

PERMIT FOR FUEL BURNING EQUIPMENT

**STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT**

1. Legal Firm Name: Pratt & Whitney div of United Technologies Corp.
2. Address: Aircraft Road, Middletown, CT 06457
3. Equipment Location: Aircraft Road, Middletown, CT 06457
4. Equipment Description (Model, I.D.#): Gas Turbine Drive Engine(FT-4)

PERMIT TO:

Construct Operate Modify

FEDERAL REQUIREMENTS:

NSPS (Part 60) Subpart: _____

NESHAPS (Part 61 or 63) Subpart: _____

PREMISE TYPE:

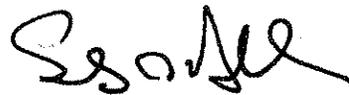
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Date Issued	Exp. Date
4/10/96	
Town No.	Premise No.
104	0007
Permit No.	Stack No.
0027	114
Permit Fee	
\$0	

Original of 12/21/82

TYPE OF POLLUTANT FOR WHICH A PREMISE IS A "MAJOR SOURCE":

SOURCE CLASS:	TSP	SOx	NOx	CO	VOC	PM-10	LEAD	OTHER
New Source _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Major Mod _____								
Minor Mod <input checked="" type="checkbox"/>								
Aggregate _____								



SIDNEY J. HOLBROOK
COMMISSIONER, DEPARTMENT OF
ENVIRONMENTAL PROTECTION
OR DESIGNATED AGENT

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The conditions on all pages of this permit and attached appendices shall be verified at all times except those noted as design specifications. Design specifications need not be verified on a continuous basis; however, if requested by the Bureau, demonstration of compliance shall be shown.

PART I. OPERATIONAL CONDITIONS

1. Fuel Type(s): Jet A
2. Minimum Stack Height (ft): 70
3. Minimum Distance from Stack to Property Line (ft): 1600
4. Maximum Fuel Consumption over any Consecutive Twelve (12) Month Period: 1,257,777 gallons/year
5. Fuel Sulfur Content (% by weight, dry basis): 0.1%
6. Maximum Hours of Operation: Daily 14

Design Specifications

1. Maximum Fuel Firing Rate(s): 20,000 lb/hr
2. Maximum Gross Heat Input (MM BTU/hr): 401.2
3. Minimum Exhaust Gas Flow Rate (acfm): 491,000
4. Stack Exit Temperature (°F): 700

**PART II. CONTROL EQUIPMENT (Applicable if -✓- Checked)
(See Appendix E for Specifications)**

A. Type

- | | |
|---|--|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Selective Non-Catalytic Reduction |
| <input type="checkbox"/> Scrubber | <input type="checkbox"/> Selective Catalytic Reduction |
| <input type="checkbox"/> Electrostatic Precipitator | <input type="checkbox"/> Low NOx Burner |
| <input type="checkbox"/> Cyclone | <input type="checkbox"/> Fabric Filter |
| <input type="checkbox"/> Multi-Cyclone | <input type="checkbox"/> Particulate Trap |
| <input type="checkbox"/> Thermal DeNOx | <input type="checkbox"/> Other |

B. Minimum Efficiency

1. Capture Efficiency (%): _____
2. Removal Efficiency (%): _____
3. Overall Efficiency (%): _____

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**PART III. CONTINUOUS EMISSION MONITORING REQUIREMENTS AND
ASSOCIATED EMISSION LIMITS (Applicable if -✓- Checked)**

CEM shall be required for the following pollutant/operational parameters and enforced on the following basis:

<u>Pollutant/Operational Parameter</u>	<u>Averaging Times</u>	<u>Emission Limit</u>	<u>Units</u>
<input checked="" type="checkbox"/> None			
<input type="checkbox"/> Opacity	six minute block		
<input type="checkbox"/> SOx	3 hour rolling		
<input type="checkbox"/> NOx	24 hour rolling		
<input type="checkbox"/> CO	1 hour block		
<input type="checkbox"/> CO ₂	1 hour block		
<input type="checkbox"/> O ₂	1 hour block		
<input type="checkbox"/> Temperature	continuous		

(See Appendix A for General Requirements)

PART IV. MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

- Annual fuel consumption shall be based on any consecutive twelve (12) month time period and shall be determined by adding (for each fuel) the current month's fuel usage to that of the previous eleven (11) months. These calculations shall be made on a monthly basis and made available for inspection by this Bureau upon request.
- When more than one fuel supply tank is to service this source or when multiple sources are supplied by one fuel tank, a fuel metering device shall be used to continuously monitor fuel feed to this permitted source.
- Records of the sulfur content of all fuel burned in this source shall be kept on site and made available for inspection by the Bureau upon request for the duration of this permit, or the previous three (3) years, whichever is less.

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PART V. ALLOWABLE EMISSION LIMITS

This source shall not exceed the annual emission limits stated herein at any time.

<u>Criteria Pollutants</u>	<u>#/hr</u>	<u>#/MM BTU</u>	<u>ASC * (ug/m³)</u>	<u>TPY</u>
PM10		0.089		7.56
SOx		0.100		8.49
NOx		0.674		57.22
VOC		0.005		0.41
CO		0.070		5.95
Pb		0.000058	12.7	0.005
<u>Non-Criteria Pollutants</u>				
Sulfuric Acid		0.0018	395.8	0.154

*allowable stack concentration

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

1. TSP, NOx: Engine Test Data supplied by P&W in 1977.
2. SOx: CTDEP emission factor of 135 S lb/1000 gal, where S is the maximum percent sulfur content by weight.
3. CO, VOC for P&W JT-4A Engine in Climbout Mode: Compilation of Air Pollutant Emission Factors, AP-42, second edition, Table 3.2-1-4, page 3.2-1-6, April 1973.
4. Pb: Compilation of Air Pollutant Emission Factors, AP-42, fifth edition, Table 3.1-7, page 3.1-8, January 1995.
5. H₂SO₄: CTDEP emission factor of 2.45 S lb/1000 gal, where S is the maximum percent sulfur content by weight.

JET A: Higher heating value: 135,000 BTU/Gal., density: 6.73 lb/gal.

The above statement shall not preclude the Commissioner from requiring other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

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PART VI. STACK EMISSION TEST REQUIREMENTS (Applicable if -
Checked)

Stack emission testing shall be required for the following pollutant(s):

None at this time

TSP SOx NOx CO

VOC PM-10 Pb

Other (HAPS): _____, _____, _____

PART VII. APPLICABLE REGULATORY REFERENCES (The Regulations of
Connecticut State Agencies)

22a-174-3(a), (b), (f); 22a-174-18; 22a-174-19; 22a-174-29(b); 22a-174-22

These references are not intended to be all inclusive - other sections of the Regulations may apply.

PART VIII. SPECIAL REQUIREMENTS

1. Records indicating continual compliance with all above conditions must be kept on site at all times and made available upon Bureau request for the duration of this permit, or for the previous three (3) years, whichever is less.

2. *Noise (for non-emergency use)*

At all times, operations of this facility shall be carried out in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations under Section 22a-69-1 through 7.4 of Connecticut Department of Environmental Protection Control of Noise Regulations.

3. All applicable sections of the following New Source Performance Standard(s) shall be complied with at all times. (Applicable if -checked)

40 CFR Part 60, Subpart Db Dc GG A

None

4. This equipment shall be operated and maintained in accordance with the manufacturer's specifications and written recommendations.

5. This equipment must operate in compliance with NOx RACT (R.C.S.A. 22a-174-22).

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PART IX. ADDITIONAL TERMS AND CONDITIONS

1. 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.
2. Any representative of the DEP 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.
3. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
4. 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.
5. Any document, including any notice, which is required to be submitted to the Commission 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 the documents and all attachments and 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, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense." Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense in accordance with Connecticut General Statutes §22a-6, under §53a-157 of the Connecticut General Statutes.

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PART IX. ADDITIONAL TERMS AND CONDITIONS, continued

6. 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.
7. Within fifteen days of the date of 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.
8. 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.
9. 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 Assistant Director; Engineering & Enforcement; Bureau of Air Management; Department of Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

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