



DEPARTMENT ORDER

**MaineHealth d/b/a Maine Medical
Center
Cumberland County
Scarborough, Maine
A-934-71-G-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

MaineHealth d/b/a Maine Medical Center (MMC) was issued Air Emission License A-934-71-E-R/A on 10/5/2016, for the operation of emission sources associated with their medical facility. The license was subsequently amended on 9/28/2017 (A-934-71-F-A).

MMC has requested an amendment to their license in order to add three 1.11 MMBtu/hr natural gas boilers and one 3.1 MMBtu/hr distillate emergency generator. This amendment will also combine the multiple generator conditions found in previous licenses into one condition.

The equipment addressed in this license amendment will be located at MMC's Scarborough campus at 100 Campus Drive in Scarborough, Maine.

B. Emission Equipment

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

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (scf/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.	Stack #
92-1	1.11	1090	natural gas, Neg.	2019/ 2020	2020	8
92-2	1.11	1090	natural gas, Neg.	2019/ 2020	2020	9

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate (scf/hr)	Fuel Type, % sulfur	Date of Manuf.	Date of Install.	Stack #
92-3	1.11	1090	natural gas, Neg.	2019/ 2020	2020	10

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW or HP)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator 92-1	3.1	300 kW	distillate, 0.0015 %	22.7	2019/ 2020	2020

MMC may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

Additionally, MMC may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

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.

Portable Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an

engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

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	8.7	9.5	0.8	100
PM ₁₀	8.7	9.5	0.8	100
SO ₂	0.1	0.1	0	100
NO _x	19.0	21.1	2.1	100
CO	14.5	15.9	1.4	100
VOC	1.2	1.4	0.2	50

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

E. Facility Classification

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

- As a synthetic minor source of air emissions, because MMC 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. Boilers 92-1, 92-2, and 92-3

MMC will operate Boilers 92-1, 92-2, and 92-3 for heat. The boilers are each rated at 1.11 MMBtu/hr and fire natural gas. The boilers will be installed in 2020 and each exhaust through its own stack.

1. BACT Findings

MMC submitted a BACT analysis for control of emissions from Boilers 92-1, 92-2, and 92-3.

a. Particulate Matter (PM, PM₁₀)

MMC has proposed to burn only low-ash content fuels (natural gas) in the boilers. Additional add-on pollution controls are not economically feasible.

BACT for PM/PM₁₀ emissions from Boilers 92-1, 92-2, and 92-3 is the use of natural gas fuel and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

MMC has proposed to fire only natural gas. The use of this fuel results in minimal emissions of SO₂. Therefore, additional add-on pollution controls are not economically feasible.

BACT for SO₂ emissions from Boilers 92-1, 92-2, and 92-3 is the use of natural gas fuel and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

MMC considered several control strategies for the control of NO_x including selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), water/steam injection, flue gas recirculation (FGR), and use of oxygen trim systems.

Both SCR and SNCR are technically feasible control technologies for minimizing NO_x. However, they have a negative environmental impact of emissions of unreacted ammonia. In addition, due to the initial capital cost and the annual operating costs, these systems are typically only considered cost effective for units larger than Boilers 92-1, 92-2, and 92-3.

FGR is not available for a burner of this size.

BACT for NO_x emissions from Boilers 92-1, 92-2, and 92-3 is the use of good combustion practices and the emission limits listed in the tables below.

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

MMC has proposed to burn only low-ash content natural gas in the boilers and to optimize combustion using efficient burner combustion technology and periodic maintenance checks. Additional add-on pollution controls are not economically feasible.

BACT for CO and VOC emissions from Boilers 92-1, 92-2, and 92-3 is the use of efficient burner combustion technology, periodic maintenance checks, and the emission limits listed in the table below.

2. Emission Limits

The BACT emission limits for Boilers 92-1, 92-2, and 92-3 are based on the following:

Natural Gas

PM/PM ₁₀	–	0.05 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO ₂	–	0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO _x	–	100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
CO	–	84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
VOC	–	5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 101 (3)(A)(3)

The BACT emission limits for Boilers 92-1, 92-2, and 92-3 are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 92-1	0.06	0.06	Neg.	0.11	0.09	0.01
Boiler 92-2	0.06	0.06	Neg.	0.11	0.09	0.01
Boiler 92-3	0.06	0.06	Neg.	0.11	0.09	0.01

3. Visible Emissions

Visible emissions from each boiler shall not exceed 10% opacity on a six-minute block average basis.

4. Periodic Monitoring

Periodic monitoring is not required for Boilers 92-1, 92-2, and 92-3.

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

Due to their size, the Boilers 92-1, 92-2, and 92-3 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]

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

Gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJ.
[40 C.F.R. § 63.11195(e)]

C. Generator 92-1

MMC will operate Generator 92-1 as an emergency generator. Generator 92-1 will be a generator set consisting of an engine and an electrical generator. Generator 92-1 will have an engine rated at 3.1 MMBtu/hr which will fire distillate fuel. Generator 92-1 will be manufactured in 2019 or 2020.

1. BACT Findings

a. Particulate Matter (PM and PM₁₀)

PM emissions from distillate fuel-fired engines are generally controlled through proper operation and maintenance of the engines. Given the small size of the unit (3.1 MMBtu/hr) and the limited operating hours, additional control for PM is not economically feasible.

BACT for PM/PM₁₀ emissions from Generator 92-1 shall be proper operation and maintenance of the unit and emission limits listed in the table below.

b. Sulfur Dioxide (SO₂)

For an emergency engine that fires distillate fuel and operates for only short periods of time, the use of a wet scrubber or other additional SO₂ add-on control methods are not economically feasible considering the minimal emissions due to the limited use of the engine. The most practical method for limiting SO₂ emissions of such engines is the use of low sulfur fuel, such as distillate fuel with a sulfur content no greater than 0.0015% by weight.

BACT for SO₂ emissions from Generator 92-1 shall be the use of distillate fuel with a sulfur content no greater than 0.0015% by weight and SO₂ emission limits listed in the table below.

c. Nitrogen Oxides (NO_x)

Potentially available control options for reducing NO_x emissions from distillate fuel-fired engines include combustion controls, selective catalytic reduction (SCR), and non-selective catalytic reduction (NSCR). Combustion controls are implemented through design features such as electronic engine controls, injection systems, combustion chamber geometry, and turbocharging systems.

SCR and NSCR are both post-combustion NO_x reduction technologies. SCR injects ammonia to react with NO_x in the gas stream in the presence of a catalyst to form nitrogen and water. NSCR uses a catalyst to convert CO, NO_x, and hydrocarbons into carbon dioxide, nitrogen, and water without the use of an additional reagent, and requires strict air-to-fuel control to maintain high reduction effectiveness without increasing hydrocarbon emissions. For units of this size (3.1 MMBtu/hr) and usage (emergency back-up engine), neither SCR nor NSCR are economically feasible considering the small size of the unit and the minimal emissions due to the limited use of the engine.

BACT for NO_x emissions from Generator 92-1 shall be the use of good combustion controls, proper operation and maintenance of the unit, and the NO_x emission limit listed in the table below.

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

CO and VOC emissions are a result of incomplete combustion, caused by conditions such as insufficient residence time or limited oxygen availability. CO and VOC emissions from distillate fuel-fired engines are generally controlled through proper operation and maintenance. Oxidation catalysts have been used on larger engines to reduce CO and VOC emission levels in the exhaust, but, like SCR and NSCR, use of an oxidation catalyst on such small emergency engines with

limited yearly use would not provide a significant environmental benefit and would not be economically feasible.

BACT for CO and VOC emissions from Generator 92-1 shall be proper operation and maintenance of the unit and emission limits listed in the table below.

2. The BACT emission limits for Generator 92-1 is based on the following:

PM/PM ₁₀	- 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103
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 dated 10/96
CO	- 0.95 lb/MMBtu from AP-42 dated 10/96
VOC	- 0.35 lb/MMBtu from AP-42 dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Generator 92-1 are the following:

Unit	Pollutant	lb/MMBtu
Generator 92-1	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator 92-1	0.37	0.37	Neg.	13.67	2.95	1.09

3. Visible emissions from Generator 92-1 shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time MMC may comply with the following work practice standards in lieu of the numerical visible emissions standard.
- Maintain a log (written or electronic) of the date, time, and duration of all generator startups.
 - Operate the generator in accordance with the manufacturer's emission-related operating instructions.
 - 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 generator, 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.

4. 40 C.F.R. Part 60, Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart IIII is applicable to the emergency engine listed above since the unit was ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200] By meeting the requirements of 40 C.F.R. Part 60, Subpart IIII, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

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

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart IIII, 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 IIII, 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 or equipment failure;
- 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 engine 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 engine 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 the engine.
[40 C.F.R. § 60.4209(a)]

(4) Operation and Maintenance Requirements

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

(5) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit shall 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 engine. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

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

D. License Condition Corrections

In this Air Emission License Amendment, the Department will condense the multiple engine related conditions found in Air Emission License A-934-71-E-R/A and Amendment A-934-71-F-A into a singular condition, and to bring all conditions up to the newly established limits of visible emissions found in 06-096 C.M.R. ch. 101.

In Air Emission License Amendment A-934-71-F-A, the new license condition to address Generator MRI-1 was erroneously numbered as condition 20. It should have been numbered as condition 21 so as not to be confused with the existing condition 20 found in Air Emission License A-934-71-E-R/A; this amendment will correct this by combining the license conditions for Generator MRI-1 with the other generators. The original condition 20 found in Air Emission License A-934-71-E-R/A will be restored as of this amendment.

E. Annual Emissions

MMC shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on the following:

- Operating each boiler for 8760 hrs/year;
- Operating each generator 100 hrs/yr;

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
SSC-1	0.69	0.69	0.01	1.36	1.14	0.07
SSC-2	0.69	0.69	0.01	1.36	1.14	0.07
SSC-3	0.69	0.69	0.01	1.36	1.14	0.07
SSC-4	0.69	0.69	0.01	1.36	1.14	0.07
SSC-5	0.11	0.11	0.01	0.33	0.11	0.11
SSC-6	0.11	0.11	0.01	0.33	0.11	0.11
MMCRI-1	0.66	0.66	0.01	1.29	1.08	0.07
MMCRI-2	0.66	0.66	0.01	1.29	1.08	0.07
MMCRI-3	0.88	0.88	0.01	1.72	1.44	0.09
MMCRI-4	1.20	1.20	0.01	2.36	1.98	0.13
100-1	0.46	0.46	0.01	0.90	0.76	0.05
100-2	0.74	0.74	0.01	1.46	1.23	0.08
96-1	0.26	0.26	Neg.	0.52	0.43	0.03
96-2	0.26	0.26	Neg.	0.52	0.43	0.03
96-3	0.26	0.26	Neg.	0.52	0.43	0.03

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
96-4	0.26	0.26	Neg.	0.52	0.43	0.03
92-1	0.24	0.24	Neg.	0.47	0.40	0.03
92-2	0.24	0.24	Neg.	0.47	0.40	0.03
92-3	0.24	0.24	Neg.	0.47	0.40	0.03
Gen MMCRI-1	0.04	0.04	Neg.	0.60	0.13	0.05
Gen MMCRI-2	0.01	0.01	Neg.	0.14	0.03	0.01
Gen SSC-1	0.04	0.04	Neg.	1.02	0.27	Neg.
Gen MRI-1	Neg.	Neg.	Neg.	0.05	Neg.	Neg.
Gen 92-1	0.02	0.02	Neg.	0.69	0.15	0.05
Total TPY	9.5	9.5	0.1	21.1	15.9	1.4

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
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.

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-934-71-G-A subject to the conditions found in Air Emission License A-934-71-E-R/A, in amendment A-934-71-F-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.

SPECIFIC CONDITIONS

The following shall replace condition (17) of Air Emission License A-934-71-E-R/A, issued 10/2/2016.

(17) Natural Gas-Fired Boilers

A. Fuel

Boilers SSC-1, SSC-2, SSC-3, SSC-4, MMCRI-1, MMCRI-2, MMCRI-3, MMCRI-4, 100-1, 100-2, 96-1, 96-2, 96-3, 96-4, 92-1, 92-2, and 92-3 are all licensed to fire natural gas. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boilers SSC-1 and SSC-2 (each)	PM	0.05	A-934-71-A-N (2/1/2006), BACT
Boilers SSC-3 and SSC-4 (each)	PM	0.05	A-934-71-A-N (2/1/2006), BACT
Boilers MMCRI-1 and MMCRI-2 (each)	PM	0.05	A-934-71-A-N (2/1/2006), BACT
Boiler MMCRI-3	PM	0.05	A-934-71-A-N (2/1/2006), BACT
Boiler MMCRI-4	PM	0.05	A-934-71-A-N (2/1/2006), BACT
Boiler 100-2	PM	0.05	A-934-71-A-N (2/1/2006), BACT

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

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boilers SSC-1, SSC-2, SSC-3, and SSC-4 (each)	0.16	0.16	0.01	0.31	0.26	0.02
Boilers MMCRI-1 and MMCRI-2 (each)	0.15	0.15	0.01	0.29	0.25	0.02
Boiler MMCRI-3	0.20	0.20	0.01	0.39	0.33	0.02
Boiler MMCRI-4	0.28	0.28	0.01	0.54	0.45	0.03
Boiler 100-1	0.11	0.11	0.01	0.21	0.17	0.01
Boiler 100-2	0.17	0.17	0.01	0.33	0.28	0.02
Boilers 96-1, 96-2, 96-3, and 96-4 (each)	0.06	0.06	0.01	0.12	0.10	0.01
Boilers 92-1, 92-2, and 92-3 (each)	0.06	0.06	Neg.	0.11	0.09	0.01

D. Visible emissions from each stack servicing these boilers shall not exceed 10% opacity on a six-minute block average basis.
[06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 101 (3)(A)(3)]

The following shall replace conditions (18) and (19) of Air Emission License A-934-71-E-R/A, issued 10/2/2016, and condition (20) of Air Emission License Amendment A-934-71-F-A, issued 9/28/2017.

(18) Generators MMCRI-1, MMCRI-2, SSC-1, MRI-1, and 92-1

- A. Generator MMCRI-1 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]
- B. MMC shall keep records that include maintenance conducted on Generator MMCRI-1 and the hours of operation of the generator recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes.
[06-096 C.M.R. ch. 115, BPT]
- C. If Generator MMCRI-1 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, MMC shall keep

records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [06-096 C.M.R. ch. 115, BPT]

- D. The fuel sulfur content for Generator MMCRI-1 shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 C.M.R. ch. 115, BPT]
- E. Generator MMCRI-1 is only to be operated for maintenance and readiness testing purposes, for other allowable non-emergency operations, and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Generator MMCRI-1 is not to be used for prime power when reliable offsite power is available; nor to operate or to be 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 supplying power during a non-emergency situation as part of a financial arrangement with another entity. [06-096 C.M.R. ch. 115, BPT]
- F. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator SSC-1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)
Generator 92-1	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator MMCRI-1	0.84	0.84	0.01	11.91	2.57	0.97
Generator MMCRI-2	0.14	0.14	0.01	2.74	0.59	0.15
Generator SSC-1	0.77	0.77	0.01	20.48	5.44	0.58
Generator MRI-1	0.01	0.01	Neg.	0.98	0.09	0.01
Generator 92-1	0.37	0.37	Neg.	13.67	2.95	1.09

- H. Visible Emissions

Visible emissions from each of the emergency generators shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time MMC may comply with the following work practice standards in lieu of the numerical visible emissions standard.

[06-096 C.M.R. ch. 115, BACT and 06-096 C.M.R. ch. 101]

1. Maintain a log (written or electronic) of the date, time, and duration of all generator startups.
 2. Operate the generators in accordance with the manufacturer's emission-related operating instructions.
 3. 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.
 4. 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.
- I. Generators MMCRI-2, SSC-1, MRI-1, and 92-1 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart III, including the following: [incorporated under 06-096 C.M.R. ch. 115, BACT]
1. Manufacturer Certification
 - a. For all generators except Generator SSC-1 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)]
 - b. Generator SSC-1 shall be certified by the manufacturer as meeting the emission standards for a new nonroad compression ignition engine found in Table 1 of 40 C.F.R. Part 60, Subpart III. [40 C.F.R. § 60.4205(a)]
 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 tank containing the fuel to be fired.
[40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BPT]

3. Non-Resettable Hour Meter

A non-resettable 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. MMC shall keep records that include maintenance conducted on each engine 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 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. MMC may only change those emission-related settings that are permitted by the manufacturer.
[40 C.F.R. § 60.4211(a)]

MaineHealth d/b/a Maine Medical
Center
Cumberland County
Scarborough, Maine
A-934-71-G-A

19

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

The following shall restore condition (20) of Air Emission License Amendment A-934-71-E-R/A, issued 10/2/2016.

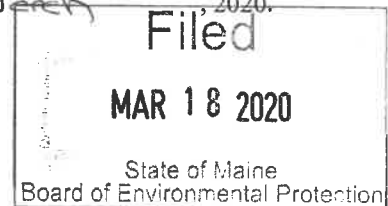
- (20) MMC shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605).

DONE AND DATED IN AUGUSTA, MAINE THIS 18th DAY OF March, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:


GERALD D. REID, COMMISSIONER



The term of this amendment shall be concurrent with the term of Air Emission License A-934-71-E-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/14/2020

Date of application acceptance: 2/18/2020

Date filed with the Board of Environmental Protection:

This Order prepared by Chris Ham, Bureau of Air Quality.