Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

Owner/Operator	Pratt & Whitney, Division of United Technologies Corporation
Address	400 Main Street, Mail Stop 102-21, East Hartford, CT 06118
Equipment Location	400 Main Street, East Hartford, CT 06118
Equipment Description	Specialty Coating Spray Booth (CANMC STC PB 02)
Town-Permit Numbers	053-0133
Premises Number	0009
Stack Number	130
Modification Issue Date	January 11, 2019
Prior Permit Issue Date	October 31, 2003
Expiration Date	None

Tracy Babbidge for
Robert J. Klee
Commissioner

1/11/19
Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. DESIGN SPECIFICATIONS

A. General Description

Pratt & Whitney (P&W) is an aerospace manufacturer with global service operations. It is a division of United Technologies Corporation (UTC) P&W's East Hartford facility includes several spray booths including a Specialty Coating Spray Booth manufactured by Global finishing and fabricated on-site. The booth is used to apply coatings to engine parts, products and other support equipment. Electrical heated ovens and/or ambient air is used to provide a final cure of the coating material.

B. Equipment Design Specifications

1. Type of Spray Gun:
   a. A HVLP Spray Gun
   b. A Conventional Touch-up Spray Gun

2. Maximum Rated Spray Gun Throughput (lb/hr): 31.75

3. Minimum Transfer Efficiency for HVLP Spray Gun (%): 65

4. Minimum Transfer Efficiency for Conventional Touch-Up Spray Gun (%): 35

C. Control Equipment Design Specifications

1. Particulate Panel Filters

2. Minimum Control Efficiency (%): 99.95

D. Stack Parameters

1. Minimum Stack Height (ft): 40

2. Minimum Exhaust Gas Flow Rate (acfm): 16,000

3. Minimum Distance from Stack to Nearest Property Line (ft): 1050

PART II. OPERATIONAL CONDITIONS

A. Operating Limits

1. Maximum Spray Gun Throughput (lb/hr): 31.75

2. Maximum Spray Guns Operating at Any One Time: 1

3. Aggregate of Coating Applied in Any One Hour of Spray Booth Operation (lb): 31.75

4. Types of Coatings Allowed:
   a. Specialty Coatings as defined by the National Emission Standards for Aerospace Manufacturing and Rework Facilities, 40 CFR Part 63 Subpart GG, as well as defined by RCSA §22a-174-20(s)

   b. Coatings classified by the Department of Defense as "Classified National Security Information" and as defined in 40 CFR §63.742

   c. Coatings used for Research & Development, and other exempt coatings as defined in 40 CFR §63.742

5. Other Types of Allowable Applications: Spray cans, Brushes, Cotton Swabs, Tongue Depressors and other Non-atomizing applicator techniques

6. The Permittee shall use cleaning solvent in accordance with the requirements of 40 CFR §63.744, inclusive of exemptions.

The coatings usage limits apply to any of the following components or mixtures of the following components: Paint, Enamel, Lacquer, Catalyst, Primer, Reducer, Sealer, Diluent, Additive, or other Coating Material or Preparation processed through the spray gun or applied in the spray booth.

B. Operating Procedures

The Permittee shall use the following work practices in accordance with RCSA §22a-17-20(s)(5):

1. New and used VOC-containing coating, diluent or cleaning solvent, including a coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

2. Spills and leaks of VOC-containing coating, diluent or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing coating, diluent or cleaning solvent shall be absorbed and removed immediately;

3. Absorbent applicators, such as cloth and paper, which are moistened with a VOC containing coating or solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling;

4. Absorbent applicators, such as cloth and paper, which are moistened with a VOC containing coating or solvent, shall be stored in a closed, nonabsorbent, non-leaking

container for disposal or recycling; and

5. Air pollution control equipment shall be operated and maintained in accordance with the manufacturer's recommendations.

C. Equipment

1. The Permittee shall comply with the written recommendations set forth by the manufacturers for maintaining and operating the spray guns, spray booth, and particulate panel filters in order to achieve their guaranteed transfer and filter removal (control) efficiencies.

2. The control equipment shall be in place at all times the spray booth is in use.

3. The Permittee shall properly operate the control equipment at all times this equipment is in operation and emitting air pollutants.

4. Methods used to increase transfer efficiency shall include, but not be limited to, the following:
   a. Operating Equipment (Spray Guns)
      i. A reasonable effort shall be made to minimize the distance from the spray gun or aerosol spray can to the object being coated while still maintaining process requirements.
      ii. Keep the atomizing air pressure to a minimum level, as recommended by the spray gun manufacturer while still maintaining process requirements.
      iii. Spray gun cleaning shall be done in accordance with 40 CFR §63.744(c).

   b. Control Equipment (Filter System)
      i. The Permittee shall properly operate the particulate filter system at all times that this equipment is in operation and emitting air pollutants.
      ii. The Permittee shall maintain and operate the equipment in order to obtain an Overall Particulate Matter Filter Arrestance Efficiency of 99.95% or greater.
      iii. The Permittee shall replace the particulate filter material as recommended by the manufacturer and/or employ some other means to demonstrate that the filter system is being properly maintained.

5. The Permittee shall cover all open drums and vessels that contain solvents, cleaners, coatings, or cleaning rags so as to minimize the amount of VOCs emitted to the atmosphere. Empty containers shall be disposed of in a manner consistent with handling techniques for hazardous materials, as applicable.

PART III. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

A. Criteria Pollutants

Pollutant	lb/hr	lb/month	tpy
PM, PM_{10}, $PM_{2.5}$	0.00556		0.50
VOC	29.86	1666*	0.50

*Note: Premises-wide limit of 1,666 pounds of VOC emissions per month from all miscellaneous metal and plastic parts surface coating operations.

B. Hazardous Air Pollutants

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA Section 22a-174-29. [STATE ONLY REQUIREMENT]

C. Demonstration of compliance with the above emission limits may be met by calculating the emission rates using emission factors from the following sources:

- Material Balance
- For Particulate only, the material balance calculations may assume a transfer efficiency of 65% for HVLP Spray Guns, 35% for Conventional Spray Guns, and 25% for Aerosol Spray Cans and an overall particulate control efficiency of 99.95%.

The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Monitoring

The Permittee shall perform maintenance inspections at least once every calendar year of the spray booth, particulate filter panels, spray guns, and other non-atomizing applicators used as recommended by the manufacturer to achieve compliance with the emission limits in this permit.

B. Record Keeping

1. The Permittee shall record the aggregate amount of coating applied through all methods during each hour of spray booth operation, in lb/hr.

2. The Permittee shall keep hourly, monthly and daily records for each coating and diluent used, such records shall include:
   a. Date coating used;
   b. Description of coating, including name, type (see Part II.A.4 of this permit), and density (lb/gal);
   c. Volatile organic compound content by weight (lb VOC/gal);
   d. HAP content by weight (lb HAP/gal)
   e. Water and exempt VOC content by weight (lb/gal);
   f. VOC content as applied (lb/gal);
   g. Quantity of coating used (gal/day); and
   h. Quantity of diluent used for each coating (lb, gallons).

3. The Permittee shall maintain monthly records of all VOC containing cleaning solvents used in the spray booth. Such records shall include:
   a. Name and description of each cleaning solvent;
   b. VOC content of each cleaning solvent, as-applied, and the associated calculations;

c. VOC content of each cleaning solvent, as supplied;
d. The amount of each cleaning solvent used; and
e. A description of the type of cleaning equipment and process.

4. The Permittee shall make and keep records of the monthly and consecutive 12 month VOC, PM_{10}, and $PM_{2.5}$ emissions from all operations associated with this unit. The consecutive 12 month VOC, PM_{10}, and $PM_{2.5}$ emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.

5. The Permittee shall make and keep records of the premises-wide total VOC emissions from all miscellaneous metal and plastic parts surface coating operations on a monthly and consecutive 12 month basis. Such records shall be made within 30 days of the end of the previous month.

6. The Permittee shall keep material safety data sheets (MSDS) or technical data sheets (TDS) or Safety Data Sheets (SDS) for each paint and solvent used. Such information shall include the quantity and type of each hazardous air pollutant contained in the paint or solvent. For paperwork reduction, these sheets may be kept on computer file in electronic form, access to above paperwork requirement may also be allowed via internet on-demand.

7. Monthly records shall clearly display, at a minimum, compliance with all materials usage and emissions limitations set forth in this permit.

8. The Permittee shall keep records of the annual maintenance inspection required by Part IV.A of this permit as well as any other maintenance inspections performed on the spray booth, particulate filter panels, spray guns, or any other non-atomizing applicators used. At a minimum, such records shall include: date, person conducting inspection and the outcome of such inspection.

9. The Permittee shall keep a record of the manufacture's guarantee for the minimum particulate removal (control) efficiency for any filter panel used in the paint booth

10. The Permittee shall keep all records required by this permit for a period of no less than five years and shall submit such records to the commissioner upon request.

C. Reporting

The Permittee shall submit to the Department, reports of any exceedances of the material usage or emission limitations, set forth in this permit, in writing within 30 days of the date of such exceedance. Such report shall at a minimum include:

1. a description of the nature of the exceedance;

2. the duration and magnitude of the exceedance;

3. the steps taken to reestablish compliance;

4. the success of such steps; and

5. the steps taken to assure that compliance is maintained in the future.

PART V. SPECIAL REQUIREMENTS

A. The Permittee shall comply with all applicable sections of the following New Emission Standards for Hazardous Air Pollutants at all times.

Title 40 CFR Part 63, Subpart GG – National Emission Standard for Aerospace Manufacturing

Title 40 CFR Part 63 Subpart A – General Provisions

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

B. The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA Section 22a-174-23. [STATE ONLY REQUIREMENT]

C. The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA Sections 22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]

PART VI. ADDITIONAL TERMS AND CONDITIONS

A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

B. Any representative of the DEEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.

C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.

D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons of municipalities who are not parties to this permit.

E. Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under Section 22a-175 of

the Connecticut General Statutes, under Section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."

F. Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.

G. Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.

H. The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

I. Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

NSR Engineering Evaluation

CT Department of Energy and Environmental Protection
Bureau of Air Management

Company Name:	Pratt & Whitney, Division of United Technologies Corporation	**Permit No.**:	053-0133
Equipment Location:	400 Main Street, East Hartford, CT 06118	**Date App Received**:	9/4/2018
Mailing Address:	400 Main Street, Mail Stop 102-21 East Hartford, CT 06118	**SIMS No.**:	201811368
Contact Person:	Mr. Steven C. Eitelman	**Date Prepared**:	12/5/2018
Contact Title:	Air Program Manager	**Prepared By:**	Kevin O'Neil
Contact Phone:	860-565-7929	**Single or Multiple Units:**	Single
Contact Email:	steven.eitelman@pw.utc.com	**Permit Type:**	Minor Mod (prepaid)
Ozone:	serious non-attainment	**Premises Size:**	Major
PM2.5:	attainment	**Equipment Size:**	Minor
Equipment Description	Specialty Coating Spray Booth Model No. CANMC STC PB 02	**TV/GPLPE Permit No:**	053-0071-TV

Step 1: Complete all the fields above

Step 2: Generate Eval Step 3: Update Fields

Introduction

Pratt & Whitney (P&W) is an aerospace manufacturer with global service operations, it is a subsidiary of United Technologies Corporation (UTC). P&W's aircraft engines are widely used in both civil aviation and military aviation. P&W's Headquarters is based in East Hartford, CT. This location currently has several New Source Review (NSR) permits as well as a Title V permit covering the entire facility.

Reason for Application:

On September 4, 2018 the Department received a *Minor Modification Application for an Existing New Source Review Permit* for a spray booth covered under Permit No. 053-0133. The request was made to allow P&W to use a Binks Corporation Model 115 Conventional spray gun in the spray booth or an equivalent type gun.

Regulatory Applicability:

The requested changes are considered a minor modification pursuant to RCSA §22a-174-2a(e) since the changes are not considered a non-minor modification or revision. Pursuant to RCSA §22a-174-2a(e)(6), this permit will be modified without published notice, public comment, or hearing.

Discussion of Modification/Revision:

P&W originally applied for a permit to construct a specialty coating spray booth in 2003 and was issued Permit No. 053-0133 on October 31, 2003 for such. However the booth was not constructed at that time. Subsequently, on June 9, 2010, the Department received a letter from P&W indicating their intent to construct the booth.

Because of the lengthy time between the issuance of the permit and the actual construction of the booth the Department was required by RCSA §22a-174-3a(f)(2)(A) to review the permit. The Department concluded in a memorandum dated July 16, 2010 that the original BACT analysis for use of a panel filter system with a control efficiency of 99.95% was still valid. P&W subsequently constructed the spray booth.

The permit, as currently issued, allows for the use of spray guns with a minimum transfer efficiency of 65%. Such transfer efficiency calls for the use of high volume low pressure (HVLP) guns. P&W is requesting that in addition to the use of HVLP spray guns they be allowed to use a Binks 115 spray gun or equivalent. This type of spray gun is a conventional touch-up spray gun which is better suited for some applications rather than the HVLP spray gun. A conventional spray gun, like a HVLP gun, uses compressed air to atomize paint and apply it to the desired surface, however, a conventional spray gun operates under a higher pressure with a lower volume than a HVLP gun and typically has a much low paint transfer efficiency of about 35%.

Despite the considerably lower transfer efficiency of the proposed conventional touch-up spray gun, there will be no increase in emissions with the use of these guns. Their maximum rate of application is 3.31 lb/hr and the current maximum permitted rate for the booth is 31.75 lb/hr. Furthermore only one gun, either a HVLP or a conventional spray gun, will be permitted to be used in the spray booth at a time. The estimated average use of paint by the conventional spray gun is less than two ounces a day.

Since this minor permit modification does not increase the allowable emissions for VOCs, PM, or any other pollutant, there was no need to conduct an ambient air analysis or a BACT review for this permit modification.

The following changes were made to Permit No. 053-0133:

The permit was put into the current NSR permit format. This included removing the lengthy hazardous air pollutants (HAPs) compliance language from the permit and replacing it with the simplified language used in the currently issued and modified permits.

All references to EPA's Control Techniques Guideline for the Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations have been removed from the permit, because they are not necessary. All of the guidance in this document are covered in the modified permit directly by requirements stated in the permit itself or by reference to the regulations found in 40 CFR Part 63 Subpart GG and/or RCSA §22a-174-174-20(s).

For consistency and clarity the permit language and general requirements that appear in P&W's specialty spray booth Permit No. 053-0145, which was modified on August 6, 2018, were incorporated into Permit No. 053-0133 where applicable. Specifically the work practices in the Operating Procedures section and the language in the Monitoring, Record Keeping and Reporting Requirements section in Permit No. 053-0145 were incorporated into Permit No. 053-0133.

In the Equipment Design Specifications section "Minimum Transfer Efficiency for Conventional Touch-Up Spray Gun (%): 35" was added.

P&W has reviewed the draft permit for this minor permit modification and has approved of the changes via email dated December 5, 2018. A copy of this email is attached.

Emissions Change from Modification/Revision

Pollutant	Existing Permit (tpy)	Modified Permit (tpy)	Change in Emissions (tpy)
PM	0.50	0.50	0.00
PM_{10}	0.50	0.50	0.00
$PM_{2.5}$	0.50	0.50	0.00
SO_x	0.00	0.00	0.00
NO_x	0.00	0.00	0.00
VOC	0.50	0.50	0.00
CO	0.00	0.00	0.00

Permit Fee(s) **(Double Click to edit)**

Equipment Size	○ Major ◉ Minor	
Permit Type	Minor Permit Mod	
Permit Fee	$1,750 ea.	
Municipality	☐ Yes	
# of Permits/Applications	1	$1,750
Application Fee Submitted	☐ Yes	$0
Was Permit Fee paid with Application Fee?	☑ Yes	-1750
Additional Application Fees ($1750 Each)		
	Quantity	
BACT Review	0	$0
LAER Review	0	$0
Money Owed		**$0**

Compliance History Review

Was the SIMS Enforcement Report run and reviewed for this applicant?	Yes
Were other bureaus contacted to resolve any outstanding enforcement actions shown in the SIMS Report?	N/A
What is the date on the Enforcement Section's review of air compliance email?	11/30/2018
Was the compliance record reviewed in accordance with the Environmental Compliance History Policy?	Yes

Recommendation

Based on the information submitted by the applicant, this engineering evaluation and the compliance history review, the granting of a minor permit modification for Permit No. 053-0133 is recommended for Pratt & Whitney, Division of United Technologies Corporation's facility in East Hartford, Connecticut.

/s/ Kevin O'Neil — 12/20/2018
Kevin O'Neil — Date
APCE

Approvals

/s/ Susan Amarello — 12/27/2018
Susan Amarello — Date
Supervising APCE

/s/ Jaimeson Sinclair — 1/11/2019
Jaimeson Sinclair — Date
Assistant Director