



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	Dominion Energy Nuclear Connecticut, Inc.
Address	Rope Ferry Road, Waterford, CT 06385
Equipment Location	Millstone Power Station, Rope Ferry Road, Waterford, CT 06385
Equipment Description	B&W FM10-79 Boiler No. 2 (3 ABM-B1B)
Town-Permit Numbers	199-0008
Premises Number	0003
Stack Number	7
Prior Permit Issue Dates	April 25, 2014 January 24, 1986
Modification Issue Date	May 14, 2018
Expiration Date	None

/s/ Robert E. Kaliszewski
Robert E. Kaliszewski
Deputy Commissioner

May 14, 2018
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

Dominion Energy Nuclear Connecticut, Inc. operates a nuclear fueled electric generating facility, Millstone Power Station, in Waterford, CT. There are two nuclear reactors, two auxiliary boilers, several supplemental fossil fuel fired combustion units (i.e. emergency diesel generators and diesel/propane fired generators), a gasoline dispensing facility, cold parts cleaning units and other process sources that support the operation at this facility.

B. Equipment Design Specifications

1. Fuel Types: No. 4 oil, or blend of No. 4 oil and other oil, or other oil
"other oil" is defined in RCSA Sections 22a-174-22(a) and 22a-174-22e(a)
2. Maximum Design Fuel Firing Rate (gal/hr): 545
3. Maximum Gross Heat Input (MMBTU/hr): 79

C. Stack Parameters

1. No. of Units Exhausting through Stack: 2 (NSR Permit Nos. 199-0007 and 199-0008)
2. Minimum Stack Height (ft): 133
3. Minimum Exhaust Gas Flow Rate (acfm): 59,000 combined flow rate for NSR Permit Nos. 199-0007 and 199-0008 (except during startup and shutdown)
4. Minimum Stack Exit Temperature (°F): 528 (except during startup and shutdown)
5. Minimum Distance from Stack to Nearest Property Line (ft): 480

PART II. OPERATIONAL CONDITIONS

A. Equipment

1. Maximum Allowable Fuel Firing Rate (gal/hr): 480
2. Maximum Fuel Consumption over any Consecutive 12 Month Period (gal/yr): 2,864,520⁽¹⁾
combined for NSR Permit Nos. 199-0007 and 199-0008
3. Maximum Fuel Sulfur Content (% by weight, dry basis):
 - a. Effective through June 30, 2018: 0.5⁽¹⁾
 - b. Effective on and after July 1, 2018: not to exceed the limits set forth in RCSA Section 22a-174-19b(d)⁽²⁾

⁽¹⁾ Based on December 13, 1983 PSD determination letter from Ms. Linda M. Murphy, USEPA, which requires the boiler to not exceed an annual capacity factor of 60% and burn 0.5% fuel oil sulfur content.

(2)

Table 19b-1 Maximum Fuel Sulfur Content		
Fuel Type	Effective July 1, 2014 through June 30, 2018	Effective on and after July 1, 2018
Distillate fuel oil or distillate fuel oil blended with biodiesel fuel	500 ppm (0.05%) by weight	15 ppm (0.0015%) by weight
Residual oil or residual oil blended with biodiesel fuel	10,000 ppm (1.0 %) by weight	3000 ppm (0.3%) by weight
Aviation fuel combusted in a stationary source	3000 ppm (0.3%) by weight	3000 ppm (0.3%) by weight
Kerosene	400 ppm (0.04%) by weight	15 ppm (0.0015%) by weight

4. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.

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

Pollutant	lb/hr	lb/MMBtu	tpy
PM	2.89	0.04	8.6
PM ₁₀	2.89	0.04	8.6
PM _{2.5}	1.88	0.03	5.6
SO ₂	36.00	0.52	107.4
NO _x	22.27	0.32	66.5
VOC	0.10	0.001	0.3
CO	2.40	0.03	7.2

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 RCSCA Section 22a-174-29. [STATE ONLY REQUIREMENT]

C. Opacity

Opacity resulting from operation of this boiler shall not exceed 20% during any six-minute block average or 40% reduced to a one-minute block average; as measured by 40 CFR Part 60, Appendix A, Reference Method 9. [STATE ONLY REQUIREMENT]

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

- NO_x: Most recent stack testing approved by DEEP
- PM, PM₁₀, PM_{2.5}, SO₂, VOC, CO: AP-42, 5th Edition, Section 1.3, May 2010

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 or equivalent methods capable of demonstrating compliance with the fuel usage limitations in Parts II.A.1 and 2 of this permit.
2. The Permittee shall monitor and maintain the fuel sulfur content within the required limits in Part II.A.3 of this permit.

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 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, 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.
4. The Permittee shall keep records of the date and work performed for repairs, replacement of parts and other maintenance. [RCSA §22a-174-22e(j)(2)(B)]
5. The Permittee shall keep all records required by this permit for a period of no less than five years. Such records shall be available for inspection at reasonable hours by the commissioner or the Administrator. Such records and reports shall be retained at the premises where the emission unit is located, unless the commissioner approves in writing the use of another location in Connecticut. [RCSA §22a-174-22e(j)(1)]

PART V. 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, Subpart JJJJJ and A

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

B. Premises Emissions Summary

1. On January 1st of each calendar year, if the potential emissions of NO_x and/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 with either of the following premises is exempt from Part V.B requirements of this permit if, on January 1st of the subject year, the:
 - a. Premises is operating in accordance with a valid Title V permit issued pursuant to RCSA Section 22a-174-33; or
 - b. Premises is operating in accordance with a valid Approval of Registration issued pursuant to the General Permit to Limit Potential to Emit from Major Stationary Sources of Air Pollution issued on November 9, 2015.

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 VI. 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.