

**PERMIT FOR FUEL BURNING EQUIPMENT**

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

1. Legal Firm Name: The Connecticut Light and Power Company
2. Address: P.O. Box 270, Hartford, Connecticut 06141
3. Equipment Location: 74 Lathrop Road, Montville, Connecticut
4. Equipment Description (Model, I.D. #): Foster Wheeler Auxiliary  
Boiler, Type AG-560

PERMIT TO:

Construct  Operate  Modify

FEDERAL REQUIREMENTS:

NSPS (Part 60) Subpart: A, Dc  
 NESHAPS (Part 61 or 63) Subpart: \_\_\_\_\_

PREMISE TYPE:

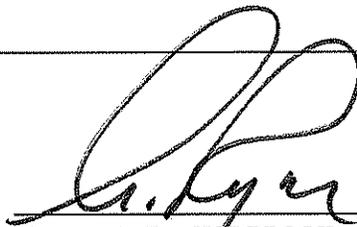
A  B

- Emergency use only  
 Non-emergency use, including self generation  
 Stand-by use

Date Issued	Exp. Date
8/16/96	
Town No.	Premise No.
107	05
Permit No.	Stack No.
0012	07
Permit Fee	
\$2000.00	

TYPE OF POLLUTANT FOR WHICH THIS 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): Natural Gas or Oil
2. Minimum Stack Height (ft): 230
3. Minimum Distance from Stack to Property Line (ft): 2,640
4. Maximum Fuel Consumption over any Consecutive Twelve (12) Month Period: 550,000,000 cu ft (natural gas); 1,815,000 gal (oil)
5. Fuel Sulfur Content (% by weight, dry basis): 0.05
6. Maximum Hours of Operation: Daily 24; Over any Consecutive Twelve (12) Month Period: 8,760
7. Fuel consumption shall be in accordance with the following equation:

$$[(5.15E-08 \times a) + (1.45E-05 \times b)] \leq 28.3 \text{ TPY of Nox}$$

where: a is cubic feet of gas consumed in a consecutive 12 month period;  
 b is gallons of oil consumed in a consecutive 12 month period;  
 5.15E-08 is a gas conversion constant based on 1030 BTU/cu ft,  
 0.1 lbs NOx/ MMBTU, and 2,000 lbs/ton;  
 1.45E-05 is an oil conversion constant based on 145,000 BTU/gal,  
 0.2 lbs NOx/ MMBTU, and 2,000 lbs/ton.

## Design Specifications

1. Maximum Fuel Firing Rate(s): 586 gph (oil); 88,350 cu ft/hr (gas)
2. Maximum Gross Heat Input (MM BTU/hr): 85 (oil); 91 (gas)
3. Minimum Exhaust Gas Flow Rate (acfm): 50,300
4. Stack Exit Temperature (°F): 340

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

## A. Type

- |   |  |
|---|--|
| <input 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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Town No: 107

Premise No: 05

Permit No: 0012

Stack No: 07 **004299**

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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>
<u>None</u>			
<u>Opacity</u>	six minute block		
<u>SOx</u>	3 hour rolling		
<u>NOx</u>	24 hour rolling		
<u>CO</u>	1 hour block		
<u>CO<sub>2</sub></u>	1 hour block		
<u>O<sub>2</sub></u>	1 hour block		
<u>Temperature</u>	continuous		

(See Appendix A for General Requirements)

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

1. Annual operating hours and 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 and operating hours 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.

During the initial year of operation, the monthly emission limit shall not exceed the annual limitation divided by four (4). Emergency diesel generators are exempt from this requirement and are subject to Part V of this permit.

2. 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.
3. Each oil fuel shipment for this equipment shall include a shipping receipt from the fuel supplier and a certification from the fuel supplier certifying the type of fuel in the shipment and the weight percent of sulfur in the fuel. The shipping receipt and/or certification shall include the name of the oil supplier, the sulfur content of the oil and the method used to determine the sulfur content of the oil. Each shipping receipt and certification shall be kept on site and available for inspection by the Bureau upon request.

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**PART V. ALLOWABLE EMISSION LIMITS**

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

**Natural Gas Fuel**

<u>Criteria Pollutants</u>	<u>#/hr</u>	<u>#/MM BTU</u>	<u>#/day</u>
TSP	0.455	0.005	10.92
SOx	0.055	0.0006	1.32
NOx	9.1	0.10	218.4
VOC	0.51	0.0056	12.24
CO	3.095	0.034	74.28

**Oil Fuel**

<u>Criteria Pollutants</u>	<u>#/hr</u>	<u>#/MM BTU</u>	<u>ASC * (ug/m<sup>3</sup>)</u>
TSP	1.190	0.014	
SOx	4.675	0.055	
NOx	17.0	0.200	
VOC	0.085	0.001	
CO	2.890	0.034	
Pb	7.03E-04	8.27E-06	
PM-10	0.595	0.007	

**Non-Criteria  
Pollutants**

Sulfuric Acid	0.085	0.001	451.15
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\*allowable stack concentration

**Note:** The #/hr and #/MM BTU values are for the single boiler of this permit.

**Total Emissions**

<u>Criteria Pollutants</u>	<u>TPY</u>
TSP	3.69
SOx	14.9
NOx	56.6
VOC	3.17
CO	19.24
Pb	0.005
PM-10	2.83

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**PART V. ALLOWABLE EMISSION LIMITS, continued**

Non-Criteria <u>Pollutants</u>	<u>TPY</u>
Sulfuric Acid	0.263

Note: The above TPY values for criteria and non-criteria pollutants are totals for the two boilers of this permit and permit 107-0013. These values represent emission limits for any fuel scenario including natural gas only, or oil only, or both natural gas and oil. When both oil and natural gas fuel are used in a consecutive twelve (12) month period, the Maximum Fuel Consumption values stated in Part I.4 will not be additive. In this circumstance the Part I.4 consumption values for gas and oil must be reduced to comply with TPY limits.

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

Stack emission testing for the boiler using oil fuel shall be required for the following pollutant(s):

\_\_\_ None at this time

\_\_\_ TSP            \_\_\_ SOx             NOx            \_\_\_ CO

\_\_\_ VOC            \_\_\_ PM-10            \_\_\_ Pb

\_\_\_ Other (HAPS): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Stack emission testing for oil fuel shall be conducted to verify compliance with Section IX.6 opacity requirements.

(See Appendix B for General Requirements)

**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**

- 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.

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**PART VIII. SPECIAL REQUIREMENTS, continued**

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 for the boiler. (Applicable if  checked)

40 CFR Part 60, Subpart \_\_\_\_\_ Db  Dc \_\_\_\_\_ GG  A

\_\_\_\_\_ None

(See Appendix C for Detailed Requirements)

4. This equipment shall be operated and maintained in accordance with the manufacturer's specifications and written recommendations.
5. A NOx emission factor shall be determined for the boiler based on Part VI emission testing. This factor shall be used to determine revised NOx allowable emissions. The revised NOx emissions will be incorporated in the final operating permit.
6. Stack emissions shall not exceed 20% opacity (6-minute average), except during startup, shutdown, or malfunction.

**PART IX. COLLATERAL CONDITIONS FOR DIESEL GENERATORS**

1. The two GM diesel generators located at this premise which are identified by Registrations 107-21 and 107-22 shall use fuel oil with sulfur content not to exceed 0.05%.
2. The total combined fuel oil annual usage for the two diesel generators shall not exceed 80,000.0 gallons.
3. Allowable emissions:

<u>Criteria Pollutants</u>	<u>#/hr</u>	<u>#/MM BTU</u>	<u>ASC * (ug/m<sup>3</sup>)</u>	<u>TPY</u>
TSP	6.699	0.231		1.340
SOx	1.595	0.055		0.319
NOx	75.69	2.610		15.138
VOC	6.409	0.221		1.282
CO	20.387	0.703		4.077
PM-10	5.443	0.188		1.089

\*allowable stack concentration

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**PART IX. COLLATERAL CONDITIONS FOR DIESEL GENERATORS, continued**

3. Allowable emissions:

Non-Criteria Pollutants	#/hr	#/MM BTU	ASC * (ug/m <sup>3</sup> )	TPY
Sulfuric Acid	0.029	0.001	387.12	0.0058

\*allowable stack concentration

NOTE: The #/hr and #/MM BTU values are for a single diesel generator. The TPY values are totals for a single generator assuming it uses the entire 80,000 gallons of fuel in the one year period, or the total for two diesel generators if both are operated during the one year period.

4. The monitoring, reporting, and record keeping requirements of Part IV apply.

**PART X. 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.

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**PART X. ADDITIONAL TERMS AND CONDITIONS, continued**

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.
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 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.
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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Appendices attached (Applicable if -✓- checked):

\_\_\_\_\_ A Continuous Emission Monitoring Requirements

B Stack Emission Test Requirements

C New Source Performance Standards

\_\_\_\_\_ E Control Equipment Specifications

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## Appendix B: SOURCE STACK TESTING GENERAL REQUIREMENTS

The owner/operator shall conduct stack testing within sixty (60) days of achieving the maximum production rate, but not later than one hundred-eighty (180) days after initial start up.

Pursuant to the Regulations of Connecticut State Agencies, the owner/operator of this facility shall submit an Intent-to-Test (ITT) package consisting of an ITT form (Form AE404) and a test protocol. The test protocol shall be consistent with the Bureau's Emission Source Test Guideline specifying the test methodology to be followed and the conditions under which the process and its control equipment will be operated. The process shall be operated at a minimum of 90% of the permitted maximum rated capacity and the control equipment shall be operated as specified in this permit.

All proposed test methods shall comply with appropriate Federal test methods or methods acceptable to the Bureau. The ITT package must demonstrate compliance with applicable requirements of the Code of Federal Regulations (CFR) Title 40 Parts 51, 60 and 61. Any proposed test methods that deviate from those specified in these regulations must be approved by the Bureau prior to stack testing. All sampling ports shall be installed and located in compliance with 40 CFR Part 60 Appendix A, Method 1. Final plans showing the location of all sampling ports shall be submitted with the ITT package to the Air Bureau's Stack Test Group for approval prior to stack testing. Please submit an original and one copy of the ITT package to: Bureau of Air Management, New Source Review Section, 79 Elm Street, 5th Floor, Hartford, Connecticut 06106-5127.

An inspection of the source may be conducted to verify that appropriate instrumentation is available, and to determine the source process parameters, indicative of compliant operation, to be monitored during stack testing. Once the ITT package is approved, the owner/operator shall be notified, in writing, by the Bureau's Stack Test Group.

The source test must be scheduled, monitored by Bureau personnel, and completed within sixty (60) days from the date of Bureau approval of the proposed ITT package. It is the source's responsibility to conduct preparatory testing for tuning or debugging purposes prior to the Bureau-monitored stack testing. An acceptable test report must be submitted to the Bureau within forty-five (45) days of the completion of emissions testing. The owner/operator shall respond to any test report deficiency within fifteen (15) days of notification by the Bureau.

Acceptable test results will be incorporated into the final permit to operate. In the event that the stack test report is unacceptable, or the tested values show that the source is not in compliance with applicable permit conditions or regulations, a final permit to operate will not be issued until the owner/operator responds to and corrects any deficiencies. The Bureau may issue an Administrative Order if there is a likelihood that the source may demonstrate compliance through a process modification and a retest.

2/20/96

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