



DEPARTMENT ORDER

**Northern Maine Medical Center
Aroostook County
Fort Kent, Maine
A-130-71-P-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Northern Maine Medical Center (NMMC) was issued Air Emission License A-130-71-N-R on September 3, 2014, for the operation of emission sources associated with their healthcare facility. The license was subsequently amended on January 27, 2022 (A-130-71-O-A).

The equipment addressed in this license amendment is located at 194 East Main Street in Fort Kent, Maine.

NMMC has requested an amendment to their license in order to install two new propane-fired boilers and three emergency generators.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type	Date of Manuf.	Stack #
Forest Hill Boiler #1	3.5	38.3	propane	2023	3
Forest Hill Boiler #2	3.5	38.3	propane	2023	4

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type	Firing Rate (gal/hr)	Date of Manuf.
Generator #4 <i>Old Forest Hill Generator</i>	1.8	175	distillate fuel	13.1	2003
Generator #5 <i>Sprinkler Pump Generator</i>	1.4	125	distillate fuel	10.3	2020
Generator #6 <i>New Forest Hill Generator</i>	4.7	500	distillate fuel	34.4	2023

C. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Records or Logs mean either hardcopy or electronic records.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emission Levels
PM	4.6	6.1	+1.5	100
PM ₁₀	4.6	6.5	+1.9	100
PM _{2.5}	4.6	6.5	+1.9	100
SO ₂	1.1	1.1	–	100
NO _x	9.0	14.9	+5.9	100
CO	4.7	7.7	+3.0	100
VOC	2.4	2.8	+0.4	100

This modification is determined to be a minor modification and has been processed as such.

E. Facility Classification

With the operating hours restriction on the emergency generators, the facility is licensed as follows:

- As a synthetic minor source of air emissions for NO_x, because NMMC is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

II. **BEST PRACTICAL TREATMENT (BPT)**

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Project Description

NMMC plans to construct a new nursing facility adjacent to their existing facility to add capacity for rehabilitation and skilled nursing needs. This project includes installation of two new propane-fired boilers (Forest Hill Boilers #1 and #2) for heating purposes and an emergency generator (Generator #6). There are also two existing generators (Generators #4 and #5) that were previously considered off-site but are being added to the license now that the land around them is being developed.

C. Forest Hill Boilers #1 and #2

NMMC proposes to install two new propane-fired boilers (Forest Hill Boilers #1 and #2) for heating purposes. They are each Lochinvar condensing boilers rated at 3.5 MMBtu/hr.

1. BACT Findings

NMMC submitted a BACT analysis for control of emissions from Forest Hill Boilers #1 and #2.

a. Particulate Matter (PM, PM₁₀, PM_{2.5})

NMMC has proposed to burn only low-ash content fuels (propane) in Forest Hill Boilers #1 and #2. Additional add-on pollution controls are not economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for PM/PM₁₀/PM_{2.5} emissions from Forest Hill Boilers #1 and #2 is the firing of propane and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

NMMC has proposed to fire only propane in Forest Hill Boilers #1 and #2. The use of this fuel results in minimal emissions of SO₂, and additional add-on pollution controls are not economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for SO₂ emissions from Forest Hill Boilers #1 and #2 is the use of propane and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

NMMC has proposed the use of low-NO_x burners (LNBS) on Forest Hill Boilers #1 and #2 which will result in a reduction of NO_x emissions by approximately 50% compared to emissions from standard burners. Additional add-on pollution controls are not economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for NO_x emissions from Forest Hill Boilers #1 and #2 is the firing of only propane, use of LNBS, and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

NMMC considered several control strategies for the control of CO and VOC including oxidation catalysts and thermal oxidizers.

Oxidation catalysts and thermal oxidizers both have high capital, maintenance, and operational costs considering the size of these units. These controls were

determined to not be economically feasible due to the cost of control equipment compared to the relatively small amount of pollutant controlled.

BACT for CO and VOC emissions from Forest Hill Boilers #1 and #2 is the firing of propane and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for Forest Hill Boilers #1 and #2 were based on the following:

Distillate Fuel

- PM/PM₁₀/PM_{2.5} – 0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
- SO₂ – 0.054 lb/1,000 gal based on AP-42 Table 1.5-1 dated 7/08 and an assumed sulfur content of 0.54 gr/100 ft³
- NO_x – 13 lb/1,000 gal based on AP-42 Table 1.5-1 dated 7/08
- CO – 7.5 lb/1,000 gal based on AP-42 Table 1.5-1 dated 7/08
- VOC – 1.0 lb/1,000 gal based on AP-42 Table 1.5-1 dated 7/08
- Visible Emissions – 06-096 C.M.R. ch. 101

The BACT emission limits for Forest Hill Boilers #1 and #2 are the following:

Unit	Pollutant	lb/MMBtu
Forest Hill Boiler #1	PM	0.05
Forest Hill Boiler #2	PM	0.05

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Forest Hill Boiler #1	0.18	0.18	0.18	–	0.50	0.29	0.04
Forest Hill Boiler #2	0.18	0.18	0.18	–	0.50	0.29	0.04

2. Visible Emissions

Visible emissions from Forest Hill Boilers #1 and #2 (each) shall not exceed 10% opacity on a six-minute block average basis. Compliance shall be demonstrated by testing in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 upon request by the Department.

3. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to their size, Forest Hill Boilers #1 and #2 are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJ

Forest Hill Boilers #1 and #2 are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ. Propane-fired units are exempt from the requirements of this regulation. [40 C.F.R. §§ 63.11195(e)]

D. Generators #4, #5, and #6

NMMC proposes to add to their license two existing but previously unlicensed emergency generators (Generators #4 and #5) and one new emergency generator (Generator #6).

Generator #4, also known as the Old Forest Hill Generator, is a Cummins Model DGFB rated at 175 kW of electrical output. It has a maximum heat input of 1.8 MMBtu/hr firing distillate fuel and was manufactured in 2003.

Generator #5, also known as the Sprinkler Pump Generator, is a Cummins Model C125D6C rated at 125 kW of electrical output. It has a maximum heat input of 1.4 MMBtu/hr firing distillate fuel and was manufactured in 2020.

Generator #6, also known as the New Forest Hill Generator, will be a new (2023) Cummins Model 500DFEK rated at 500 kW of electrical output. It will be powered by a 755 bhp Cummins Series QSX15 Tier 2 engine with a maximum heat input of 4.7 MMBtu/hr firing distillate fuel.

1. BACT Findings

The BACT emission limits for Generators #4 and #5 are based on the following:

PM/PM ₁₀ /PM _{2.5}	– 0.31 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
SO ₂	– Combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	– 4.41 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
CO	– 0.95 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
VOC	– 0.36 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
Visible Emissions	– 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Generator #6 are based on the following:

- PM/PM₁₀/PM_{2.5} – 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
- SO₂ – Combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x – 3.2 lb/MMBtu from AP-42 Table 3.4-1 dated 10/96
- CO – 0.85 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
- VOC – 0.09 lb/MMBtu from AP-42 Table 3.3-1 dated 10/96
- Visible Emissions – 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Generators #4, #5, and #6 are the following:

Unit	Pollutant	lb/MMBtu
Generator #6	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #4	0.55	0.55	0.55	–	7.89	1.70	0.64
Generator #5	0.44	0.44	0.44	–	6.22	1.34	0.51
Generator #6	0.57	0.57	0.57	0.01	15.07	4.00	0.42

Visible emissions from Generators #4, #5, and #6 each shall not exceed 20% opacity on a six-minute block average basis.

2. Chapter 169

Generators #4 and #5 were installed prior to the effective date of *Stationary Generators*, 06-096 C.M.R. ch. 169 and are therefore exempt from this rule pursuant to section 1.

Stationary Generators, 06-096 C.M.R. ch. 169 (Chapter 169), is applicable to Generator #6. It is an emergency generator powered by an engine with a rated output of less than 1,000 brake horsepower (747 kW). Chapter 169 identifies emission standards for generator engines subject to this chapter and stack height requirements for certain generator engines subject to this chapter.

a. Chapter 169 Emission Standards Requirements

For Generator #6, NMMC shall comply with the emission standards for emergency generators by complying with the applicable standards contained in 40 C.F.R. Part 60, Subpart III. [06-096 C.M.R. ch. 169, § 4(B)(1)]

b. Chapter 169 Stack Height Requirements

Chapter 169 identifies stack height requirements for any stack used to exhaust a generator engine or combination of generator engines with a combined rated output equal to or greater than 1,000 brake horsepower (747 kW). Individual generator engines with a maximum power capacity of less than 300 kW are not included in the assessment of the combined generator power capacity exhausted through a common stack. [06-096 C.M.R. ch. 169, § 6]

The stack height requirements in Chapter 169 do not apply to Generator #6 because it exhausts through its own stack and has a rated output less than 1,000 brake horsepower.

3. National Emission Standards for Hazardous Air Pollutants (NESHAP):
40 C.F.R. Part 63, Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is not applicable to Generators #4, #5, or #6. The units are considered emergency stationary reciprocating internal combustion engines at an area HAP source. However, they are considered exempt from the requirements of 40 C.F.R. Part 63, Subpart ZZZZ since they are categorized as institutional emergency engines and they do not operate or are not contractually obligated to be available in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii).

Operation of any emergency engine in a demand response program, during a period of deviation from standard voltage or frequency, or for supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 63.6640(f)(4)(ii), would cause the engines to be subject to 40 C.F.R. Part 63, Subpart ZZZZ and require compliance with all applicable requirements.

4. New Source Performance Standards

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart IIII is applicable to the Generators #5 and #6 since they were ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart III requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart III, a stationary reciprocating internal combustion engine (ICE) is considered an **emergency** stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart III, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.

- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. §§ 60.4211(f) and 60.4219]

b. 40 C.F.R. Part 60, Subpart IIII Requirements

(1) Manufacturer Certification Requirement

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4202. [40 C.F.R. § 60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 C.F.R. § 60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each engine. [40 C.F.R. § 60.4209(a)]

(4) Operation and Maintenance Requirements

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. NMMC may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

NMMC shall have available for review by the Department a copy of the manufacturer's written instructions or procedures developed by NMMC that are approved by the engine manufacturer for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). [40 C.F.R. § 60.4211(f)]

(6) Initial Notification Requirement

No initial notification is required under 40 C.F.R. Part 60, Subpart IIII for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

NMMC shall keep records that include the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

E. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility’s annual air license fee and establishing the facility’s potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- Firing 45,000 MMBtu/year of fuel in Boilers #1, #2, and #3 combined and the higher emission factor for either biomass or distillate fuel;
- Operating Forest Hill Boilers #1 and #2 for 8,760 hours/year; and
- Operating each generator for 100 hours/year.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

Total Licensed Annual Emissions for the Facility
Tons/year

(used to calculate the annual license fee)

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC
Boilers #1 - #3	4.5	4.9*	4.9*	1.1	7.2	4.3	2.3
Forest Hill Boiler #1	0.8	0.8	0.8	–	2.2	1.3	0.2
Forest Hill Boiler #2	0.8	0.8	0.8	–	2.2	1.3	0.2
Generator #1	–	–	–	–	0.9	0.2	0.1
Generator #2	–	–	–	–	0.1	–	–
Generator #3	–	–	–	–	0.8	0.2	–
Generator #4	–	–	–	–	0.4	0.1	–
Generator #5	–	–	–	–	0.4	0.1	–
Generator #6	–	–	–	–	0.8	0.2	–
Total TPY	6.1	6.5	6.5	1.1	14.9	7.7	2.8

* The PM₁₀ and PM_{2.5} emissions for Boiler #1 have been adjusted to ensure they account for emissions of condensable particulate matter.

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
PM _{2.5}	15
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license amendment.

This determination is based on information provided by the applicant regarding the expected construction and operation of the proposed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require NMMC to submit additional information and may require an ambient air quality impact analysis at that time.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License Amendment A-130-71-P-A subject to the conditions found in Air Emission License A-130-71-N-R, in amendment A-130-71-O-A, and the following conditions.

Severability. The invalidity or unenforceability of any provision of this License Amendment or part thereof shall not affect the remainder of the provision or any other provisions. This License Amendment shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

For clarity, the following shall replace all Conditions in Air Emission Licenses A-130-71-N-R and A-130-71-O-A.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:
- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion. [06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test

- the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and
- B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 C.M.R. ch. 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
[06-096 C.M.R. ch. 115]
- (16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) Boilers #1, #2, and #3

A. Fuel

1. Boiler #1 is licensed to fire biomass. Boilers #2 and #3 are licensed to fire distillate fuel. [06-096 C.M.R. ch. 115, BPT]
2. NMMC shall be limited to the use of 45,000 MMBtu/year of fuel in all three boilers combined (Boilers #1, #2, and #3) based on a calendar year. When converting fuel use to MMBtu, NMMC shall use a heating value of 0.00495 MMBtu/lb for biomass and 0.14 MMBtu/gallon for distillate fuel. [06-096 C.M.R. ch. 115, BPT]
3. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]
4. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the distillate fuel delivered as well as records of fuel use converted to MMBtu on a monthly and calendar year basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.20	06-096 C.M.R. ch. 115, BPT
Boiler #2	PM	0.05	06-096 C.M.R. ch. 115, BPT
Boiler #3	PM	0.05	06-096 C.M.R. ch. 115, BPT

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	1.89	2.05*	2.05*	0.47	3.03	1.80	0.95
Boiler #2	0.21	0.21	0.21	2.11	0.67	0.31	0.21
Boiler #3	0.21	0.21	0.21	2.11	0.67	0.31	0.21

*The PM₁₀ and PM_{2.5} emissions for Boiler #1 have been adjusted to ensure they account for emissions of condensable particulate matter.

D. Visible emissions from Stacks #1 and #2 each shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

E. NMMC shall comply with all requirements of 40 C.F.R. Part 63, Subpart JJJJJ applicable to Boilers #1, #2, and #3 including, but not limited to, the following: [incorporated under 06-096 C.M.R. ch. 115, BPT/BACT]

1. The facility shall implement a boiler tune-up program. [40 C.F.R. § 63.11223]
 - a. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	<u>Tune-Up Frequency</u>
Existing Biomass fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below <i>(Boiler #1)</i>	Every 2 years
<u>Boilers with Less Frequent Tune-up Requirements</u> Oil fired boilers with a heat input capacity of ≤ 5 MMBtu/hr <i>(Boilers #2 and #3)</i>	Every 5 years

[40 C.F.R. § 63.11223(a) and Table 2]

- b. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - (1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. For Boiler #1, delay of the burner inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. For Boilers #2 and #3, delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection. [40 C.F.R. § 63.11223(b)(1)]
 - (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]
 - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. For Boiler #1, delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. For Boilers #2 and #3, delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection. [40 C.F.R. § 63.11223(b)(3)]
 - (4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
 - (5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[40 C.F.R. § 63.11223(b)(5)]

(6) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up.
[40 C.F.R. § 63.11223(b)(7)]

- c. Tune-Up Report: A tune-up report shall be maintained onsite and submitted to the Department and EPA upon request. The report shall contain the following information:
- (1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
 - (2) A description of any corrective actions taken as part of the tune-up of the boiler; and
 - (3) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

2. Compliance Report

A compliance report shall be prepared by March 1st biennially (Boiler #1) or every five years (Boilers #2 and #3) which covers the previous two or five calendar years, as applicable. The report shall be maintained by the source and submitted to the Department and/or to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

- a. Company name and address;
- b. A statement of whether the source has complied with all the relevant requirements of this Subpart;
- c. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
- d. The following certifications, as applicable:
 - (1) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
 - (2) "No secondary materials that are solid waste were combusted in any affected unit."
 - (3) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

3. Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:
 - a. Copies of notifications and reports with supporting compliance documentation;
 - b. Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer’s specifications to which the boiler was tuned;
 - c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
 - d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review.

(18) **Forest Hill Boilers #1 and #2**

- A. Forest Hill Boilers #1 and #2 are licensed to fire propane.
 [06-096 C.M.R. ch. 115, BACT]
- B. Forest Hill Boilers #1 and #2 shall each be equipped with low-NO_x burners.
 [06-096 C.M.R. ch. 115, BACT]
- C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Forest Hill Boiler #1	PM	0.05	06-096 C.M.R. ch. 115, BACT
Forest Hill Boiler #2	PM	0.05	06-096 C.M.R. ch. 115, BACT

- D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Forest Hill Boiler #1	0.18	0.18	0.18	–	0.50	0.29	0.04
Forest Hill Boiler #2	0.18	0.18	0.18	–	0.50	0.29	0.04

- E. Visible emissions from Forest Hill Boilers #1 and #2 (each) shall not exceed 10% opacity on a six-minute block average basis. Compliance shall be demonstrated by testing in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 upon request by the Department. [06-096 C.M.R. ch. 101, § 3(A)(3)]

(19) **Generators #1 - #6**

- A. Generators #1 - #6 each shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 C.M.R. ch. 115, BPT/BACT]
- B. NMMC shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [06-096 C.M.R. ch. 115, BPT/BACT]
- C. The fuel sulfur content for Generators #1 - #6 shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the fuel in the tank on-site. [06-096 C.M.R. ch. 115, BPT/BACT]
- D. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)
Generator #3	PM	0.10	06-096 C.M.R. ch. 115, BPT
Generator #6	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

- E. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT/BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.48	0.48	0.48	0.01	17.64	3.80	1.40
Generator #2	0.14	0.14	0.14	–	2.75	0.60	0.15
Generator #3	0.47	0.47	0.47	0.01	15.07	4.00	0.42
Generator #4	0.55	0.55	0.55	–	7.89	1.70	0.64
Generator #5	0.44	0.44	0.44	–	6.22	1.34	0.51
Generator #6	0.57	0.57	0.57	0.01	15.07	4.00	0.42

F. Visible Emissions

1. Visible emissions from Generators #1 and #2 each shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time NMMC may comply with the following work practice standards in lieu of the numerical visible emissions standard. [06-096 C.M.R. ch. 101, § 3(A)(4)]
 - a. Maintain a log (written or electronic) of the date, time, and duration of all generator startups.
 - b. Operate the generators in accordance with the manufacturer's emission-related operating instructions.
 - c. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.
 - d. Operate the generators, including any associated air pollution control equipment, at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.
2. Visible emissions from Generators #3, #4, #5, and #6 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT/BPT]

G. Generators #2, #3, #5, and #6 each shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart IIII, including the following:

[incorporated under 06-096 C.M.R. ch. 115, BPT/BACT and 06-096 C.M.R. ch. 169 for Generator #6]

1. **Manufacturer Certification**
The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in § 60.4202. [40 C.F.R. § 60.4205(b)]
2. **Ultra-Low Sulfur Fuel**
The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the fuel in the tank on-site. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BPT]

3. Non-Resetable Hour Meter

A non-resetable hour meter shall be installed and operated on each engine. [40 C.F.R. § 60.4209(a)]

4. Annual Time Limit for Maintenance and Testing

a. As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4211(f) and 06-096 C.M.R. ch. 115, BPT]

b. NMMC shall keep records that include the hours of operation of each engine recorded through the non-resetable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

5. Operation and Maintenance

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. NMMC may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

NMMC shall have available for review by the Department a copy of the manufacturer's written instructions or procedures developed by NMMC that are approved by the engine manufacturer for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

- (20) If the Department determines that any parameter value pertaining to construction and operation of the proposed emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, NMMC may be required to submit additional information. Upon written request from the Department, NMMC shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and

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ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter.
[06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 17th DAY OF JULY, 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
MELANIE LOYZIM, COMMISSIONER

The term of this license amendment shall be ten (10) years from the issuance of Air Emission License A-130-71-N-R (issued 9/3/2014).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/5/2023

Date of application acceptance: 5/15/2023

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

FILED
JUL 17, 2023
State of Maine
Board of Environmental Protection