

**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	Yale University, Sterling Power Plant
Address	2 Whitney Avenue, 5 th Floor, New Haven, CT 06520-8297
Equipment Location	309 Congress Avenue, New Haven, CT 06520
Equipment Description	Nebraska Boiler No. 10, Model #NOS-2A-58, S/N 0-3374
Town-Permit Numbers	117-0220
Premises Number	0049
Stack Number	1
Modification Issue Date	August 29, 2025
Prior Permit Issue Dates	November 14, 1997 April 8, 2004 November 5, 2014
Expiration Date	None



for Katherine S. Dykes
Commissioner

August 29, 2025

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

Nebraska Boiler

B. Equipment Design Specifications

1. Fuel Types: Natural Gas, Distillate Oil
2. Maximum Fuel Firing Rates:
 - a. Natural gas: 76,200 ft³/hr
 - b. Distillate oil: 533 gal/hr
3. Maximum Gross Heat Input (MMBtu/hr):
 - a. Natural gas: 76.2
 - b. Distillate oil: 73.5

C. Control Equipment Design Specifications

1. Low NO_x Burner
 - a. Make and Model: TODD Variflame V565IG0XXX
2. Flue Gas Recirculation

D. Stack Parameters

1. Minimum Stack Height (ft): 123
2. Minimum Exhaust Gas Flow Rate (acfm): 22,403 gas, 23,506 oil
3. Minimum Stack Exit Temperature (°F): 346 gas, 350 oil
4. Minimum Distance from Stack to Property Line (ft): 149

PART II. OPERATIONAL CONDITIONS

A. Equipment

1. Maximum Fuel Consumption over any Consecutive 12 Month Period:
 - a. Natural gas: 667.512 MMft³
 - b. Distillate oil: 4,669,080 gal
2. Maximum Distillate Oil Fuel Sulfur Content (% by weight, dry basis): 0.0015

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

1. Natural Gas

Pollutant	lb/hr	lb/MMBtu
PM ₁₀	0.58	0.0076
SO ₂	0.046	0.0006
NO _x	3.05	0.040
VOC	1.22	0.016
CO	5.56	0.073

2. Distillate Oil

Pollutant	lb/hr	lb/MMBtu
PM ₁₀	1.23	0.0170
SO ₂	0.114	0.0015
NO _x	7.35	0.10 (RCSA §22a-174-22e)
VOC	0.29	0.0040
CO	2.66	0.036

3. Annual Emission Limits

Pollutant	tpy
PM ₁₀	5.37
SO ₂	0.63
NO _x	32.2
VOC	5.34
CO	24.4

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 10% opacity during any six minute block average as measured by 40 CFR Part 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:

- Manufacturer's emission data provided in original permit application
- Most recent stack test data.
- SO₂ (gas): AP-42, Section 1.4 dated July 1998, Table 1.4-2
- SO₂ (oil): AP-42, Section 1.3 dated May 2010, Table 1.3-1

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 AND RECORD KEEPING REQUIREMENTS

A. Monitoring

1. The Permittee shall continuously monitor fuel consumption using a non-resettable totalizing fuel meter.
2. The Permittee shall comply with the applicable monitoring requirements pursuant to RCSA Section 22a-174-22e.
3. The Permittee shall comply with the NO_x limitation of each fuel being used.
[RCSA §22a-174-22e(d)(10)]

B. Record Keeping

1. The Permittee shall keep records of monthly and consecutive 12 month fuel consumption. 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 maintain records of the sulfur content of fuel oil combusted. A written certification or a written contract with a fuel supplier is sufficient to satisfy this requirement if the certification or contract identifies:
 - a. The name of the fuel seller;
 - b. The type of fuel purchased;
 - c. The sulfur content of the fuel purchased; and
 - d. The method used to determine the sulfur content of the fuel purchased.
3. The Permittee shall calculate and record the monthly and consecutive 12 month PM₁₀, SO₂, NO_x, VOC, and CO emissions in units of tons for this boiler. 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 comply with the applicable record keeping requirements pursuant to RCSA Section 22a-174-22e.
5. 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 PM₁₀ PM_{2.5} SO₂ NO_x CO
 VOC Opacity Other (HAPs):

Recurrent stack testing for the above pollutants shall be conducted within five years from the date of the previous stack test in coordination with the testing requirements in RCSA §22a-174-22e(l) and the most current Title V Permit for the premises. Recurring testing for PM₁₀ shall be for distillate oil firing only.

Stack test results shall be reported as follows: all pollutants in units of lb/hr, HAPs in units of µg/m³ and ppmvd at 15% O₂.

Visual monitoring shall be conducted in accordance with 40 CFR §60.47c.

PART VI. OPERATION AND MAINTENANCE REQUIREMENTS

- A. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.
- B. The Permittee shall properly operate the control equipment at all times that this equipment is in operation and emitting air pollutants.

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. Premises Emissions Summary

1. On January 1st of each calendar year, if the potential emissions of NO_x or VOC from the premises are equal to or greater than 25 tons per year per pollutant, then for such pollutant(s), the Permittee shall:
 - a. Monitor NO_x and/or VOC emissions, as applicable, from the premises for such calendar

- year.
 - b. Calculate and record annual NO_x and/or VOC emissions, as applicable, from the premises for such calendar year, in units of tons. The Permittee shall make these calculations on or before February 1st of the following year with respect to the previous calendar year. Such records shall include a sample calculation(s).
 - c. If actual NO_x and/or VOC emissions, as applicable, from the premises are equal to or greater than 25 tons for such calendar year, the Permittee shall submit to the commissioner, on or before March 1st of the following year, an annual emissions summary with respect to the premises for the previous calendar year. Such summary shall be submitted on forms prescribed or provided by the commissioner.
2. A Permittee is exempt from Part VII.C.1 requirements of this permit if, on January 1st of the subject year, the premises was operating in accordance with any of the following:
- a. A valid Title V permit issued pursuant to RCSA section 22a-174-33;
 - b. RCSA section 22a-174-33a; or
 - c. RCSA section 22a-174-33b.
- D.** 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 §22a-174-23. [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; Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.