



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).

Owner/Operator	Norwalk Hospital Association
Address	34 Maple Street, Norwalk, Connecticut 06856
Equipment Location	24 Stevens Street, Norwalk, Connecticut 06856
Equipment Description	CB Boiler No. 2
Collateral Conditions	Parts II.A.3. and III.B. of this permit contain collateral conditions affecting the operation of CB Boiler No. 1 (NSR Permit No. 137-0053)
Town-Permit Numbers	137-0054
Premises Number	003
Stack Number	03
Modification Issue Date	June 5, 2015
Prior Permit Issue Date(s)	August 5, 1992 (Original) June 12, 2008 (Minor Modification)
Expiration Date	None

/s/ Anne Gobin for
Robert J. Klee
Commissioner

June 5, 2015
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.

PART I. DESIGN SPECIFICATIONS

A. General Description

Norwalk Hospital Association owns and operates Norwalk Hospital, a general medical and surgical hospital located in Norwalk, Connecticut. Norwalk Hospital houses an energy generation and distribution center ("The Center") to supplement its power requirements. The Center currently consists of generators driven by a gas turbine (Permit No. 137-0052), two boilers (Permit Nos. 137-0053 and 137-0054) and a 3MW cogeneration engine (Permit No. 137-0164). Emissions resulting from the operation of the aforementioned units are exhausted through the same stack, Stack No. 3. All power and steam generated by the Center is supplied to the hospital.

B. Equipment Design Specifications

1. Make and Model: Cleaver Brooks 200-500 HP-150
2. Maximum Gross Heat Input (MMBTU/hr): 20.93

C. Stack Parameters

1. Minimum Stack Height (ft): 115 (above grade)
2. Minimum Exhaust Gas Flow Rate (acfm): 20,350
3. Stack Exit Temperature (°F): 332
4. Minimum Distance from Stack to Property Line (ft): 175

PART II. OPERATIONAL CONDITIONS

A. Equipment

1. Allowable Fuel Type(s): Natural Gas and Distillate Fuel Oil No. 2
2. Maximum Fuel Firing Rate(s) (MCF/hr, gal/hr): 20.93 MCF/hr (Natural Gas)
149.50 gal/hr (Oil No. 2)
3. Maximum Fuel Consumption over any Consecutive 12 Month Period for CB Boiler Nos. 1 and 2 (Permit Nos. 137-0053 and 137-0054) combined (MMcf, gal): 152.1 MMcf (Natural Gas)
373,000 gal (Oil No. 2)
4. Notwithstanding the fuel consumption limitations listed in Part II.A.3 of this permit, the Maximum Heat Input over any Consecutive 12 Month Period for each CB Boiler shall not exceed 76,068.6 MMBtu.
5. The Permittee shall only burn Oil No. 2 with a sulfur content no greater than the applicable limits set forth in RCSCA Section 22a-174-19b and 40 CFR Part 60.42c(d).

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. Short-term Emissions

1. Natural Gas

Pollutant	lb/hr	lb/MMBtu
PM	0.20	
PM ₁₀	0.20	
PM _{2.5}	0.20	
SO _x	0.01	
NO _x	3.77	0.18
VOC	0.06	
CO	0.42	

2. Oil No. 2

Pollutant	lb/hr	lb/MMBtu
PM	0.30	
PM ₁₀	0.30	
PM _{2.5}	0.30	
SO ₂	1.06	
NO _x	4.19	0.20
VOC	0.03	
CO	0.42	

B. Combined Total Annual Emissions (For CB Boiler Nos. 1 and 2)

Pollutant	tons per 12 consecutive months
PM	0.85
PM ₁₀	0.85
PM _{2.5}	0.85
SO ₂	1.35
NO _x	14.21
VOC	0.18
CO	1.52
H ₂ SO ₄	0.23

C. 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]

D. Opacity

This equipment shall not exceed 10% opacity during any six minute block average as measured by 40 CFR 60, Appendix A, Reference Method 9.

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

1. NO_x: Most Recent Stack Test Data
2. PM/PM₁₀/PM_{2.5} and CO: Manufacturer's Data
PM/PM₁₀/PM_{2.5} Emission Factors: 9.56E-03 lb/MMBtu (Natural Gas)
0.014 lb/MMBtu (Oil No. 2)
CO Emission Factor: 0.02 lb/MMBtu
3. VOC and SO_x: Compilation of Air Pollutant Emission Factors, AP-42, 4th Edition, Volume I, Section 1.3, October 1986 (for Oil No. 2) and Section 1.4, October 1986 (for Natural Gas).

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

1. The Permittee shall use non-resettable totalizing fuel metering devices for each fuel to continuously monitor fuel feed to this permitted source.

B. Record Keeping

1. The Permittee shall keep records of monthly and consecutive 12 month combined total (for CB Boiler Nos. 1 and 2) fuel consumption for each fuel. 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 calculate and record the monthly and consecutive 12 month heat input for each CB Boiler. The monthly heat input shall be calculated using a Natural Gas Heating Value of 1000 Btu/ft³ and a Distillate Fuel Oil No. 2 Heating Value of 140,000 Btu/gal. The consecutive 12 month heat input shall be determined by adding the current month's heat input to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.
3. The Permittee shall keep records of fuel supplier certification for each delivery of fuel. These records 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), the quantity purchased for combustion, the method used to determine such sulfur content, and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR §60.41c.
4. The Permittee shall calculate and record the monthly and consecutive 12 month combined total (for CB Boiler Nos. 1 and 2) PM, PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO 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.

5. The Permittee shall comply with all applicable record keeping requirements set forth in RCSA Section 22a-174-22, 40 CFR Part 60 Subpart Dc and 40 CFR Part 63 Subpart JJJJJJ.
6. 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.

C. Reporting

1. The Permittee shall submit to the Administrator and the commissioner all applicable notifications and reports as required by RCSA Section 22a-174-22, 40 CFR Part 60 Subpart Dc, and 40 CFR Part 63 Subpart JJJJJJ.

PART V. STACK EMISSION TEST REQUIREMENTS

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

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

PM PM₁₀ PM_{2.5} SO₂ NO_x CO
 VOC Opacity Other (HAPs):

Stack testing shall be conducted for the following operating modes: boiler only on oil and boiler only on natural gas.

- B. The Permittee shall conduct stack testing within 180 days from the modification issue date of this permit. The Permittee shall submit test results within 30 days after completion of testing.
- C. Recurring stack testing for the above pollutant(s) shall be conducted within five years from the date of the last performance test.
- D. Stack test results shall be reported in units of lb/hr and lb/MMBtu.

PART VI. OPERATION AND MAINTENANCE REQUIREMENTS

- A. The Permittee shall operate and maintain this equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, and in accordance with the manufacturer's specifications and written recommendations. This includes conducting performance tune-ups for each boiler in accordance with 40 CFR Part 63.11223(b).

PART VII. SPECIAL REQUIREMENTS

- A. The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times.

Title 40 CFR Part 60, Subparts Dc 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 comply with all applicable sections of the following National Emission Standards for Hazardous Air Pollutants at all times.

Title 40 CFR Part 63, Subparts JJJJJ and A

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

- C.** 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]
- D.** 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.