



**STATE OF CONNECTICUT
DEPARTMENT OF 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 and Section 22a-174-3a of the Regulations of Connecticut State Agencies.

Owner/Operator: Devon Power LLC
Address: P.O. Box 2218, Milford, CT 06460
Equipment Location: Naugatuck Avenue, Milford, CT 06460
Equipment Description: GE Turbine, LM6000PA Unit #14: 40 MW

Permit Number: 0043
Town/Premises Numbers: 105/14
Original Permit Issue Date: 7/01/97
Revision/Modification Issue Date: February 23, 2009
Expiration Date: NONE

/s/ Anne Gobin for
Gina McCarthy
Commissioner

February 23, 2009
Date

PERMIT FOR FUEL BURNING EQUIPMENT

**STATE OF CONNECTICUT, DEPARTMENT OF ENVIRONMENTAL PROTECTION
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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 Commissioner, demonstration of compliance shall be shown.

PART I. OPERATIONAL CONDITIONS

A. Operating Limits

1. Fuel Type(s): Natural Gas, Distillate Oil (Jet Fuel)
2. Fuel Sulfur Content (% by weight, dry basis): 0.04%
3. Maximum Fuel Consumption over any Consecutive Twelve (12) Month Period: 1,616.4 million ft³ of Natural Gas; 2,426,520 gallons of Distillate oil (Jet Fuel)

NOTE: The combination of fuels combusted in this unit shall not result in an exceedance of the emission limits defined in Part V of this permit.

B. Design Specifications

1. Maximum Fuel Firing Rate(s): 400,000 ft³/hr; 2920 gal/hr *
2. Maximum Gross Heat Input (MM BTU/hr): 400.0
3. Minimum Stack Height (ft): 43
4. Minimum Exhaust Gas Flow Rate (acfm): 284,742
5. Stack Exit Temperature (°F): 841
6. Minimum Distance from Stack to Property Line (ft): 400

* **NOTE:** This unit together with Units 11,12 and 13 (Permit Nos. 105-0040, 105-0041 and 105-0042) shall not operate more than a combined 72 hours per day when combusting distillate oil (jet fuel), nor shall this unit together with Units 11,12 and 13 (Permit Nos. 105-0040, 105-0041 and 105-0042) operate more than a combined 56 hours per day when combusting distillate oil (jet fuel) during the calendar month of July.

PART II. CONTROL EQUIPMENT (See Appendix E for Specifications)

Water Injection	For the control of thermal NOx Emissions
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**PART III. CONTINUOUS EMISSION MONITORING REQUIREMENTS AND
ASSOCIATED EMISSION LIMITS (Applicable if -X- 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"/> Opacity	six minute block		
<input type="checkbox"/> SOx	3 hour rolling		
<input checked="" 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 checked="" type="checkbox"/> Temperature	continuous		

* NOx Emissions monitoring shall be performed using the method outlined in 40 CFR Part 75 (See Appendix A for General Requirements)

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Monitoring

- When more than one fuel supply tank is to service this source or when multiple sources are supplied by one fuel tank, the Permittee shall use a non-resettable totalizing fuel metering device to continuously monitor fuel feed to this permitted source.
- Metering devices shall be used to continuously monitor the fuel flow and the water injected into this permitted source.

B. Record Keeping

- The permittee shall keep records of annual fuel consumption. 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. The permittee shall make these calculations within thirty (30) days of the end of the previous month.
- The permittee shall keep records of the fuel certification for each delivery of fuel from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by the equipment that includes the applicable sulfur content of the fuel as a condition of each shipment. The shipping receipt or contract shall include the date of delivery, the name of the fuel supplier, type of fuel delivered, the percentage of sulfur in such fuel, by weight, dry basis, and the method used to determine the sulfur content of such fuel.

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PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS, cont.

3. The permittee shall keep records on premises indicating continual compliance with all above conditions at all times and shall make them available upon request by the Commissioner for the duration of this permit, or for the previous five (5) years, whichever is less.

C. Reporting

The Permittee shall keep records on premise indicating continual compliance with all above conditions at all times and shall make them available upon request by the Commissioner for the duration of this permit, or for the previous five (5) years, whichever is less.

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PART V. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein:

<u>Criteria</u>			<u>ASC *</u>	
<u>Pollutants</u>	<u>#/hr</u>	<u>#/MM BTU</u>	<u>(ug/m³)</u>	<u>TPY</u>

Natural Gas

PM-10	5.20	0.013		
SOx	0.24	0.0006		
NOx	36.0	0.090	(25ppm)	
VOC	4.00	0.010		
CO	46.0	0.115		

Distillate Oil (Jet Fuel)

PM-10	11.6	0.029		
SOx	16.0	0.040		
NOx	70.0	0.175	(45ppm)	
VOC	1.52	0.004		
CO	19.2	0.048		

Total Allowable Tons Per Year

TSP			21.01
SOx			6.651 **
NOx			145.5 **
VOC			16.17
CO			92.95
Formaldehyde	644		
Sulfuric Acid	80		

* allowable stack concentration

**** NOTE: This unit together with Units 11,12,13 (Permit Nos. 105-0040, 105-0041 and 105-0042) shall not emit more than a combined 582 tons per year of NOx, and a combined 26.604 tons per year of SOx.**

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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PERMIT FOR FUEL BURNING EQUIPMENT**STATE OF CONNECTICUT, DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT****PART VI. STACK EMISSION TEST REQUIREMENTS** (Applicable if -X- Checked)

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

- None at this time
- TSP SO_x NO_x CO
- VOC PM-10 O₂
- Other (HAPS): _____, _____,

The above required stack tests shall be performed while burning Natural Gas and again while burning distillate oil (jet fuel).

NOTE: Stack testing for NO_x, CO, VOC/HC and O₂ shall be done at least once every five years from the date of issuance. This testing may be done in conjunction with NO_x testing requirements from Section 22a-174-22 of the Regulations of Connecticut State Agencies (R.C.S.A).

(See Appendix B for General Requirements)

PART VII. APPLICABLE REGULATORY REFERENCES

(The Regulations of Connecticut State Agencies, hereinafter shall be referred to as the Regulations)

22a-174-3a; 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

A. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.

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

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 Sections 22a-69-1 through 22a-69-7.4 of the Regulations.

C. The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times. (Applicable if -X- checked)

40 CFR Part 60, Subpart: Db Dc GG A

(See Appendix C for Detailed Requirements)

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PART IX. 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 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.
- 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 or 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.

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PART IX. ADDITIONAL TERMS AND CONDITIONS, continued:

- G.** Within fifteen 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 Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

PART X. EMISSIONS OFFSETS:

In order to maintain continual compliance with the emissions offsets requirements in RCSA Section 22a-174-3a(1), Devon Power LLC shall keep units 3-6 (Registration numbers R0105-0042, R0105-0044, R0105-0048, R0105-0052) permanently deactivated. This shall create 582 tons of RCSA Section 22a-174-22(e) adjusted NOx offsets equaling the NOx emissions allowed by this permit.

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Appendices attached (Applicable if -X- checked):

- A Continuous Emission Monitoring Requirements
- B Stack Emission Test Requirements
- C New Source Performance Standards
- E Control Equipment Specifications

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Town No: 105

Premise No: 14

Permit No: 0043

Stack No: 14

APPENDIX E
Control Equipment Specifications

Air Pollution Control Equipment (applicable if -X- checked).

The permittee shall comply with the procedures for malfunction of control equipment as specified in Section 7 of the Regulations.

The following specifications need not be verified on a continuous basis, however, if requested by the Bureau, demonstration shall be shown.

- None
 Scrubber

Make and Model: _____
Reagent: _____
Reagent Flow Rate: _____
Pressure Drop (in H₂O): _____
Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____
PH: _____
Design Outlet Grain Loading (gr/dscf): _____
Design Removal Efficiency (%): _____

- Electrostatic Precipitator (ESP)

Make and Model: _____
Number of Fields: _____
Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____
Design Outlet Grain Loading (gr/dscf): _____
Design Removal Efficiency (%): _____

- Cyclone Multicyclone

Make and Model: _____
Pressure Drop (in H₂O): _____
Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____

- Selective Non-catalytic Reduction (SNCR)

- Urea Ammonia

Make and Model: _____
Injection Rate at Maximum Rated Capacity (lb/hr): _____
Operating Temperature Range (EF): _____
Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____
Design Removal Efficiency (%): _____

- Selective Catalytic Reduction (SCR)

Make and Model: _____
Catalyst Type: _____
Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____
Pressure Drop (in H₂O): _____
Ammonia Injection Rate at Maximum Rated Capacity (lb/hr): _____
Design Removal Efficiency (%): _____

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APPENDIX E
Control Equipment Specifications

- Low NOx Burner
 Make and Model: _____
 Guaranteed NOx Emission Rate (lb/MM BTU): _____
 Design Removal Efficiency (%): _____

- Particulate Trap
 Make and Model: _____
 Design Removal Efficiency (%): _____

- Fabric Filter
 Make and Model: _____
 Number of Bags in Use: _____
 Air/Cloth Ratio: _____
 Bag Material: _____
 Cleaning Method: _____
 Pressure Drop (in H₂O): _____
 Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): _____
 Design Outlet Grain Loading (gr/dscf): _____
 Design Removal Efficiency (%): _____

- Other: Water Injection for NOx Control

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