



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

Maine Medical Center  
Cumberland County  
Portland, Maine  
A-57-71-K-R (SM)

Departmental  
Findings of Fact and Order  
Air Emission License  
Renewal

**FINDINGS OF FACT**

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

**I. REGISTRATION**

A. Introduction

Maine Medical Center (MMC) has applied to renew their Air Emission License permitting the operation of emission sources associated with the hospital known as the Maine Medical Center – Brighton Campus. The equipment addressed in this license is located at 335 Brighton Avenue, Portland, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

**Boilers**

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Boiler #1	5.1	37 gal/hr	Distillate fuel, 0.5%	1975	10/13/1975	1
		5,230 cf/hr	Natural gas			
Boiler #2	5.1	37 gal/hr	Distillate fuel, 0.5%	1975	10/13/1975	1
		5,230 cf/hr	Natural gas			
Boiler #3	8.4	60 gal/hr	Distillate fuel, 0.5%	1975	10/13/1975	1

**Emergency Generator**

<u>Equipment</u>	<u>Input Capacity (MMBtu/hr)</u>	<u>Rated Output</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>
Generator #3	7.8	800 kW	57	Distillate fuel (0.0015% by weight)	2009	11/2010

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143

C. Application Classification

The application for MMC does not include the licensing of increased emissions or the installation of new or modified equipment; therefore, the license is considered a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended). With the restriction of emergency generator operating hours, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. With the restriction of emergency generator operating hours, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of 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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment. BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering the following:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1, #2, and #3

MMC operates Boilers #1, #2, and #3 for facility heat and hot water needs. The boilers are rated at 5.1 MMBtu/hour, 5.1 MMBtu/hour, and 8.4 MMBtu/hour, respectively. Boilers #1 and #2 are licensed to fire distillate fuel and natural gas, and Boiler #3 is licensed to fire distillate fuel. All three boilers were manufactured and installed in 1975, and all three boilers exhaust through Stack #1.

Boilers #1, #2, and #3 shall continue to be limited to firing 200,000 gallons of distillate fuel on a 12-month rolling total.

Due to both the sizes and the year of manufacture of the boilers, they are not subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hour manufactured after June 9, 1989.

1. BACT/BPT Findings

The BACT/BPT emission limits for Boilers #1, #2, and #3 were based on the following:

Distillate Fuel

- PM, PM<sub>10</sub> – 0.12 lb/MMBtu; 06-096 CMR 103
- SO<sub>2</sub> – 0.5 lb/MMBtu; firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight)
- NO<sub>x</sub> – 20 lb/1000 gal; AP-42 Table 1.3-1 (5/10)
- CO – 5 lb/1000 gal; AP-42 Table 1.3-1 (5/10)
- VOC – 0.34 lb/1000 gal; AP-42 Table 1.3-3 (5/10)
- Visible Emissions – 06-096 CMR 101 (2)(B)(1)(a)

Natural Gas

- PM, PM<sub>10</sub> – 0.05 lb/MMBtu; 06-096 CMR 115, BPT
- SO<sub>2</sub> – 0.6 lb/MMscf; AP-42 Table 1.4-2 (7/98)
- NO<sub>x</sub> – 100 lb/MMscf; AP-42 Table 1.4-1 (7/98)
- CO – 84 lb/MMscf; AP-42 Table 1.4-1 (7/98)
- VOC – 5.5 lb/MMscf; AP-42 Table 1.4-2 (7/98)
- Visible Emissions – 06-096 CMR 101

The BPT emission limits for Boilers #1, #2, and #3 are the following:

Unit	Pollutant	lb/MMBtu	
		Firing Distillate Fuel	Firing Natural Gas
Boiler #1	PM	0.12	0.05
Boiler #2			
Boiler #3		0.12	N.A.

Unit	Fuel	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 (5.1 MMBtu/hr)	Distillate fuel	0.61	0.61	2.55	0.74	0.19	0.01
	Natural gas	0.26	0.26	0.003	0.52	0.44	0.03
Boiler #2 (5.1 MMBtu/hr)	Distillate fuel	0.61	0.61	2.55	0.74	0.19	0.01
	Natural gas	0.26	0.26	0.003	0.52	0.44	0.03
Boiler #3 (8.4 MMBtu/hr)	Distillate fuel	1.01	1.01	4.20	1.20	0.30	0.02

Visible emissions from the common stack serving Boilers #1, #2, and #3 shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.

Visible emissions from the common stack when either Boiler #1 or Boiler #2 is operating alone and firing natural gas shall not exceed 10% opacity on a six-minute

block average basis, except for no more than one six-minute block average in a three-hour period.

#### Fuel Oil Specifications

Prior to July 1, 2016, or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in Boilers #1, #2, and #3 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 06-096 CMR 106, beginning July 1, 2016, or on the date specified in the statute, distillate fuel fired at the facility shall not exceed a maximum sulfur content of 0.005% by weight (50 ppm); and beginning January 1, 2018, or on the date specified in the statute, distillate fuel fired at the facility shall not exceed a maximum sulfur content of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

#### 2. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document the type of fuel used and sulfur content of the fuel, as appropriate.

#### 3. 40 CFR Part 63 Subpart JJJJJ

Boilers #1, #2, and #3 are subject to the requirements of 40 CFR Part 63, Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. Boilers #1 and #2 are considered existing dual-fuel fired boilers rated less than 10 MMBtu/hour each, and Boiler #3 is considered an existing oil-fired boiler.

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ; however, boilers which fire fuel oil are not. A *gas-fired boiler* is defined in this Subpart as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR Part 63.11237] Boilers #1 and #2 may be operated as gas-fired boilers in accordance with this definition and may not be subject to requirements of this Subpart. MMC shall maintain records of the fuel(s) fired in these units to document the category of each boiler under Subpart JJJJJ.

A summary of the currently applicable federal 40 CFR Part 63, Subpart JJJJJ requirements is provided below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, MMC is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

(1) Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 CFR §63.11225(a)(2)]

(2) Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented in accordance with this Subpart. [40 CFR §63.11223]

Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. For Boiler #3 and for Boilers #1 and #2 if operated as existing oil-fired boilers, a tune-up is required every two calendar years. [40 CFR §63.11223(a) and Table 2]

(b) Each boiler tune-up shall be performed in accordance with applicable requirements of this Subpart including those specified below:

- i. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. [40 CFR §63.11223(b)(1)]
- ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR §63.11223(b)(2)]
- iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. [40 CFR §63.11223(b)(3)]
- iv. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR §63.11223(b)(4)]
- v. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, both **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 CFR §63.11223(b)(5)]
- vi. 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 CFR §63.11223(b)(7)]

(c) TUNE-UP REPORT: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

- i. 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;
- ii. A description of any corrective actions taken as part of the tune-up of the boiler; and
- iii. 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 CFR §63.11223(b)(6)]

(d) After conducting the initial boiler tune-up, a Notification of Compliance Status was to be submitted to EPA no later than July 19, 2014. [40 CFR §63.11225(a)(4) and 40 CFR §63.11214(b)]

(3) Compliance Certification [40 CFR §63.11225(b)]

BIENNIAL COMPLIANCE REPORT: The Compliance Certification Report following the initial tune-up of each applicable boiler must be prepared by March 1, 2015. Because MMC is required to conduct boiler tune-ups of the applicable boilers biennially, subsequent Biennial Compliance Reports must be prepared by March 1 of the year following the calendar year during which a tune-up is completed, and submitted to the Department and the EPA upon request. Each Biennial Compliance Report shall contain the following information:

- (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:
  - i. "This facility complies with the requirements in 40 CFR §63.11223 to conduct a biennial or five-year tune-up, as applicable, of each boiler."
  - ii. "No secondary materials that are solid waste were combusted in any affected unit."

- iii. "This facility complies with the requirement in 40 CFR §§63.11214(d) to conduct a tune-up of each applicable boiler according to 40 CFR §63.11223(b)."

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ including the following [40 CFR §63.11225(c)]:

- (1) Copies of notifications and reports with supporting compliance documentation;
- (2) 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;
- (3) Records of the occurrence and duration of each malfunction of each applicable boiler; and
- (4) 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. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 CFR §63.1125(a)(4)(vi)]

C. Generator #3

MMC operates one emergency generator, Generator #3. The emergency generator is rated at 7.8 MMBtu/hour and fires distillate fuel. The unit was manufactured in 2009 and installed in November 2010.

1. BACT/BPT Findings

The BACT/BPT emission limits for Generator #3 are based on the following:

- PM, PM<sub>10</sub> - 0.12 lb/MMBtu; 06-096 CMR 103
- SO<sub>2</sub> - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by wt)
- NO<sub>x</sub> - 3.2 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
- CO - 0.85 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
- VOC - 0.09 lb/MMBtu; AP-42 Table 3.4-1 (10/96)
- Visible Emissions - 06-096 CMR 101 (2)(B)(1)(d)

The BACT/BPT emission limits for Generator #3 are the following:

Unit	Pollutant	lb/MMBtu
Generator #3	PM	0.12

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #3 7.8 MMBtu/hr, distillate fuel	0.94	0.94	0.01	24.96	6.63	0.70

Visible emissions from Generator #3 shall not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period.

2. NSPS: 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, is applicable to Generator #3 since the unit was ordered after July 11, 2005, and manufactured after April 1, 2006. By meeting the requirements of Subpart IIII, the unit also meets the requirements of 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.

a. Emergency Definition

*Emergency stationary ICE* means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted; or stationary ICE used to pump water in the case of fire or flood; etc. **There is no time limit on the use of emergency stationary ICE in emergency situations.**
- (2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
  - (a) 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. MMC 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 MMC maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
  - (b) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation

(NERC) Reliability Standard EOP-002-3, *Capacity and Energy Emergencies*, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

- (c) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supplying power as part of a financial arrangement with another entity, except if the following conditions are met:

- (a) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (b) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (c) The dispatch follows reliability, emergency operation, or similar protocols that follow specific NERC, regional, state, public utility commission, or local standards or guidelines.
- (d) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (e) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission, or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart IIII Requirements

(1) Manufacturer Certification Requirement

Generator #3 shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)] Because Generator #3 was manufactured in model year 2007 or later; is an emergency, stationary unit; is rated at less than 2,237 kW; has a displacement of less than 10 liters per cylinder; and is not a fire pump; it must meet the emissions standards as found

in 40 CFR §89.112 and §89.113, as dictated in 40 CFR §60.4202(a)(2). These standards are as follows:

Pollutant	Tier 2 Standard	Source of Standard
PM	0.20 g/kW-hr	40 CFR §89.112 (a), Table 1
NMHC + NO <sub>x</sub>	6.4 g/kW-hr	
CO	3.5 g/kW-hr	

Exhaust Opacity Standard	Source of Standard
<ul style="list-style-type: none"> <li>· Not to exceed 20% opacity during the acceleration mode;</li> <li>· Not to exceed 15% opacity during the lugging mode; and</li> <li>· Not to exceed 50% opacity during the peaks in either the acceleration or lugging modes</li> </ul>	40 CFR §89.113 (a)

(2) Ultra-Low Sulfur Fuel Requirement

The fuel fired in Generator #3 shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on Generator #3. [40 CFR §60.4209(a)]

(4) Operation and Maintenance Requirements

Generator #3 shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by MMC that are approved by the engine manufacturer. MMC may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

Generator #3 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supplying power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

(6) Initial Notification Requirement [40 CFR §60.4214(b)]

No initial notification is required for emergency engines.

(7) Recordkeeping

MMC shall keep records that include maintenance conducted on Generator #3 and the hours of operation of the unit recorded through the non-resettable hour meter. Documentation shall include the number of hours of emergency

operation including what classified the operation as emergency, and the number of hours of non-emergency operation. If the generator is operated during a period of demand response or deviation from standard voltage or frequency or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), MMC shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4214(b)]

(8) Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year [40 CFR §60.4214(d)]

If MMC operates or is contractually obligated to be available for more than 15 hours per calendar year 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 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

D. Annual Emissions

1. Total Annual Emissions

MMC shall be restricted to the following annual emissions per calendar year. The tons per year limits were calculated based on firing 200,000 gallons per year of #2 fuel oil in Boiler #3, firing natural gas in B#1 and B#2 for 8,760 hours/year, and 100 hours/year of Generator #3 operation:

**Total Licensed Annual Emissions for the Facility**  
**Tons/year**  
 (used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers #1 and #2	2.3	2.3	0.03	4.6	3.9	0.3
Boiler #3	1.7	1.7	6.9	2.0	0.5	0.03
Generator #3	0.05	0.05	0.0005	1.25	0.33	0.035
<b>Total TPY *</b>	<b>4.1</b>	<b>4.1</b>	<b>6.9</b>	<b>7.9</b>	<b>4.7</b>	<b>0.4</b>

\* rounded to the nearest tenth of a ton

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through ‘Tailoring’ revisions made to EPA’s *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

The quantity of CO<sub>2</sub>e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility’s fuel use limit;
- worst case emission factors from the following sources: U.S. EPA’s AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

**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 requirements of 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor stationary source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

<b>Pollutant</b>	<b>Tons/Year</b>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	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.

### 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 A-57-71-K-R subject to the following conditions.

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

### 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.A. §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 CMR 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 CMR 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 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 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 CMR 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 CMR 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 CMR 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 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR 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 CFR 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 CMR 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 such test results, 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 CFR 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 proves 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 CMR 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 Part 70 license requirement. [06-096 CMR 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 CMR 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 CMR 115]

**SPECIFIC CONDITIONS**

**(16) Boilers #1, #2, and #3**

**A. Fuels**

1. Prior to July 1, 2016, or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall have a maximum sulfur content of 0.005% by weight (50 ppm). [06-096 CMR 115, BPT]
2. Beginning July 1, 2016, or on the date specified in 38 MRSA §603-A(2)(A)(3), distillate fuel fired at the facility shall have a maximum sulfur content of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
3. Beginning January 1, 2018, or the date specified in 38 MRSA §603-A(2)(A)(3), distillate fuel fired at the facility shall have a maximum sulfur content of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
4. Compliance shall be demonstrated by records from the supplier of the type and sulfur content of the fuel delivered. [06-096 CMR 115, BPT]
5. Boilers #1, #2, and #3 shall be limited to firing 200,000 gallons of distillate fuel on a 12-month rolling total basis. Fuel records from the supplier documenting quantity and type of fuel received shall be used to document compliance. [A-57-71-J-R/A (January 12, 2010), BPT]

**B. Emissions shall not exceed the following:**

Unit	Pollutant	lb/MMBtu	
		Firing Distillate Fuel	Firing Natural Gas
Boiler #1	PM	0.12	0.05
Boiler #2			
Boiler #3		0.12	N.A.

**C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:**

Unit	Fuel	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 (5.1 MMBtu/hr)	Distillate fuel	0.61	0.61	2.55	0.74	0.19	0.01
	Natural gas	0.26	0.26	0.003	0.52	0.44	0.03
Boiler #2 (5.1 MMBtu/hr)	Distillate fuel	0.61	0.61	2.55	0.74	0.19	0.01
	Natural gas	0.26	0.26	0.003	0.52	0.44	0.03
Boiler #3 (8.4 MMBtu/hr)	Distillate fuel	1.01	1.01	4.20	1.20	0.30	0.02

D. Visible Emissions [06-096 CMR 101]

1. Visible emissions from the common stack serving Boilers #1, #2, and #3 shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.
2. Visible emissions from the common stack when either Boiler #1 or Boiler #2 is operating alone and firing natural gas shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a three-hour period.

E. Periodic Monitoring [06-096 CMR 115, BPT]

Periodic monitoring for the boilers shall include recordkeeping to document type of fuel used and sulfur content of the fuel, as appropriate.

F. 40 CFR Part 63, Subpart JJJJJ Requirements for Boilers #1, #2, and #3 [incorporated under 06-096 CMR 115, BPT]

Boilers #1 and #2 may be operated as gas-fired boilers in accordance with the definition in Subpart JJJJJ and may not be subject to requirements of this Subpart. MMC shall maintain records of the fuel(s) fired in this unit to document the category of each boiler under Subpart JJJJJ.

The following requirements for oil-fired boilers are applicable to Boilers #1 and #2 whenever they are operated as existing oil-fired boilers according to Subpart JJJJJ. The following requirements apply to Boiler #3 at all times.

1. Boiler Tune-Up Program

- a. A boiler tune-up program shall be implemented in accordance with this Subpart. [40 CFR §63.11223]

A tune-up of Boiler #3 and of Boilers #1 and #2 when operated as existing oil-fired boilers shall be conducted at least once every two calendar years. [40 CFR §63.11223(a) and Table 2]

- b. Each boiler tune-up shall be performed in accordance with applicable requirements of this Subpart including those specified below:
  - (1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. [40 CFR §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 CFR §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. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 36 months from the previous inspection. [40 CFR §63.11223(b)(3)]
  - (4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR §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, both 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 CFR §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 CFR §63.11223(b)(7)]
- c. TUNE-UP REPORT: A tune-up report shall be maintained on-site and, if requested, submitted to EPA. 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 CFR §63.11223(b)(6)]

2. Compliance Certification [40 CFR §63.11225(b)]

BIENNIAL COMPLIANCE REPORT: The Compliance Certification Report following the initial tune-up of each applicable boiler must be prepared by March 1, 2015. Because MMC is required to conduct boiler tune-ups of the applicable boilers biennially, subsequent Biennial Compliance Reports must be prepared by March 1 of the year following the calendar year during which a tune-up is completed, and submitted to the Department and the EPA upon request. The Biennial Compliance Report shall contain the following information:

- 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 CFR §63.11223 to conduct a biennial or five-year tune-up, as applicable, of each boiler."
  - (2) "No secondary materials that are solid waste were combusted in any affected unit."
  - (3) "This facility complies with the requirement in 40 CFR §§63.11214(d) to conduct a tune-up of each applicable boiler according to 40 CFR §63.11223(b)."

3. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63, Subpart JJJJJ including the following [40 CFR §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. EPA requires submission of Notification of Compliance Status reports for tune-ups through their electronic reporting system. [40 CFR §63.1125(a)(4)(vi)]

(17) **Generator #3**

- A. Generator #3 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

B. Emissions from Generator #3 shall not exceed the following:

<b>Unit</b>	<b>Pollutant</b>	<b>lb/MMBtu</b>	<b>Origin and Authority</b>
Generator #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Generator #3 emissions shall not exceed the following [06-096 CMR 115, BPT]:

<b>Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Generator #3 7.8 MMBtu/hr, distillate fuel	0.94	0.94	0.01	24.96	6.63	0.70

D. Visible emissions from Generator #3 shall not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101 (2)(B)(1)(d)]

E. Generator #3 shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:

1. Manufacturer Certification

Generator #3 shall be certified by the manufacturer as meeting the Tier 2 emission standards for new non-road compression ignition engines found in 40 CFR §89.112 and the visible emissions standards of 40 CFR §89.113 (a), both as referenced in 40 CFR §60.4202. [40 CFR §60.4205(b)]

2. Ultra-Low Sulfur Fuel

The fuel fired in Generator #3 shall not exceed 15 ppm sulfur (0.0015% sulfur by weight), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance shall be documented through fuel purchase records. [40 CFR §60.4207(b)]

3. Non-Resetable Hour Meter

A non-resettable hour meter shall be installed and operated on Generator #3. [40 CFR §60.4209(a)]

4. Operation and Maintenance

Generator #3 shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by MMC that are approved by the engine manufacturer. MMC may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

5. Annual Time Limit for Maintenance and Testing

Generator #3 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year

may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supplying power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

6. Recordkeeping

MMC shall keep records that include maintenance conducted on Generator #3 and the hours of operation of the unit recorded through the non-resettable hour meter. Documentation shall include the number of hours of emergency operation including what classified the operation as emergency, and the number of hours of non-emergency operation. If the generator is operated during a period of demand response or deviation from standard voltage or frequency or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), MMC shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4214(b)]

7. Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year [40 CFR §60.4214(d)]

If MMC operates or is contractually obligated to be available for more than 15 hours per calendar year 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 CFR §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in 40 CFR §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI), accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

Maine Medical Center  
Cumberland County  
Portland, Maine  
A-57-71-K-R (SM)

22

Departmental  
Findings of Fact and Order  
Air Emission License  
Renewal

- (18) MMC 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.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 12 DAY OF March, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cove for  
PATRICIA W. AHO, COMMISSIONER

**The term of this license shall be ten (10) years from the signature date above.**

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 2, 2015

Date of application acceptance: January 6, 2015

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

