



**PERMIT APPLICATION
REVIEW SUMMARY**

New Hampshire Department of Environmental Services
Air Resources Division
P.O. Box 95, 29 Hazen Drive
Concord, NH 03302-0095
Phone: 603-271-1370 Fax: 603-271-7053

Facility:	Eversource Energy- Newington Station	Engineer:	PB		
Location:	Newington, NH				
AFS #:	3301500054	Application #:	14-0476	Date:	11/23/15 Page 1 of 7

FACILITY DESCRIPTION

Public Service of New Hampshire dba Eversource Energy (Eversource) - Newington Station is a fossil fuel-fired electricity generating facility. The facility is comprised of one utility boiler (NT1), two No. 2 oil fired auxiliary boilers¹ (NTAB1 & NTAB2), one emergency generator (NTEG1), two bulk oil storage tanks, and one bulk oil storage day tank. The auxiliary boilers utilize propane gas ignitors. The facility operations also include various activities that are classified as insignificant or exempt activities. Title V Operating Permit TV-OP-054 was issued to Newington Station on March 9, 2007. The Title V Operating Permit expired on March 30, 2012. Eversource submitted the Title V renewal application in a timely manner. Newington Station is currently operating under the application shield provision of Env-A 609.08.

PROJECT DESCRIPTION

Newington Station is a major source of hazardous air pollutants as defined under Section 112 of the Clean Air Act. NTAB1 and NTAB2 are industrial boilers and are therefore subject to 40 Code of Federal Regulations (CFR), Part 63, Subpart DDDDD *National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial, and Institutional Boilers and Process Heaters* (also known as Boiler MACT). The final compliance date for existing boilers under Subpart DDDDD is January 31, 2016.

Eversource proposed to comply with the Boiler MACT primarily through a federally enforceable annual capacity factor permit limit of 10% for each auxiliary boiler (i.e., limited-use boiler² subcategory). Alternatively, Eversource may elect to comply with the Boiler MACT requirements for "existing units designed to burn liquid fuel/light liquid fuel" subcategory (i.e., unlimited-use). Eversource must notify DES of the mode of operation (i.e., limited-use vs. unlimited-use) at least 30 days prior to the start of that particular calendar year.

This Temporary Permit includes applicable requirements of Subpart DDDDD associated with both limited-use and unlimited-use operating scenarios. Boiler MACT provides multiple options (such as stack testing, continuous emissions monitoring, fuel analysis, emissions averaging etc.) to demonstrate compliance with applicable emission limits for boilers operating in the subcategory, "existing units designed to burn liquid fuel/light liquid fuel". The Temporary Permit includes options requested/selected by Eversource.

¹ Per Env-A 1302.04 "Auxiliary boiler" means a boiler operated to provide steam and house heat only when the primary steam or power source for a facility is not available for use.

² Per 40 CFR 63.7575, limited-use boiler means any boiler that burns any amount of solid, liquid or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

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DEVICE DESCRIPTION

The permit covers the following devices:

Table 1 - Description of Emission Units

Emission Unit ID	Device Identification	Installation Date	Maximum Design Capacity and Permitted Fuel Type(s)³
NTAB1	Auxiliary Steam Boiler No. 1A Equipped with oxygen trim system Manufacturer: Erie City Energy Division	1969	99.4 MMBtu/hr No. 2 fuel oil - 710 gal/hr
NTAB2	Auxiliary Steam Boiler No. 1B Equipped with oxygen trim system Manufacturer: Erie City Energy Division	1969	99.4 MMBtu/hr No. 2 fuel oil - 710 gal/hr

POLLUTION CONTROL EQUIPMENT

Emissions from the auxiliary boilers are uncontrolled.

COMPLIANCE STATUS

❖ Reports

Annual compliance certification (for 2014) was received on April 14, 2015.

Semi-annual Permit Deviation/Monitoring report (covering January 1 - June 30) was received on July 29, 2015.

❖ Fees

Emission reports and fees for the facility are current through the second calendar quarter of 2015.

❖ Inspections

On-site compliance inspection was conducted by AHM and PB on March 20, 2014. No deficiencies were found.

REVIEW OF REGULATIONS

State Regulations

Env-A 607.01(a) & (u) - *Temporary Permits* - Applicable. Per 40 CFR 63.7555(e), boilers in the limited-use subcategory are required to have a federally-enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

Env-A 800 *Testing and Monitoring Procedures* - Applicable.

Applicable requirements are incorporated by reference in the T/P.

Env-A 900 *Owner or Operator Recordkeeping and Reporting Obligations* - Applicable

Applicable requirements are already covered by TV-OP-054 and therefore not included in the T/P.

Federal Regulations

40 CFR 60 Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* - Not Applicable because the two auxiliary boilers were installed prior to the applicability date of June 9, 1989.

40 CFR 63 Subpart DDDDD *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* - Applicable

NTAB1 and NTAB2 were installed prior to June 4, 2010 and are therefore considered existing industrial boilers under Subpart DDDDD. NTAB1 and NTAB2 are in the Boiler MACT subcategory "units designed to burn liquid fuel⁴/light liquid fuel⁵". Under the Boiler MACT, a limited-use boiler is defined as any boiler that burns any amount of solid, liquid,

³ The fuel consumption rates presented in Table 1 are based on a heating value of 140,000 Btu/gal for No. 2 fuel oil.

⁴ Per §63.7575, *Liquid fuel* includes, but is not limited to, light liquid, heavy liquid, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, biodiesel, vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

⁵ Per §63.7575, *Light liquid* includes distillate oil, biodiesel, or vegetable oil.

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or gaseous fuels and has a federally enforceable average annual capacity factor⁶ of no more than 10 percent. Limited-use boilers are subject to initial and periodic tune-up (i.e., every five years) requirements. They are not subject to emission limits, or operating limits or the energy assessment requirements.

The actual annual capacity factors for NTAB1 and NTAB2 are summarized in Table 2 below:

CY	NTAB1	NTAB2
2009	2.8%	3.5%
2010	5.4%	6.0%
2011	3.6%	3.1%
2012	2.3%	2.3%
2013	2.5%	2.5%
2014	2.9%	2.3%

As shown in the above table, the annual capacity factor for each auxiliary boiler is less than 10%. Eversource proposed to comply with the Boiler MACT primarily through a federally enforceable annual capacity factor permit limit of 10% for each auxiliary boiler (i.e., limited-use subcategory). Alternatively, Eversource may also elect to comply with the Boiler MACT requirements for “existing units designed to burn liquid fuel/light liquid fuel” subcategory (i.e., unlimited-use).

Permit conditions associated with the limited-use boiler subcategory are summarized in Table 3. Requirements associated with the subcategory “existing units designed to burn liquid fuel/light liquid fuel” are summarized in Table 4. Eversource must notify DES of the mode of operation (i.e., change in boiler subcategory, limited-use vs. unlimited-use) for each calendar year at least 30 days prior to the start of that particular calendar year. Once the year starts, the units will be required to operate under the declared scenario for the entire calendar year.

Table 3 - Summary of Boiler MACT Requirements for Limited-use Boiler Operating Scenario

Item #	Requirement	Regulatory Citation
1.	Annual capacity factor for each boiler is limited to 10%.	40 CFR §§63.7555(d)(3) & 63.7575
	Conduct initial and periodic (once every five years) tune-up of each boiler. Initial tune-up must be conducted by January 31, 2016.	40 CFR §§63.7500(c), 63.7510(e) & 63.7515(d)
2.	Keep records of fuel use and annual capacity factor calculations.	40 CFR §§63.7525(k) & 63.7555(d)(3)
	Keep tune-up records.	40 CFR 63.7540(a)(10) & (12)
3.	Submit notice of compliance status.	40 CFR §§63.9(h)(2)(ii) & 63.7545(e)
4.	Submit 5-year MACT compliance report.	40 CFR §§63.7550(c) & 63.7550(h)(3)

⁶ Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.



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Table 4 - Summary of Boiler MACT Requirements for Unlimited-use Boiler Operating Scenario

<p><u>What This Subpart Covers</u></p> <p>§63.7480 What is the purpose of this subpart?</p> <p>§63.7485 Am I subject to this subpart?</p> <p>§63.7490 What is the affected source of this subpart?</p> <p>§63.7491 Are any boilers or process heaters not subject to this subpart?</p> <p>§63.7495 When do I have to comply with this subpart?</p>	<ul style="list-style-type: none"> Newington Station is a major source of hazardous air pollutants. NTAB1 and NTAB2 are industrial boilers and therefore the affected sources under this subpart. Compliance date is January 31, 2016.
<p><u>Emission Limitations and Work Practice Standards</u></p> <p>§63.7499 What are the subcategories of boilers and process heaters?</p>	<ul style="list-style-type: none"> NTAB1 and NTB2 considered <u>existing</u> units as they were installed prior to June 4, 2010.
<p>§63.7500 What emission limitations, work practice standards, and operating limits must I meet?</p>	<ul style="list-style-type: none"> NTAB1 and NTAB2 are subject to emission limits specified in Table 2 of Subpart DDDDD for existing boilers. Specifically, these units are subject to the following emission limits: <ul style="list-style-type: none"> Units designed to burn liquid fuel: <ul style="list-style-type: none"> HCl - 1.1E-03 lb/MMBtu Hg - 2.0E-06 lb/MMBtu Units designed to burn light liquid fuel: <ul style="list-style-type: none"> Total selected metals (TSM)⁷ - 6.2E-05 lb/MMBtu CO - 130 ppm_{dv} at 3% oxygen Work practice standards <ul style="list-style-type: none"> Conduct initial and periodic (once every five years) tune-up of each boiler Conduct one-time energy assessment

⁷ A facility may comply with either particulate matter emission limit or TSM limit for an affected unit. Eversource chose to comply with TSM limit.

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§63.7501	Affirmative Defense for Violation of Emission Standards During Malfunction.	On April 18, 2014, the US Court of Appeals for the District of Columbia Circuit vacated ⁸ the affirmative defense provision in one of EPA’s Clean Air Act Section 112 regulations (i.e., Portland Cement Rule). In light of this court decision, EPA removed affirmative defense provision from the Boiler MACT rule ⁹ .
GENERAL COMPLIANCE REQUIREMENTS		Eversource chose the following options to demonstrate compliance with the emission limits:
§63.7505	What are my general requirements for complying with this subpart?	<ul style="list-style-type: none"> • TSM, Hg and HCl - Fuel analysis • CO - Stack testing
TESTING, FUEL ANALYSES, AND INITIAL COMPLIANCE REQUIREMENTS		<ul style="list-style-type: none"> • Conduct fuel analysis for TSM, HCl & Hg • Conduct stack test for CO • Conduct tune-up and energy assessment • For timelines, see additional notes section below
§63.7510	What are my initial compliance requirements and by what date must I conduct them?	
§63.7515	When must I conduct subsequent performance tests, fuel analyses, or tune-ups?	<ul style="list-style-type: none"> • Conduct monthly fuel analysis for TSM, HCl & Hg; May switch to quarterly fuel analysis as per §63.7515(e) • Conduct annual stack testing for CO; If the performance tests for at least 2 consecutive years show that CO emissions are below 75 percent of the emission limit, performance tests may be conducted every third year • Conduct tune-up every five years
§63.7520	What stack tests and procedures must I use?	Conduct testing as per Table 5 to Subpart DDDDD
§63.7521	What fuel analyses, fuel specification, and procedures must I use?	Conduct fuel analysis as per Table 6 to Subpart DDDDD
§63.7522	Can I use emissions averaging to comply with this subpart?	Eversource is not using emission averaging
§63.7525	What are my monitoring, installation, operation, and maintenance requirements?	To demonstrate continuous compliance with the CO emission limit, operate the oxygen trim system with the oxygen level set no lower than the lowest

⁸ *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir.,2014)

⁹ November 5, 2015 *Final Reconsideration of the Air Toxics Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters at Major Source Facilities*
<http://www3.epa.gov/airquality/combustion/docs/20151105fr.pdf>

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Table 4 - Summary of Boiler MACT Requirements for Unlimited-use Boiler Operating Scenario

		hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen determined as per Table 7 to Subpart DDDDD.
§63.7530	How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?	Conduct stack testing for CO and fuel analysis for TSM, Hg and HCl.
§63.7533	Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?	Not applicable
<u>CONTINUOUS COMPLIANCE REQUIREMENTS</u>		
§63.7535	Is there a minimum amount of monitoring data I must obtain?	Not applicable because Eversource is not using continuous monitoring system (CMS) to demonstrate compliance with the applicable emission limits.
§63.7540	How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?	Conduct initial and periodic tune-up in accordance with §63.7540(a)10), (12) & (13).
§63.7541	How do I demonstrate continuous compliance under the emissions averaging provision?	Not applicable because Eversource is not using emissions averaging.
<u>NOTIFICATION, REPORTS, AND RECORDS</u>		
§63.7545	What notifications must I submit and when?	Submit a Notice of Compliance Status in accordance with §63.7545(e).
§63.7550	What reports must I submit and when?	Submit semi-annual MACT compliance reports in accordance with §63.7550.
§63.7555	What records must I keep?	Maintain monthly fuel usage records and supporting fuel analysis calculations for TSM, HCl & Hg.
§63.7560	In what form and how long must I keep my records?	



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Additional Notes

1. Fuel analysis/sampling may be conducted only in the months during which distillate fuel oil was delivered to the facility.
2. Since NTAB1 and NTAB2 burn the same type of fuel and share a common distillate oil storage tank, results from one fuel analysis may be used for both the boilers. The HCl, Hg and TSM emission rates must be calculated for each boiler. (per §63.7555(d)(4), (5) & (8))
3. DES has included the following custom timelines for compliance demonstration when Eversource switches the auxiliary boilers from limited-use to unlimited-use:
 - i. Conduct a one-time energy assessment within 60 days from the beginning of the first CY during which the boiler would be operated in the unlimited-use subcategory.
 - ii. Conduct initial fuel analysis for TSM, Hg and HCl by January 30th of the CY during which boiler will be operated as unlimited-use.
 - iii. Conduct initial performance test to demonstrate compliance with the CO emission limit within 60 days from the beginning of the first CY during which the boiler would be operated in the un-limited use subcategory.