



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).

<b>Owner/Operator</b>	PSEG Power Connecticut LLC
<b>Address</b>	600 Connecticut Avenue, New Haven, CT 06512
<b>Equipment Location</b>	New Haven Harbor Station 600 Connecticut Avenue, New Haven, CT 06512
<b>Equipment Description</b>	Babcock & Wilcox 143.4 MMBTU/hr Auxiliary Steam Generator
<b>Town-Permit Numbers</b>	117-0021
<b>Premises Number</b>	551
<b>Stack Number</b>	2
<b>Modification Issue Date</b>	April 11, 2014
<b>Prior Permit Issue Date(s)</b>	1/2/74 (original) 7/17/03, 1/31/14
<b>Expiration Date</b>	None

/s/ Anne Gobin for  
Robert J. Klee  
Commissioner

April 11, 2014  
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. Design specifications need not be verified on a continuous basis; however, if requested by the Commissioner, demonstration of compliance shall be shown.

## **PART I. DESIGN SPECIFICATIONS**

### **A. General Description**

PSEG Power Connecticut LLC owns and operates New Haven Harbor Station, a power generating facility. The auxiliary boiler is used to preheat the main boiler and to provide building heat. It operates on No. 2 fuel oil and has propane igniters.

The boiler is subject to the control of nitrogen oxides (NO<sub>x</sub>) requirements of RCSA §22a-174-22. It is also subject to 40 CFR 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters) which will apply as of January 31, 2016. The boiler will qualify as a limited-use oil boiler by complying with a federally enforceable permit restriction on the unit's annual capacity factor in accordance with Subpart DDDDD.

### **B. Equipment Design Specifications**

1. Fuel Type(s): No.2 Fuel Oil and Propane Igniters
2. Maximum Fuel Firing Rate(s) (gal/hr): 997
3. Maximum Gross Heat Input (MMBTU/hr): 143.4

### **C. Stack Parameters**

1. Minimum Stack Height (ft): 226
2. Minimum Exhaust Gas Flow Rate (acfm): 60,500
3. Minimum Stack Exit Temperature (°F): 600
4. Minimum Distance from Stack to Property Line (ft): 338

## **PART II. OPERATIONAL CONDITIONS**

### **A. Equipment**

1. Maximum Fuel Consumption over any Consecutive 12 Month Period: 125,000 MMBTU total combined for all fuel types
2. Maximum Fuel Sulfur Content (% by weight, dry basis): 0.3% for No. 2 Fuel Oil

### 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

No. 2 Fuel Oil:

Pollutant	lb/hr	lb/MMBTU
PM	13.96	0.10
SO <sub>2</sub>	46.06	0.33
NO <sub>x</sub>	27.92	0.20

Annual Emissions:

Pollutant	tpy
PM	6.25
SO <sub>2</sub>	20.63
NO <sub>x</sub>	12.50

#### 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. Opacity

This equipment shall not exceed 20% opacity during any six minute block average as measured by 40 CFR 60, Appendix A, Reference Method 9.

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

- *Criteria and HAP: Compilation of Air Pollution Emission Factors AP-42, Vol. 5<sup>th</sup> Edition.*
- *H<sub>2</sub>SO<sub>4</sub>: Memo from David Nash dated 11/27/87, "Emission Factor Calculation for H<sub>2</sub>SO<sub>4</sub> Formation, Fuel Burning Sources"*
- *NO<sub>x</sub>: Stack Testing*

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 continuously monitor fuel consumption using a non-resettable totalizing fuel meter.

### **B. Record Keeping**

1. The Permittee shall keep records of monthly and consecutive 12 month fuel consumption by volume and by BTU. The consecutive 12 month fuel consumption shall be determined by adding (for each fuel) the current month's fuel consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.
2. The Permittee shall keep records of the fuel certification for each delivery of fuel oil from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by this 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.
3. The Permittee shall calculate and record the monthly and consecutive 12 month PM, SO<sub>2</sub> and NO<sub>x</sub>, emissions in units of tons. The consecutive 12 month 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.
4. The Permittee shall make and keep records of all tune-ups, repairs, replacement of parts and other maintenance done on the unit. [RCSA §22a-174-22(l)(1)(D)]
5. The Permittee shall make and keep copies of all documents submitted to the commissioner pursuant to RCSA §22a-174-22. [RCSA §22a-174-22(l)(1)(E)]
6. The Permittee shall keep records of the dates, times, and places of all emission testing done on this unit, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing. [RCSA §22a-174-22(l)(1)(H)]
7. 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.

## PART V. STACK EMISSION TEST REQUIREMENTS

Stack emission testing shall be performed in accordance with the [Emission Test Guidelines](#) available on the DEEP website.

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

PM     PM<sub>10</sub>     PM<sub>2.5</sub>     SO<sub>2</sub>     NO<sub>x</sub>     CO  
 VOC     Opacity     Other (HAPs):

The Permittee shall conduct a NO<sub>x</sub> emission test, in accordance with the methodology in RCSA §22a-174-22(k), at least once every five years from the date of the previous stack test. [RCSA §22a-174-22(k)(1)]

Compliance with the emission limitations of RCSA §22a-174-22 shall be determined based on the average of three one-hour tests, each performed over a consecutive 60-minute period and performed in accordance with RCSA §22a-174-5. Any analysis of nitrogen content conducted as part of such emission testing shall be in accordance with Method D-3228 of the American Society for the Testing of Materials. [RCSA §22a-174-22(k)(1)]

The Permittee shall submit test results within 60 days after completion of testing. [RCSA 22a-174-22(l)(2)]

Stack test results shall be reported as follows: all pollutants in units of lb/hr and lb/MMBTU.

## PART VI. OPERATION AND MAINTENANCE REQUIREMENTS

- A. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and good engineering practices.

## PART VII. SPECIAL REQUIREMENTS

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

Title 40 CFR Part 63, Subparts DDDDD and A

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 VIII. 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 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 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.
- 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

<b>Company Name:</b>	PSEG Power Connecticut LLC	<b>Permit No.:</b>	117-0021
<b>Equipment Location:</b>	600 Connecticut Avenue, New Haven, CT 06512	<b>Date App Received:</b>	3/28/2014
<b>Mailing Address:</b>	600 Connecticut Avenue, New Haven, CT 06512	<b>SIMS No.:</b>	201402846
<b>Contact Person:</b>	Ms. Sally Kruse	<b>Date Prepared:</b>	4/3/2014
<b>Contact Title:</b>	Senior Environmental Engineer	<b>Prepared By:</b>	Valerie Galo
<b>Contact Phone:</b>	203-974-5055	<b>Single or Multiple Units:</b>	Single
<b>Contact Email:</b>	Sally.Kruse@pseg.com	<b>Permit Type:</b>	Minor Mod (prepaid)
<b>Ozone:</b>	serious non-attainment	<b>Premises Size:</b>	Major
<b>PM2.5:</b>	non-attainment	<b>Equipment Size:</b>	Minor
<b>Equipment Description</b>	Babcock & Wilcox 143.4 MMBTU/hr Auxiliary Steam Generator	<b>TV/GPLPE Permit No:</b>	117-0265-TV
<p>Step 1: Complete all the fields above</p> <p>Step 2: <input type="button" value="Generate Eval"/> Step 3: <input type="button" value="Update Fields"/></p>			

**Introduction**

**Reason for Application:**

PSEG Power Connecticut LLC (PSEG) requested to to remove the allowance to fire No. 6 fuel oil for the Auxiliary Steam Generator.

Mike LaFleur of the Air Bureau's Compliance Analysis & Coordination Unit is currently drafting Trading Order No. 8305 which is set to expire on 5/31/14. He was contacted by PSEG about removing the use of No. 6 fuel oil from the trading order.

On 2/27/14, Mr. LaFleur contacted me to find out how to address this in the permit. I explained to him that PSEG would have to submit a New Source Review (NSR) minor modification application so the trading order and the NSR permit would be in agreement. I am currently working on the TV permit renewal (Application No. 201306267). After Permit No. 117-0021 is modified and Trading Order No. 8305 are issued, they would be incorporated into the TV draft permit. Mr. LaFleur informed PSEG that they need to submit a NSR minor modification application.

**Regulatory Applicability:**

The requested changes constitute a minor modification pursuant to §22a-174-2a(e)(1) of the Regulations of Connecticut State Agencies (RCSA) because they are neither a non-minor modification nor a revision.

**Discussion of Modification/Revision:**

In summary, the following changes were made to the permit:

- Removed all references to No. 6 fuel oil
- Updated Part III. Allowable Emission Limits table

A public notice will not be required for PSEG pursuant to RCSA §22a-174-2a(e)(6) because the requested changes are minor.

On 4/3/14, a courtesy draft was sent to Sally Kruse of PSEG for review.

On 4/8/14, Ms. Kruse submitted an email stating that the draft permit looks perfect.

**Emissions Change from Modification/Revision**

Pollutant	Existing Permit (tpy)	Modified Permit (tpy)	Change in Emissions (tpy)
PM	8.75	6.25	-2.5
SO <sub>x</sub>	34.38	20.63	-13.75
NO <sub>x</sub>	15.63	12.50	-3.13

**Comments:** As shown above there are no increase in emissions.

**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 -\$940

Was Permit Fee paid with Application Fee?  Yes -810

**Additional Application Fees (\$1750 Each)**

	Quantity	
BACT Review	0	\$0
LAER Review	0	\$0

<b>Money Owed</b>	<b>\$0</b>
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## **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?	No
What is the date on the Enforcement Section's review of air compliance email?	4/2/2014
Was the compliance record reviewed in accordance with the Environmental Compliance History Policy?	Yes

## **Approvals**

Based on the information submitted by the applicant, this engineering evaluation and the compliance history review, the granting of a permit is recommended for PSEG Power Connecticut LLC.

/s/ Valerie Galo 4/9/14

Valerie Galo  
APCE II

/s/ Kiernan Wholean 4/9/14

Kiernan J. Wholean  
Supervising APCE