

EXHIBIT C

Minor Permit Modification for PSEG Bridgeport Harbor #3 and Public Participation Documents

1. Text of the final permit (no. 015-0089), as modified
2. Notice of tentative determination
3. A summary of written comments and responses



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:	PSEG Power Connecticut, LLC
Address:	Bridgeport Harbor Station, 1 Atlantic Street Bridgeport, CT 06604-5513
Equipment Location:	Bridgeport Harbor Station, 1 Atlantic Street Bridgeport, CT 06604-5513
Equipment Description:	Combustion Engineering Co. Steam Generator #3 With An In-Line Heater and Dense Pack Turbine

Town-Permit Number:	015-0089
Premises Numbers:	045
Original Permit Issue Date:	May 10, 1985
Modification Issue Date:	FEB 07 2007
Expiration Date:	

for Anne M. McCarthy
Gina McCarthy
Commissioner

Feb 7, 2007
Date

ORIGINAL

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

Fuel Type: Sub-bituminous and Bituminous Coal

- A. Maximum Fuel Consumption over any Consecutive Twelve (12) Month Period: 2,014,800 tons
- B. Fuel Sulfur Content (% by weight, dry basis): 1.0 maximum
- C. Maximum Fuel Firing Rate(s): 230 tons/hr coal @ 400 MW net Electrical output, daily average
- D. Maximum Hours of Operation: Daily: 24; Over any Consecutive Twelve (12) Month Period: 8760

Fuel Type: Residual Oil

- A. Maximum Fuel Consumption over any Consecutive Twelve (12) Month Period: 241,048,920 gallons
- B. Fuel Sulfur Content (% by weight, dry basis): 1.0 maximum
- C. Maximum Fuel Firing Rate: 27,517 gal/hr @ 410 MW net Electrical output, daily average
- D. Maximum Hours of Operation: Daily: 24; Over any Consecutive Twelve (12) Month Period: 8760

Fuel Type: Number 2 Fuel Oil (for start-up and in-line heater)

- A. Fuel Sulfur Content (% by weight, dry basis): 0.3 maximum
- B. Maximum Fuel Firing Rate: 27,517 gal/hr
- C. Maximum Hours of Operation: Daily: 24; Over any Consecutive Twelve (12) Month Period: 8760

Design Specifications

- A. Maximum Gross Heat Input (MM BTU/hr): 4,100 MMBtu/hr
- B. Minimum Stack Height (ft): 498
- C. Minimum Exhaust Gas Flow Rate (acfm) operating at maximum rated capacity : 1,175,000
- D. Minimum Stack Exit Temperature operating at maximum load (°F): 260
- E. Minimum Distance from Stack to Property Line (ft): 0

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART II. CONTROL EQUIPMENT (Applicable if -X- 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 checked="" type="checkbox"/> Electrostatic Precipitator | <input checked="" type="checkbox"/> Low NOx Concentric Firing System |
| <input type="checkbox"/> Cyclone | <input checked="" type="checkbox"/> Pulse-jet Fabric Filter Baghouse |
| <input type="checkbox"/> Multi-Cyclone | <input checked="" type="checkbox"/> Activated Carbon Injection System |
| <input type="checkbox"/> Thermal DeNOx | <input checked="" type="checkbox"/> Other (Sulfur Injection System to control particulate emissions and resistivity of ash) |

B. Minimum Efficiency for the Electrostatic Precipitator

1. Overall Efficiency (%): 98, for operations without the baghouse

C. Fabric Filter Baghouse and Activated Carbon Injection System (Only for Coal Burning)

On and after July 1, 2008, the permittee shall: (1) Meet an emissions rate of equal to or less than 0.6 pounds of mercury per Tbtu, or (2) meet a mercury emissions rate equal to a ninety per cent reduction of mercury from the measured inlet conditions for the affected unit, whichever emissions rate is more readily achievable by such affected unit, as determined by the permittee of such affected unit. [CGS Section 22a-199(b)(1); State Enforceable Only]

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>
<input checked="" type="checkbox"/> Mercury	See Part IV.A.15 and Part V
<input checked="" type="checkbox"/> Opacity	six minute block (20%) / one minute block (40%)
<input checked="" type="checkbox"/> SOx*	24 hour average
<input checked="" type="checkbox"/> SOx*(from January 1, 2002)	calendar quarter basis
<input checked="" type="checkbox"/> NOx	24 hour (midnight to midnight)
<input type="checkbox"/> CO	1 hour block
<input type="checkbox"/> CO ₂	
<input type="checkbox"/> O ₂	1 hour block
<input type="checkbox"/> Temperature	continuous

*For purposes of complying with R.S.C.A. §22a-174-19a averaging shall be on a calendar quarter basis.

(See Appendix A for General Requirements)

FIRM NAME: PSEG Power Connecticut, LLC.
 EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street, Bridgeport, Connecticut 06604-5513
 EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam Generator #3 with an In-Line Heater and Dense Pack Turbine

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART IV. MONITORING, REPORTING AND RECORD KEEPING REQUIREMENTS

A. Monitoring Requirements

1. 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.
2. The Permittee shall comply with the particulate emission limitation with the use of an electrostatic precipitator and/or the pulse-jet fabric filter baghouse. The permittee shall operate and maintain the particulate control(s) at all times in order to comply with the limitations in Part V of the Permit and applicable provisions of RCSA Section 22a-174-18.
3. The permittee shall calibrate, maintain, operate, and certify continuous emissions monitors (CEMs) for opacity, NOx, and SOx. The CEM shall be calibrated, operated and tested in accordance with CT DEP Continuous Emission Monitoring Guideline (dated August 19, 1996) and with the applicable requirements specified in 40 CFR 60 Subpart A, Appendix B and Appendix F, as may be amended from time to time.
4. The performance or quality assurance testing of the CEMs shall be conducted in accordance with a testing protocol approved by the Commissioner.
5. The averaging times for the emission limitations with the use of the CEMs for NOx and SOx shall be twenty-four (24) hours, measured from midnight at the beginning of any day to midnight of the end of that day and shall include all periods of operation. For NOx, such times shall include startup, shutdown, and malfunction. [RCSA Section 22a-174-22(k)(4)]
6. The permittee shall use data recorded by the CEMs and any other records and reports to determine compliance with the opacity, NOx, and SOx emissions.
7. The permittee shall comply with RCSA Section 22a-174-22 in accordance with the submitted and approved compliance plan, and any applicable Trading Agreements and Orders.
8. The permittee shall monitor monthly and annual fuel oil/coal consumption.

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

9. The permittee shall monitor the maximum daily average heat input rate by recording the net electrical output. Whenever coal is being fired, no matter whether it is a coal blend or 100 percent sub-bituminous coal, the net electrical output shall not exceed 400 MW, daily average. Whenever oil is being fired, the net electrical output shall not exceed 410 MW, daily average.
10. For coal burning, on and after July 1, 2008, the permittee shall: (1) meet an emissions rate of equal to or less than 0.6 pounds of mercury per TBTu, or (2) meet a mercury emissions rate equal to a ninety per cent reduction of mercury from the measured inlet conditions for the affected unit, whichever emissions rate is more readily achievable by such affected unit, as determined by the permittee of such affected unit. [CGS Section 22a-199(b)(1); State Enforceable Only]
11. For coal burning, on and after July 1, 2008, if the permittee properly installs and operates control technology designed to achieve the mercury emissions rate requirement of Part IV.A.10 of this permit and such technology fails to achieve said emission rate, such permittee shall notify the Commissioner of Environmental Protection of such failure no later than February 1, 2009. Such permittee shall submit each quarterly stack test from such affected unit to the Commissioner of Environmental Protection for evaluation and establishment of an alternative emissions limit for the affected unit based upon the optimized performance of such properly installed and operated control technology. The Commissioner of Environmental Protection shall establish an alternative emissions limit for the affected unit no later than April 1, 2010. [CGS Section 22a-199(b)(2)(A); State Enforceable Only]
12. For coal burning, on and after July 1, 2008, upon the establishment of an alternative emissions limit for an affected unit, pursuant to Part IV.A.11 of this permit, the Commissioner of Environmental Protection shall incorporate such alternative emissions limit into the Title V permit for the affected unit. Thereafter, upon any application for renewal of such Title V permit, the Commissioner of Environmental Protection shall conduct a review of the affected unit's alternative emissions limit and may impose a more stringent alternative emissions limit based upon any new data regarding the demonstrated control capabilities of the type of control technology installed and operated at such affected unit. [CGS Section 22a-199(b)(2)(B); State Enforceable Only]

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

13. For coal burning, on and after July 1, 2008, if the permittee properly installs and operates control technology designed to achieve the mercury emissions rate requirement established in Part IV.A.10 of this permit, but such technology fails to achieve such emissions requirement, and such permittee notifies the Commissioner of Environmental Protection of such failure no later than February 1, 2009, the permittee of the affected unit shall demonstrate compliance with the requirements of Part IV.A.10 of this permit for the period beginning July 1, 2008, and ending on the date of the issuance of an alternative emissions limit, pursuant to Part IV.A.11 of this permit, by operating and maintaining such affected unit, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for the minimization of mercury emissions, as determined by the Commissioner of Environmental Protection. In determining whether the permittee of the affected unit is operating and maintaining such affected unit in a manner consistent with good air pollution control practices for the minimization of mercury emissions, the Commissioner of Environmental Protection may review the emissions monitoring results and operating and maintenance procedures of such affected unit and may inspect such affected unit. [CGS Section 22a-199(b)(2)(C); State Enforceable Only]
14. For coal burning, on and after July 1, 2008, any stack test used to demonstrate compliance with the mercury emissions rate requirements of Part IV.A.10 of this permit or used in the establishment or compliance with an alternative emissions limit pursuant to Part IV.A.11 of this permit, shall be based on the average of the stack tests conducted during the two most recent calendar quarters for an affected unit and shall be conducted on a calendar quarter basis in accordance with the Environmental Protection Agency's Method 29 for the determination of metal emissions from stationary sources, as set forth in 40 CFR 60, Appendix A, as amended from time to time, or any other alternative method approved by the Environmental Protection Agency or the Commissioner of Environmental Protection. Such stack tests shall be conducted while combusting coal or coal blends that are representative of the coal or coal blends combusted at such affected unit during the calendar quarter represented by such stack test. [CGS Section 22a-199(b)(3)(A)]

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

15. For coal burning, on and after July 1, 2008, if the Commissioner of Environmental Protection determines that continuous emission monitors for mercury in flue gases are commercially available and can perform in accordance with National Institute of Technology Standards, or other methodology approved by the Environmental Protection Agency, the permittee of the affected unit shall properly install and operate such continuous emission monitors and shall not be required to conduct stack testing on a calendar quarter basis. When reporting compliance with the mercury emissions rate requirement of Part IV.A.10 or Part IV. A.11 of this permit, as applicable, the permittee of an affected unit shall use an average of the continuous emission monitor data recorded at such affected unit during the most recent calendar quarter. [CGS Section 22a-199(b)(3)(B); State Enforceable Only]

B. Record Keeping Requirements

1. The permittee shall keep monthly and annual records of fuel use, continuous emissions monitoring, and operating hours.
2. The permittee shall keep records of all tune-ups, repairs, replacement of parts and other maintenance done on the unit.
3. The permittee shall keep copies of all documents submitted to the Commissioner pursuant to RCSA Section 22a-174-22.
4. The permittee shall keep all charts, electronically stored data, and printed records produced by the continuous emissions monitors.
5. The permittee shall keep procedures for calculating NOx emission rates.
6. The permittee shall keep records of the dates, times, and places of all emission testing done on this unit to comply with RCSA Section 22a-174-22, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing.
7. The permittee shall keep records of all performance evaluations, calibration checks and adjustments on each CEM; a record of maintenance procedures; and all data necessary to complete the quarterly reports required by the Commissioner.
8. The permittee shall keep reports of all monitoring and test data in accordance with RCSA Section 22a-174-4(c).

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

9. The permittee shall keep records of annual actual TSP emissions. The annual TSP emissions shall be calculated using emission factors obtained from stack testing or from the latest version of AP-42 and the fuel usage for the calendar year.
10. The permittee shall keep records of the daily average net electrical output of the unit.
11. All records shall be kept on the premises for a period of five (5) years from the date such data and information were obtained. Such records and reports shall be available for inspection at reasonable hours by the Commissioner or the Administrator.

C. Reporting Requirements

1. All records and test results shall be kept by the permittee, and furnished or made available for inspection by the Commissioner and/or the Administrator or any of their agents on request.
2. The Commissioner or his agents shall have the right to make on-site, unscheduled inspection visits at Bridgeport Harbor Station for the purpose of taking coal samples, examining and copying records, reports, and other data, and determining whether Unit #3 is being operated in compliance with all applicable environmental requirements.
3. For coal burning, on and after July 1, 2008, the permittee of the affected unit shall, for each calendar quarter, report to the Commissioner of Environmental Protection the results of any stack test or average of the continuous emission monitor data, as applicable, used to demonstrate compliance with the provisions of this subsection. Such reports shall be submitted on such forms as may be prescribed by the Commissioner of Environmental Protection. [CGS Section 22a-199(b)(4)]

D. Operating and Maintenance Requirements

1. The permittee shall implement a dust control plan concerning the handling, storage, and processing of coal sufficient to cause compliance with RCSA Section 22a-174-18, Fugitive Dust, to be achieved at all times. The plan may include, but is not limited to, such dust control measures and techniques as the use of enclosures, vacuum enclosure collection systems and filters, specialized loading procedures and transport techniques, spray devices and surfactant applications, or any other methods necessary to assure compliance.

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART V. ALLOWABLE EMISSION LIMITS

This source shall not exceed the emission limits stated herein at any time as determined in accordance with the applicable averaging periods defined in this Permit or as specified in an approved stack test protocol, except during periods of start-up, shut-down, and/or malfunction. As stated in Part IV.A.5, averaging times for NO_x shall include startup, shutdown, and malfunction.

Residual Oil

<u>Criteria</u> <u>Pollutants</u>	<u>#/MM BTU</u>	<u>Basis</u>
TSP	0.14	6
SO _x ⁱ	1.1	1,3
NO _x ⁱⁱ	0.25	2
NO _x ⁱⁱⁱ (October 1 st to April 30)	0.15	2

Bituminous and Sub-Bituminous Coal

<u>Criteria</u> <u>Pollutants</u>	<u>#/MM BTU</u>	<u>Basis</u>
TSP	0.06	7
SO _x ⁱ	1.1	3,5
NO _x ⁱⁱ	0.38	2
NO _x ⁱⁱⁱ (October 1 st to April 30)	0.15	2

<u>Non-criteria</u> <u>Pollutants</u>	<u>#/TBTU</u> ^{iv}	<u>#/hr</u> ^v	<u>#/yr</u> ^v	<u>MASC ug/m³</u>	<u>Basis</u>
Mercury ^{vi,vii}	0.6	0.0025	21.76	1,557.22	8

ⁱ SO_x shall be no greater than 1.1 #/MMBtu heat input on a 24 hour average and shall comply with the applicable calendar quarter average established by RCSA Section 22a-174-19a as follows: Except as authorized in writing by the Commissioner in accordance with RCSA Section 22a-174-19a, the unit shall comply with one of the following sulfur dioxide emission standards: (i) the sulfur content of the fuel shall be equal to or less than 0.3% sulfur, by weight (dry basis); (ii) the average SO₂ emission rate shall be equal to or less than 0.33 pounds SO₂ / MMBtu for each calendar quarter; or (iii) the average emission rate shall be equal to or less than 0.3 pounds SO₂ / MMBtu calculated for each calendar quarter, if the permittee averages the emissions from two or more emission units at the premises. If the permittee complies with (ii) or (iii) above, the sulfur content of the fuel shall not exceed 1.0% by weight (dry basis). The sulfur content of #2 fuel oil shall not exceed 0.3% by weight (dry basis).

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART V. ALLOWABLE EMISSION LIMITS, continued

- ii The NO_x limits are NO_x RACT limits.
- iii Section 22a-174-22(e)(3) requires all NO_x Budget Program Source to meet 0.15 #s/MMBtu during the period from October 1st to April 30th annually. The permittee may use NO_x DERCS, NO_x allowances or both, as provided for in section 22a-174-22(d)(2) to comply with this limitation.
- iv 90% reduction and/or alternative limits approved by the commissioner per Part IV.A.10 and Part IV.A.11. (State Enforceable Only). Compliance with 0.6 lbs/Tbtu limit shall be based on the state enforceable requirements of Part IV of this permit.
- v The 0.0025 #/hr and 21.76 #/yr are effective on and after the January 1, 2010. 21.76 #/yr is based on 8760 hours per year of burning coal and a maximum heat input of 4100 MMBtu/hr. The mercury mass emission cap of 21.76 lbs/yr shall be determined on a calendar year.
- vi Notwithstanding the limits identified for mercury, pursuant to CGS Section 22a-199(b)(2), the commissioner may establish an alternative emissions limit for the affected unit no later than April 1, 2010. The commissioner shall establish such alternative emissions limits based, in part, on the combined mercury emissions from all existing coal-fired electric generating units and all coal-fired electric generating units for which construction has commenced, with respect to the applicable state cap assigned under 40 CFR 60.24(h). Upon the establishment of an alternative emissions limit, the Commissioner of Environmental Protection shall incorporate such alternative emissions limit into this permit and the Title V permit. [see also Part IV.A.12; State Enforceable Only]
- vii The mass limit of 21.76 lb/yr (or an established alternative emissions limit) shall include emissions during periods of start-up, shut-down, and malfunction.

Demonstration of compliance with the above emission limits, except for the 21.76 lb/yr mass limit for mercury, shall be met by calculating the emission rates using emission factors from the following sources:

1. AP-42 Section 1.3 (September 1998)
2. NO_x RACT limit (RCSA 22a-174-22)
3. Control of SO_x from Power Plants (RCSA 22a-174-19a)
4. Vendor Data in #/MMbtu
5. AP-42 Section 1.1 (September 1998)
6. RCSA 22a-174-18
7. BACT Review, 1986 NSR Permit
8. Data Analysis of coal from 1999 EPA Mercury Study.

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.

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

ORIGINAL

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 SOx NOx CO
- VOC PM-10 Pb Hg
- Other (HAPS): _____, _____,

(See Appendix B for General Requirements) *

PART VII. APPLICABLE REGULATORY REFERENCES (The Regulations of Connecticut State Agencies, hereinafter referred to as the Regulations)

22a-174-2a; 22a-174-3a; 22a-174-18; 22a-174-19; 22a-174-19a; 22a-174-22, 22a-174-22a; 22a-174-22b; 22a-174-29(b)

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 keep 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 40 CFR 75 and with all requirements applicable to 'Hg Budget units' and 'Hg Budget sources' under 40 CFR 60.4110 through 60.4114 and 40 CFR 60.4170 through 60.4176. The requirements in 40 CFR 60 referenced in this subdivision shall be applied, as follows:

1. The term "Hg budget unit" as used in 40 CFR 60.4170 through 60.4176 shall be deemed to refer to "coal-fired electric generating unit,"

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No: 015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART VIII. SPECIAL REQUIREMENTS, continued

2. The terms "Hg Budget source," "Hg Budget unit," "Hg Budget Trading Program," and "Hg Budget permit" as used in 40 CFR 60.4110 through 60.4114 shall be deemed to refer to "facility that includes one or more coal-fired electric generating units," "coal-fired electric generating unit," "section 22a-174-3a(n)(2)(C)," and "permit to construct, reconstruct, or operate," respectively, and
3. References to "Hg Allowance Tracking System account," "Hg allowances," "proceeds of transactions involving Hg allowances," 40 CFR 60.4102 and 40 CFR 60.4151, when made in 40 CFR 60.4110 through 60.4114, shall not be applicable

PART IX. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the permittee of the responsibility to conduct, keep 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.

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

PART IX. ADDITIONAL TERMS AND CONDITIONS, continued

- 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 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.
- 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 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.

FIRM NAME: PSEG Power Connecticut, LLC.

EQUIPMENT LOCATION: Bridgeport Harbor Station, 1 Atlantic Street,
Bridgeport, Connecticut 06604-5513

EQUIPMENT DESCRIPTION (MODEL, I.D. #): Combustion Engineering Co. Steam
Generator #3 with an In-Line Heater and Dense Pack Turbine

Town No:015

Premise No: 045

Permit No: 0089

Stack No: 03

PERMIT FOR FUEL BURNING EQUIPMENT

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

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

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: 16, 5 in the direction of flow

Minimum Gas Flow Rate at Maximum Rated Capacity (acfm): 1,175,000

Design Outlet Grain Loading (gr/dscf):

Design Removal Efficiency (%): 98

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 (#/hr):

Operating Temperature Range (°F):

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 (#/hr):

Design Removal Efficiency (%):

APPENDIX E
Control Equipment Specifications

Low NOx Burner

Make and Model:
Guaranteed NOx Emission Rate (#/MM BTU):
Design Removal Efficiency (%):

Particulate Trap

Make and Model:
Design Removal Efficiency (%):

Fabric Filter

Make and Model: Custom
Number of Bags in Use:
Air/Cloth Ratio: 4:1
Bag Material: Polyphenylene Sulfide or equivalent material
Cleaning Method: Pulse Jet
Pressure Drop (in H₂O): 6
Minimum Gas Flow Rate at Maximum Rated Capacity (scfm): 845,000 @ 68°F
Design Outlet Grain Loading (gr/dscf): 0.015
Design Removal Efficiency, coal burning for mercury, (%): 90 in
conjunction with carbon injection

Other: Carbon Injection

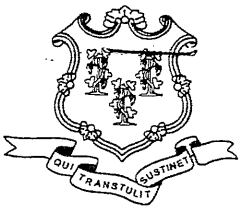
Make and Model: Custom
Design Removal Efficiency, coal burning for mercury, (%): 90 in
conjunction with fabric filter

LEGAL NOTICE PSEG POWER CONNECTICUT, LLC BRIDGEPORT HARBOR

LEGAL NOTICE PSEG POWER CONNECTICUT, LLC BRIDGEPORT HARBOR
STATION BRIDGEPORT, CT NOTICE OF TENTATIVE DETERMINATION

REGARDING A MODIFIED POINT SOURCE PERMIT The Department of Environmental Protection hereby gives notice it has made a tentative determination to approve an application submitted by PSEG Power Connecticut, LLC ("the applicant") under section 22a-174 of the Connecticut General Statutes for a permit to construct, install, enlarge or establish an air contaminant source or to operate a source regulated under the Clean Air Act Amendments of 1990. Specifically, the applicant proposes to install an air pollution control equipment to significantly reduce the mercury emissions from Unit #3. This permit will be submitted to the United States Environmental Protection Agency (USEPA) for review and approval as part of a state plan to implement and enforce federal requirements for coal-fired electric generating units pursuant to 40 Code of Federal Regulations (CFR) 60.24(h). The name and address of the permit applicant are: PSEG Power Connecticut, LLC, Bridgeport Harbor Station, 1 Atlantic Street, Bridgeport, CT 06604. The proposed activity will take place at: 1 Atlantic Street, Bridgeport, CT. The proposed activity will affect air resources. The application has been assigned PAMS number 200601311 by the Department of Environmental Protection, Bureau of Air Management. Interested persons may obtain copies of the application and proposed permit from Mr. Robert Silvestri, PSEG Connecticut, LLC, 1 Atlantic Street, New Haven, CT 06604, telephone no. (203) 551-6032. The application, engineering evaluation and proposed permit are available for inspection at the office of the Department of Environmental Protection, Bureau of Air Management, 79 Elm Street, 5th floor, Hartford, Connecticut, 06106-5127 from 8:30 - 4:30, Monday through Friday.

Appeared in: **Connecticut Post** on Wednesday, 11/08/2006



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



FEB 07 2007

Mr. Daniel J. Brown
Manager
Air Permits, Toxics, and Indoor Programs Unit
U.S. EPA New England
One Congress Street
Suite 1100 (CAP)
Boston, MA 02114-2023

Dear Mr. Brown:

Enclosed please find the response to your comments on the modified original permit for PSEG's coal-fired electric generating unit in Bridgeport, Connecticut.

Should you have any questions, please contact Ms. Debola Bamgbose, the case engineer at (860) 424-3068.

Sincerely,

A handwritten signature in cursive script that reads "Gary S. Rose".

Gary S. Rose
Director
Engineering & Enforcement Division
Bureau of Air Management

GSR:DOB:jad
Cc: Donald Dahl
Enclosure

Response to EPA's Comments on PSEG Connecticut's Coal-fired Electric
Generating Unit in Bridgeport

Comment 1.a: EPA wanted CT DEP to clarify the monitoring, record keeping, and reporting (MRR) requirements of 40 CFR part 75 and part 60, subpart HHHH in the draft permit. EPA recommends that Part VIII.C. be revised to state:

“The Permittee shall comply with all applicable sections of 40 CFR part 75 and with all requirements applicable to ‘Hg Budget units’ and ‘Hg Budget sources’ under 40 CFR 60.4110 through 60.4114 and 40 CFR 60.4170 through 60.4176.”

Response: Part VIII.C of the permit was revised as recommended by EPA.

Comment 1.b: EPA recommends that Part IV of the draft permit be listed as only state enforceable and not be part of the State's plan for meeting CAMR. This will allow the State the flexibility it may need regarding the installation of a CEM in 2008. We also recommend the following change to clarify that the MRR in Part IV is for the state mercury emission limit of 0.6 lbs/TBtu.

“Part IV shall be used to determine compliance with the mercury emission limit of 0.6 lbs/TBtu in Part V.”

Response: The state only requirements part of Part IV were marked as state-only enforceable as recommended by EPA. Part IV.C.3 of the permit was not marked as state enforceable only because it will be used to show compliance for low emitters in accordance with 40 CFR Part 75. Also, the statement “Compliance with 0.6 lbs/Tbtu limit shall be based on the state enforceable requirements of Part IV of this permit”, was added to the footnote #iv in Part V of the permit.

Comment 2: EPA recommends designating all mercury mass or concentration limits, except for the 20.50 lbs/year mass emission limit, as state-only requirements and not part of the state's implementation plan for CAMR.

Response: The mass emission limit was changed from 20.50 lbs/yr to 21.76 lbs/yr because the unit has a maximum heat input, nameplate value, of 4100 MMBtu/hr. All mass or concentration limits except for the 21.76 lbs/yr limit were designated as state-only requirements.

Comment 3.a: EPA recommends that CT DEP should clarify several issues regarding the yearly mercury mass emission cap in Part V. First, the mercury mass emission cap of 21.76 lbs/year must include all mercury emitted by the permitted unit, including periods of startup, shutdown, and malfunction.

As currently written, Part V. appears to exempt mercury emission during these periods of operations.

Response A paragraph was included in footnote #vii indicating that the mass limit shall include startup, shutdown, and malfunction periods.

Comment 3.b: EPA suggest that the permit should also state that compliance with the mercury mass emission cap of 21.76 lbs/year will be determined on a 12 month rolling basis. This would make the permit consistent with the changes Connecticut recently proposed to make to its new source review permitting regulations, Section 22a-174-3a, regarding mercury emissions from electric generating units.

Response: The final Section 22a-174-3a was not changed and still allows the mercury mass emission cap to be determined on a calendar year.

Comment 3.c: In addition, compliance with the mercury mass emission cap must be demonstrated through CEM emission data or other methods approved by EPA pursuant to 40 CFR Part 75. Therefore, the permit should make it clear that the statement after the footnotes in Part V that “[d]emonstration of compliance with the above emission limits shall be met” using certain calculations and emission factors does not apply to the mercury mass emission cap.

Response: The sentence “except for the 21.76 lb/yr mass limit for mercury” was added to the statement.

Comment 3.d: Lastly, for clarity, footnote vi should address only the 21.76 lbs/year mercury mass emission cap and not the mercury emission rate limits, percent mercury reduction limits, or alternative limits approved by the commissioner.

Response: Footnote #vi was indicated as state enforceable only. A new footnote #vii was added to the permit for clarity.

Comment 4: Since the incorporation by reference of the appropriate sections of 40 CFR part 60, subpart HHHH requires PSEG to establish who will serve as the mercury designated representative, Connecticut may want to consider using the same protocols in establishing the “duly authorized representative” for submitting records to the state in section IX.E.

Response: We note EPA’s recommendation regarding the designated representative requirements in 40 CFR 60.4110 through 60.4114.