and Topcoat Application operations (40 CFR 63.745)

a. The Permittee shall conduct the handling and transfer of primers and topcoats to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

Organic HAP and VOC content limits for Uncontrolled Coatings [40 CFR 63.745(c)]

- b. The Permittee shall comply with the organic HAP and VOC content limits specified below:
  - i. Organic HAP emissions from primers shall be limited to an organic HAP content level of no more than 350 g/L (2.9 lb/gal) of primer (less water), as applied.
  - ii. VOC emissions from primers shall be limited to a VOC content level of no more than 350 g/L (2.9 lb/gal) of primer (less water and exempt solvents), as applied.
  - iii. Organic HAP emissions from topcoats (including self-priming topcoats) shall be limited

to an organic HAP content level of no more than 420 g/L (3.5 lb/gal) of coating (less water) as applied.

- iv. VOC emissions from topcoats (including self-priming topcoats) shall be limited to a VOC content level of no more than 420 g/L (3.5 lb/gal) of coating (less water and exempt solvents) as applied.
- v. <u>40 CFR 63.749(d)</u> Each 24 hours is considered to be a compliance test for each of the limits above.

### Application equipment [40 CFR 63.745(f)]

- c. All primers and topcoats (including self-priming topcoats) shall be applied using approved application methods including; flow/curtain coating; dip coating; roll coating; brush coating; cotton tip swab application; electrodeposition (dip) coating; high volume low pressure (HVLP) spraying; electrostatic spray; or other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods with exceptions of:
  - i. any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces;
  - ii. the application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the permitting agency has determined cannot be applied by other approved application methods (i.e., flow/curtain coat application, dip coat application, roll coating, brush coating, cotton-tipped swab application, electro-deposition dip coating, or electrostatic spray application);
  - the application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 inches) and that the DAQ has determined cannot be applied by other approved application methods (i.e., flow/curtain coat application, dip coat application, roll coating, brush coating, cotton-tipped swab application, electro-deposition dip coating, or electrostatic spray application);
  - iv. the use of airbrush application methods for stenciling, lettering, and other identification markings;
  - v. the use of hand-held spray can application methods; and
  - vi. touch-up and repair operations.
- d. All application devices used to apply primers or topcoats (including self-priming topcoats) shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times. Equipment modified by the facility shall maintain transfer efficiency equivalent to HVLP and electrostatic spray application techniques.

#### Inorganic HAP emissions requirements [40 CFR 63.745(g)]

e. The Permittee shall apply primer or topcoat coatings that are spray applied and contain inorganic HAP in a booth or hangar in which airflow is directed downward onto or across the part or assembly being coated and exhausted through one or more outlets. The air stream(s) from the operation shall be controlled with a dry particulate filter system certified by the equipment provider or Permittee using EPA Method 319 (40 CFR 63, Appendix A) to meet or exceed the efficiency data points as follows:

# i. For new affected sources with dry filters (three-stage arrestor): [40 CFR 63.745(g)(2)(ii)(A)]:

Lic	<u>juid Phase</u>
Filtration efficiency requirement	% Aerodynamic particle size range, µm
> 90	>2.0
> 80	>1.0
> 65	>0.42

Sol	lid Phase
Filtration efficiency requirement	% Aerodynamic particle size range, µm
> 90	>2.5
> 85	>1.1

> 75 .....> 0.70

This provision does not apply to: touch-up of scratched surfaces or damaged paint; hole daubing for fasteners; touch-up of trimmed edges; coating prior to joining dissimilar metal components; stencil operations performed by brush or air brush; section joining; touch-up of bushings and other similar parts; sealant detackifying; the use of hand-held spray can application methods; and the painting of parts in the general hangar areas of Buildings 133, 137, 188, 1665, 4032, 4036, and 4224 where it is not technically feasible to paint parts in a spray booth.

f. <u>40 CFR 63.743(b)</u>. The Permittee shall operate the dry filter system in accordance with the manufacturer's instructions (exempt from a startup, shut down, and malfunction plan requirements).

### Monitoring and Recordkeeping

- g. The dry particulate filter systems on coating operations shall be maintained in good working order and have differential pressure gauges installed across the filter banks.
  - i. The pressure drop across a filter bank shall be continuously monitored, and a value read and recorded once per shift in a log.
    - (A) <u>40 CFR 63.752(d)(3)</u> The log shall include the acceptable limits of pressure drop as specified in this permit.
    - (B) Pursuant to the EPA accepted recordkeeping waiver [40 CFR 63.10(f)], the Permittee is allowed three days (nine shifts) of absent pressure drop records per monitor per semi-annual reporting period.
  - ii. Pursuant to 40 CFR 63.745(g)(3), if the pressure drop across a dry particulate filter bank is below the minimum or above the maximum pressure drop values (DP wg) specified by the filter manufacturer or in locally prepared operating procedures, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop is returned to within the specified limits.

For new paint booths D0229 and D0230:

Control System ID No./ Filter Bank ID	Min (ΔP wg)	Max (ΔP wg)
Bui	lding TBD	
CD-D0229A <sup>NAF</sup>	TBD	TBD
CD-D0230A <sup>NAF</sup>	TBD	TBD

Notes: 1. The new building number is listed as TBD at this time. Buildings are assigned numbers sequentially as constructed at MCCAS CP, and there is no assignment as of yet.

- 2. Pressure drop range information is TBD until the equipment is installed and set by the manufacturer.
- iii. If the booth manufacturer's maintenance procedures for the filter have not been performed as scheduled, shut down the operation immediately and take corrective action. iv.
  - 40 CFR 63.10(b) The Permittee shall keep records of:
    - the occurrence and duration of each startup, shutdown, or malfunction of the (A) coating operation;
    - (B) the occurrence and duration of each malfunction of the dry filter bank and/or pressure drop monitoring equipment;
    - all required maintenance performed on the dry filter bank and pressure drop (C) monitoring equipment;
    - (D) when actions are different from the procedures specified in the SSMP, all actions that were taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation);
    - (E) each period during which the pressure drop monitoring equipment is malfunctioning or inoperative (including out-of-control periods);
    - (F) all results of performance tests and continuous monitor system performance evaluations;
    - (G) all measurements, as may be necessary, to determine the conditions of performance tests and performance evaluations;
    - (H) all continuous monitoring system calibration checks;
    - all adjustments and maintenance performed on continuous monitor system; (I)
    - all required continuous monitoring system measurements (including monitoring (J) data recorded during unavoidable continuous monitoring system breakdowns and out-of-control periods);
    - (K) the date and time identifying each period during which the continuous monitoring system was inoperative except for zero (low-level) and high-level checks;
    - (L) the date and time identifying each period during which the continuous monitoring system was out of control, as defined in 40 CFR 63.8(c)(7);
    - (M) the date and time of commencement and completion of each period of parameter monitoring exceedances, that occur during startups, shutdowns, and malfunctions;
    - the date and time of commencement and completion of each period of parameter (N) monitoring exceedances that occur during periods other than startups, shutdowns, and malfunctions;
    - (0)the nature and cause of any malfunction (if known);
    - the corrective action taken or preventive measures adopted; (P)
    - (Q) the nature of the repairs or adjustments to the continuous monitoring system that was inoperative or out of control;
    - (R) the total process operating time during the reporting period;
    - (S) all procedures that are part of a quality control program developed and implemented for continuous monitoring system under 40 CFR 63.8(d).
- For the filtration systems (ID Nos. CD-D0229A and CD-D0230) the Permittee shall v. submit an application to incorporate the monitoring parameters indicated in the table

above prior to commencing operation. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.

- vi. Revisions to the parameters in the table above shall be made as follows:
  - (A) If the replacement of filter media requires recommended operating parameter(s) that are more stringent than those in the table above, the Permittee <u>shall</u> submit a request to revise the parameter(s) in the table above. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.
  - (B) If the replacement of filter media requires recommended operating parameter(s) that are less stringent than those in the table above, the Permittee <u>may</u> submit a request to revise the parameter(s) in the table above. The permit revision will be processed pursuant to 15A NCAC 02Q .0515.
- h. <u>40 CFR 63.752(c)</u> The Permittee shall record the following information, as appropriate.
  - i. The name and VOC content as received and as applied of each primer and topcoat used at the facility.
  - ii. For compliant (uncontrolled) primers and topcoats:
    - (A) the mass of organic HAP emitted per unit volume of coating as applied (less water) (H<sub>i</sub>) and the mass of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G<sub>i</sub>) for each coating formulation within each coating category used each month (as calculated using the procedures specified in 40 CFR 63.750(c) and (e));
    - (B) all data, calculations, and test results (including EPA Method 24 results) used in determining the values of H<sub>i</sub> and G<sub>i</sub>; and
    - (C) the volume (in gallons) of each coating formulation within each coating category used each month.
  - iii. For "low HAP content" uncontrolled primers with organic HAP content less than or equal to 250 g/l (2.1 lb/gal) less water as applied and VOC content less than or equal to 250 g/l (2.1 lb/gal) less water and exempt solvents as applied:
    - (A) annual purchase records of the total volume of each primer purchased; and
    - (B) all data, calculations, and test results (including EPA Method 24 results) used in determining the organic HAP and VOC content as applied. These records shall consist of the manufacturer's certification when the primer is applied as received, or the data and calculations used to determine H<sub>i</sub> if not applied as received.

#### <u>Reporting</u>

- i. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before November 1 of each calendar year for the preceding six-month period between March and August and May 1 of each calendar year for the preceding six-month period between September and February. The report shall submit the following information:
  - i. for primers and topcoats, each value of H<sub>i</sub> and G<sub>i</sub>, that exceeds the applicable organic HAP or VOC content limit;
  - ii. each exceedance of the pressure drop operating range established for the dry filter bank as specified in the permit;
  - iii. all times when a primer or topcoat application operation was not immediately shut down when the pressure drop across the dry particulate filter system was outside the limits specified in this permit;
  - iv. if the operations have been in compliance for the semiannual period, a statement that the operations have been in compliance with the applicable standards; and
  - v. the Permittee shall report the number of shifts of the missing records and the observations that immediately preceded and followed the missing records.
- The Permittee shall submit a summary report of listing the number of times the pressure drop for each dry filter was outside the limit(s) specified in the permit postmarked on or before January 30 of each calendar year for the preceding 12-month period.

Compliance with MACT Subpart GG for the new paint booths (ID Nos. D0229 and D0230) is expected for MACT Subpart GG topcoat and primer coating application that are already included in the permit for similar paint booths.

### 6. State Toxics Evaluation (Risk Analysis):

North Carolina General Statute (NCGS) 143-215.107(a) was approved on June 28, 2012, and this statute exempts from State Air Toxics those sources of emissions that are subject to certain Federal emissions requirements under 40 CFR Part 61 (NESHAP), Part 63 (MACT), or Case-by-Case MACT. This statute was placed into the North Carolina State Air Toxics regulations on May 1, 2014, under regulation 15A NCAC 02Q .0702(a)(27).

Paint booths ID Nos. D0229 and D0230 being added by this application are subject to 40 CFR 63, Subpart GG and therefore exempt from state toxics.

Pursuant to 15A NCAC 02D .1100, 15A NCAC 02Q .0700, and in accordance with the approved application for an air toxic compliance demonstration, the emission limits contained in the current permit shall not be exceeded. To ensure compliance with these regulations the Permittee shall maintain records of production rates, throughput, material usage, and other process operational information as is necessary to determine compliance with the air toxic emission limits specified above for a minimum of five years from the date of recording.

The latest dispersion modeling report dated January 26, 2016, was approved by the Division of Air Quality per memo from Nancy Jones dated March 21, 2016. The modeling adequately demonstrated compliance, on a source-by-source basis, for all toxics modeled at that time. The table below shows the maximum impact for each toxic from the modeling results and the maximum facility emission rates used in the modeling.

Section 2.2 of the 2016 modeling report discusses the pollutant rate emissions calculations as follows:

Actual, maximum anticipated actual, and potential TAP emissions from each of these sources were calculated. As its name implies, the maximum anticipated actual rate is the maximum rate that FRC East believes a specific TAP will be emitted from a specific emission source under foreseeable operating conditions. The maximum anticipated actual emission rate is bounded on the low end by the actual emission rate and on the upper end by the potential emission rate. Typically, the maximum anticipated actual emission rate was between 3 and 5 times the actual emission rate.

The maximum anticipated actual emission rates for each individual source were used in the air pollution dispersion modeling analyses. Because all sources of the same TAP were assumed to simultaneously operate at their maximum anticipated actual rates, FRC East believes that the resulting emission rates used in the modeling analysis were very conservative in that the emissions are much greater than will actually occur at the installation.

TAP emissions from individual sources were typically calculated using one of the following two methodologies:

- 1. Multiplying usage data by emission factors obtained from AP-42, the California Air Resources Board, trade groups, or manufacturers. This methodology was used for combustion sources such as process heaters, engine test cells, and generators, as well as for welding and plating operations.
- 2. Performing mass balance calculations. This methodology was used for many sources of volatile emissions (e.g., coating operations, solvent cleaning) as well as for abrasive blasting and wood working operations.

Even though these sources are exempt from toxics, DAQ must make a toxic risk assessment for the sources being added (booths D0229 and D0230 and associated spray gun cleaning operations). In order to determine risk, the toxics from these new sources are compared to the rates from the 2016 modeling and to the facility's annual inventories averaged over the last five years as follows. Table 1 shows the five-year inventory average toxic emission rates, which is then taken to Table 2 to compare to the maximum facility emissions as modeled in 2016, and the resulting maximum concentration (mg/m<sup>3</sup>) and percent of the AAL. The inventory numbers are used as a check to indicate whether the facility emissions are exceeding the ambient toxic standards. There are three aspects of the data to evaluate.

The first possible concern is that the increase in Table 2 of 7.28 lb/hr for methyl isobutyl ketone for this modification is at 59.6% of the modeled hourly rate of 12.2 lb/hr. However, the modeled rate was only 0.6% of the AAL. Therefore, the increase for this modification is only:

% AAL =  $(0.6\% \text{ AAL Modeled}) \times (7.28 \text{ lb/hr} / 12.2 \text{ lb/hr}) = 0.36\%$  of the AAL

Therefore, this is not a significant increase that would result in unacceptable health risk.

The second possible concern with the data is that when using the five-year inventory rates in Table 2, all toxics are below the 2016 modeled emission rates, except for fluorides. The inventory rates for fluorides increased significantly in 2023 which raised the question of why this has happened. FRC East was asked about this in the October 22, 2024, email shown in Section 3 above and a Teams call was held on October 31, 2024, also noted in Section 3 above. FRC East has determined that at some point the paint had been reformulated resulting with a higher concentration of fluorides even though the gallons of paint used has remained unchanged. FRC East stated that the emissions on application Form B for the new paint booths D0229 and D0230 are based on the new formulation. Using the 2023 inventory fluorides rate of 5146.57 from **Table 1 below** as a worst case over the five-year period, the daily rate is 14.10 lb/day (2083% of the modeled rate) and the hourly rate is 0.587 lb/hr (631% of the modeled rate) when averaged out over the year as shown in Table 2. Since there is a linear relationship between the emission rate and the AAL, the percent of the AAL for these numbers is calculated as follows:

Fluorides Daily Rate: %AAL 2023 AEI	= (%AAL Modeled) x (2023 Rate) / (Modeled Rate) = (0.70%) x (14.10 lb/day) / (0.677 lb/day) = 14.58%
Fluorides Hourly Rate: %AAL 2023 AEI	= (%AAL Modeled) x (2023 Rate) / (Modeled Rate) = (1.8%) x (0.587 lb/hr) / (0.093 lb/hr) = 11.36%

These 2023 inventory numbers are shown for fluorides in Table 2 in addition to the five-year inventory average and are significantly below the AAL and do not present an unacceptable health risk.

The third possible concern is that the five-year inventory rates for all other toxics, except for fluorides as discussed above, are below 50% of the modeled rate except for Nickel Soluble Compounds, at 81.57% of the lb/day modeled rate; and Bioavailable Chromate Pigments, at 24.1% of the lb/yr modeled rate. However, there are no increases for these toxics in this modification and therefore there is no possibility of an increased unacceptable health risk.

Toxic Pollutant	AEI Actual Emissions					
(CAS No.)	2019	2020	2021	2022	2023	Five-Year Average
Acetic Acid (64-19-7)	10.05	15.79	12.87	11.62	8.95	11.85
Ammonia (7664-41-7)	35.63	0.542340	80.22	114.78	55.36	57.31
Benzene (71-43-2)	114.04	106.73	133.65	138.24	168.25	132.2
Bioavailable Chromate Pigments as Chromium (VI) Equivalent (BIOCR6)	2.28	0.426	0.397	0.529	0.481	0.823
1,3-Butadiene (106-99-0)	42.17	42.81	55.43	57.16	69.98	53.51
Cadmium (7440-43-9)	1.33	0.794110	0.933380	0.990970	0.980160	1.01
Cresol (1319-77-3)	NR	NR	NR	8.60	1.30	1.98
Di(2-Ethylhexyl)Phthalate (DEHP) (117- 81-7)	0.009370	0.051260	0.038580	0.016530	0.137780	0.049
Ethylenediamine (107-15-3)	37.50	37.72	NR	0.849400	2.13	15.63
Fluorides (16984-48-8)	1,497.86	696.14	2,336.74	3,231.31	5,146.57	2,581.7
Formaldehyde (50-00-0)	16.36	10.55	10.81	10.17	10.94	11.76
Maleic Anhydride (108-31-6)	NR	NR	NR	0.375620	0.063390	0.0878

Table 1 – Annual Toxic Emission Rate, pounds

Toxic Pollutant	AEI Actual Emissions					
(CAS No.)	2019	2020	2021	2022	2023	Five-Year Average
Methyl Ethyl Ketone (78-93-3)	4,744.35	3,522.33	4,270.62	5,793.36	5,510.15	4,767.8
Methyl Isobutyl Ketone (108-10-1)	523.66	436.96	366.42	426.60	355.33	421.7
Methylene Chloride (75-09-2)	8,462.01	6,515.99	4,927.89	7,377.82	2,033.12	5,862.8
Nickel Metal (7440-02-0)	96.79	109.83	100.12	98.22	9.13	82.8
Nickel, Soluble Compounds, as Nickel (NICKSOLCP)	408.24	308.52	298.8	296.91	296.82	321.7
Non-specific Chromium (VI) Compounds, as Chromium (VI) Equivalent (NSCR6)	2.44	0.408230	0.247950	0.299930	0.285530	0.736
Phenol (108-95-2)	3.55	4.98	6.15	15.13	9.17	7.79
Toluene (108-88-3)	3,687.28	3,047.65	2,979.67	2,769.62	2,605.72	3017.4
Toluene Diisocyanate, 2,4-(584-84-9)	0.447270	1.09	1.19	1.09	0.897590	0.942
Xylene (1330-20-7)	2,127.93	1,035.73	890.89	757.83	526.72	1067.0

Toxic Pollutant (CAS No.)	Averaging Period	AAL (mg/m <sup>3</sup> )	Maximum Concentration (mg/m <sup>3</sup> )	Percent of AAL	Maximum Facility Emissions from 2016 Modeling	Emission Increases from T49 Permit - Adds D0229 and D0230		AEI Actual Emissions*		
						Emission Rate	Percent of Modeled Rate	Annual (lb/yr)	Prorated to Averaging Period	Percent of Modeled Rate
Acetic Acid (64-19-7)	Hourly	3.7	0.14	3.9%	10.1 lb/hr	0.162 lb/hr	1.60%	11.85	0.00135 lb/hr	0.013%
Ammonia (7664-41-7)	Hourly	2.7	0.035	1.3%	2.50 lb/hr	0.0404 lb/hr	1.61%	57.31	0.00654 lb/hr	0.26%
Benzene (71-43-2)	Annual	1.2E-04	4.0E-05	33.3%	3,320 lb/yr	6.78 lb/yr	0.204%	132.2	132.2 lb/yr	3.97%
Bioavailable Chromate Pigments as Chromium (VI) Equivalent (BIOCR6)	Annual	8.3E-08	2.0E-08	24.1%	1.61 lb/yr	0 lb/yr	0%	0.823	0.823 lb/yr	51.6%
1,3-Butadiene (106-99-0)	Annual	4.4E-04	1.10E-05	2.5%	1,100 lb/yr	0 lb/yr	0%	53.51	53.51 lb/yr	4.86%
Cadmium (7440-43-9)	Annual	5.5E-06	7.5E-02	1.4%	5.39 lb/yr	0.00848 lb/yr	0.157%	1.01	1.01 lb/yr	18.7%
Cresol (1319-77-3)	Hourly	2.2	0.070	3.2%	5.00 lb/hr	0.0808 lb/hr	1.61%	1.98	0.000226 lb/hr	0.0045%
Di(2-Ethylhexyl)Phthalate (DEHP) (117-81-7)	Daily	0.03	0.0008	2.7%	14.4 lb/day	0.97 lb/day	6.73%	0.049	0.000134 lb/day	0.00093%
Ethylenediamine (107-15-3)	Daily	0.3	0.00075	0.2%	13.7 lb/day	0.97 lb/day	7.08%	- 15.63	0.043 lb/day	0.314%
	Hourly	2.5	0.074	3.0%	5.23 lb/hr	0.0808 lb/hr	1.54%		0.00178 lb/hr	0.034%
Fluorides (16984-48-8)	Daily	0.016	0.00011	0.7%	0.677 lb/day	0.0193 lb/day	2.85%	2,581.7	7.07 lb/day	1044.3%
	Hourly	0.25	0.0044	1.8%	0.093 lb/hr	0.0016 lb/hr	1.72%		0.295 lb/hr	317.2%
	Daily	WORST CASE USING ONLY 2023 INVENTORY EMISSIONS FROM TABLE 1						5146.57 14.10 lb/day 0.587 lb/hr	14.10 lb/day	2083%
	Hourly								0.587 lb/hr	631%
										Percent of AAL
	Daily									14.58%
	Hourly									11.36%
Formaldehyde (50-00-0)	Hourly	0.15	0.014	9.5%	1.02 lb/hr	0.0161 lb/hr	1.57%	11.76	0.00134 lb/hr	0.131%

Table 2 - Maximum Impacts for the Fleet Readiness Center East from the Air Toxics Dispersion Modeling Report dated January 26, 2016

Toxic Pollutant (CAS No.)	Averaging Period	AAL (mg/m <sup>3</sup> )	Maximum Concentration (mg/m <sup>3</sup> )	Percent of AAL	Maximum Facility Emissions from 2016 Modeling	Emission Increases from T49 Permit - Adds D0229 and D0230		AEI Actual Emissions*		
						Emission Rate	Percent of Modeled Rate	Annual (lb/yr)	Prorated to Averaging Period	Percent of Modeled Rate
Maleic Anhydride (108-31-6)	Daily	0.012	0.00066	5.5%	11.8 lb/day	0.97 lb/day	8.22%	0.0878	0.000241 lb/day	0.00204%
	Hourly	0.1	0.074	74.1%	5.00 lb/hr	0.0808 lb/hr	1.61%		0.000010 lb/hr	0.0002%
Methyl Ethyl Ketone (78-93-3)	Daily	3.7	0.0096	0.3%	171 lb/day	0.97 lb/day	0.567%	4,767.8	13.1 lb/day	7.66%
	Hourly	88.5	0.83	0.9%	56.6 lb/hr	0.808 lb/hr	1.43%		0.545 lb/hr	0.962%
Methyl Isobutyl Ketone (108-10-1)	Hourly	30	0.18	0.6%	12.2 lb/hr	7.28 lb/hr	59.6%	421.7	0.0481 lb/hr	0.394%
Methylene Chloride (75-09-2)	Annual	2.4E-02	4.0E-04	1.7%	34,100 lb/yr	34 lb/yr	0.099%	5,862.8	0.005862 lb/yr	0.0000171%
	Hourly	1.7	0.21	12.2%	20.8 lb/hr	0.0808 lb/hr	0.388%		0.669 lb/hr	3.22%
Nickel Metal (7440-02-0)	Daily	6.0E-03	6.4E-05	1.1%	1.26 lb/day	0	0%	82.8	0.227 lb/day	18.02%
Nickel, Soluble Compounds, as Nickel (NICKSOLCP)	Daily	6.0E-04	6.1E-05	10.1%	1.08 lb/day	0	0%	321.7	0.881 lb/day	81.57%
Non-specific Chromium (VI) Compounds, as Chromium (VI) Equivalent (NSCR6)	Annual	8.3E-08	8.2E-08	98.8%	6.94 lb/yr	0	0%	0.736	0.774 lb/yr	11.15%
Phenol (108-95-2)	Hourly	0.95	0.078	8.3%	5.44 lb/hr	0.0808 lb/hr	1.485%	7.79	0.000889 lb/hr	0.016%
Toluene (108-88-3)	Daily	4.7	0.0077	0.2%	140 lb/day	0.97 lb/day	0.692%	- 3017.4	8.26 lb/day	5.90%
	Hourly	56	0.81	1.4%	56.3 lb/hr	0.0808 lb/hr	0.143%		0.334 lb/hr	0.593%
Toluene Diisocyanate, 2,4- (584-84-9)	Daily	0.0002	6.6E-05	33.0%	1.18 lb/day	0.00808 lb/hr	0.684%	0.942	0.000107 lb/hr	0.00906%
Xylene (1330-20-7)	Hourly	65	0.32	0.5%	22.0 lb/hr	0.324 lb/hr	1.472%	1067.0	0.122 lb/hr	0.554%

\* Annual AEI rates from Table 1. Hourly and daily rates derived from annual rates.

Therefore, the DAQ has concluded that the addition of the paint booths (ID Nos. D0229 and D0230) in this application will not present an unacceptable risk to human health.

### 7. Public Notice

Public notice is not required for this minor modification.

### 8. Other Requirements

### PE Seal

The application Form D5 for this modification was dated 6/18/2024 and stamped by Sean B. Mulligan, providing the PE review and seal.

### Responsible Official

A letter making notification of the new RO was sent digitally and mailed out to the WaRO on October 28, 2024.

### Zoning

A consistency determination request dated May 13, 2024, from FRC East was received on October 28, 2024, for this modification.

### Fee

An application fee of \$3,508 was received electronically by DAQ on August 19, 2024.

### Compliance History (past five years)

During the most recent inspection conducted on May 9, 2024, Robert Bright of the WARO indicated that the facility appeared to operate in compliance with all applicable regulations and permit conditions at the time of inspection. WaRO has not issued any Notices of Deficiency, Violation or Recommended Enforcement since the previous inspection.

### Removing the emergency affirmative defense provisions in operating permits

EPA has promulgated a rule (88 FR 47029, July 21, 2023), with an effective date of August 21, 2023, removing the emergency affirmative defense provisions in operating permits programs, codified in both 40 CFR 70.6(g) and 71.6(g). EPA has concluded that these provisions are inconsistent with the EPA's current interpretation of the enforcement structure of the CAA, in light of prior court decisions<sup>1</sup>. Moreover, per EPA, the removal of these provisions is also consistent with other recent EPA actions involving affirmative defenses<sup>2</sup> and will harmonize the EPA's treatment of affirmative defenses across different CAA programs.

As a consequence of this EPA action to remove these provisions from 40 CFR 70.6(g), it will be necessary for states and local agencies that have adopted similar affirmative defense provisions in their Part 70 operating permit programs to revise their Part 70 programs (regulations) to remove these provisions. In addition, individual operating permits that contain Title V affirmative defenses based on 40 CFR 70.6(g) or similar state regulations will need to be revised.

<sup>&</sup>lt;sup>1</sup> NRDC v. EPA, 749 F.3d 1055 (D.C. Cir. 2014).

<sup>&</sup>lt;sup>2</sup> In newly issued and revised New Source Performance Standards (NSPS), emission guidelines for existing sources, and NESHAP regulations, the EPA has either omitted new affirmative defense provisions or removed existing affirmative defense provisions. See, e.g., National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule, 80 FR 44771 (July 27, 2015); National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule, 80 FR 72789 (November 20, 2015); Standards of Performance for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Final Rule, 81 FR 40956 (June 23, 2016).

Regarding NCDAQ, it has not adopted these discretionary affirmative defense provisions in its Title V regulations (15A NCAC 02Q .0500). Instead, DAQ has chosen to include them directly in individual Title V permits as General Condition (GC) J.

Per EPA, DAQ is required to promptly remove such impermissible provisions, as stated above, from individual Title V permits, after August 21, 2023, through normal course of permit issuance. Thus, General Condition J was removed from the revised air permit.

### 9. Comments on Draft Permit

No substantial comments were received by the Permittee or the regional office. No changes to the draft permit were made.

#### 10. Recommendation

This permit application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

The Washington Regional Office has received a copy of this draft permit and had no comments.

This engineer recommends issuance of Permit No. 05506T49.