STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Maine Medical Center **Cumberland County** **Scarborough, Maine** **A-934-71-E-R/A (SM)**	**Departmental** **Findings of Fact and Order** **Air Emission License Renewal** **and After-the-Fact Amendment**

FINDINGS OF FACT

After review of the air emission license renewal and 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 Annotated (M.R.S.), § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Maine Medical Center (MMC) has applied to renew their Air Emission License for the operation of emission sources associated with their health services facility.

MMC has also requested an amendment to their license in order to replace two of the hot water heaters at the Scarborough Surgery Center with new boilers and to correct the emission limits for Generator MMCRI-2.

The equipment addressed in this license is located at MMC's Scarborough, Maine Campus.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Fuel Type	Maximum Firing Rate	Date of Manuf.	Date of Install.	Stack #
SSC-1	3.17 [each]	Natural gas	3,108 scf/hr [each]	2006	2006/2007	1
SSC-2						
SSC-3						2
SSC-4						
MMCRI-1	3.0 [each]	Natural gas	2,942 scf/hr [each]	2000	2000	4
MMCRI-2						
MMCRI-3	4.0	Natural gas	3,922 scf/hr	2000	2000	4
MMCRI-4	5.5	Natural gas	5,392 scf/hr	2008	2008	7
100-1	2.1	Natural gas	2,059 scf/hr	1994	1994	5
100-2	3.4		3,333 scf/hr			

Equipment	Max. Capacity (MMBtu/hr)	Fuel Type	Maximum Firing Rate	Date of Manuf.	Date of Install.	Stack #
96-1	1.2 [each]	Natural gas	1,177 scf/hr [each]	1999	1999	6
96-2						
96-3						
96-4						
SSC-5*	2.5 [each]	Natural gas	2,451 scf/hr [each]	2011	2012	3
SSC-6*						

*New in this license.

Hot Water Heater SSC-1 and Hot Water Heater SSC-2 (not the same as boilers SSC-1 and SSC-2 listed in the table on page one of this license) have been removed from the site and are hereby removed from this air emission license.

Generators

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Generator MMCRI-1	2.7	250	Distillate fuel, 0.0015%	19.4	2000	2000
Generator MMCRI-2	2.7	250		19.4	2008	2008
Generator SSC-1	6.4	600		46.7	2006	2006

C. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

1. 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;
2. Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
3. Kerosene, as defined in ASTM D3699;
4. Biodiesel, as defined in ASTM D6751; or
5. Biodiesel blends, as defined in ASTM D7467.

D. Application Classification

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 (as amended). 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	7.68	8.7	+1.02	100
PM_{10}	7.68	8.7	+1.02	100
SO_2	0.85	0.3	-0.55	100
NO_x	23.16	19.0	-4.16	100
CO	16.83	14.5	-2.33	100
VOC	1.33	1.2	-0.13	50
CO_2e	<100,000	<100,000	-	100,000

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

The application for MMC includes the licensing of increased emissions and the installation of new equipment. Therefore, the license is considered to be a renewal of currently licensed emission units with a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 (as amended). With the annual non-emergency operating hour limit on Generators MMCRI-1, MMCRI-2, and SSC-1, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. With the annual non-emergency operating hour limit on Generators MMCRI-1, MMCRI-2, and SSC-1, 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 C.M.R. ch. 100 (as amended). 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 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- 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 SSC-5 and SSC-6

MMC operates Boilers SSC-5 and SSC-6 for hot water. Boilers SSC-5 and SSC-6 are both rated at 2.5 MMBtu/hr and fire natural gas. The boilers were both manufactured in 2011, installed in 2012, and exhaust through a combined stack, Stack 3.

1. BACT Findings

The following is a summary of the BACT determination for Boilers SSC-5 and SSC-6, by pollutant.

a. Particulate Matter (PM, PM_{10}, & $PM_{2.5}$) and Sulfur Dioxide (SO_2)

The emissions of $PM/PM_{10}/PM_{2.5}$ and SO_2 from combustion of natural gas in units with high combustion efficiency are inherently low due to the low ash content and negligible sulfur content of natural gas. Additional controls to reduce emissions of $PM/PM_{10}/PM_{2.5}$ and SO_2 below current levels would not be economically practical given the small size (2.5 MMBtu/hr each) of the units. The Department finds good combustion controls and the firing of natural gas to constitute BACT for $PM/PM_{10}/PM_{2.5}$ and SO_2 emissions from Boilers SSC-5 and SSC-6.

b. Nitrogen Oxides (NOx), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC)

Emissions of NO_x, CO, and VOC from small natural gas-fired boilers are typically controlled through combustion controls; specifically by maintaining proper air-to-fuel ratios and optimal combustion conditions. The use of appropriate combustion controls along with proper operation and maintenance are generally sufficient to control emissions to acceptable levels. The use of add-on NO_x emissions control equipment such as selective catalytic reduction systems and selective non-catalytic reduction systems are not cost-effective for these units given the already low emission levels achieved by small, gas-fired boilers of this

size. Similarly, the use of CO and VOC emissions control equipment such as oxidation catalysts are not economically practical for boilers of this size.
Each of the units utilizes "pre-mix" burner technology to mix the fuel gas and combustion air prior to entering the burner canister. This technology, combined with a variable speed fan, results in very low emissions of NO_x, CO, and VOC. Additional combustion technologies such as flue gas recirculation and staged fuel/air mixing would not be economically practical for a boiler of this size and packaged design.

The Department finds that good combustion controls and pre-mix burner technology constitute BACT for NO_x, CO, and VOC.

2. Emission Limits

The BACT emission limits for Boilers SSC-5 and SSC-6 when firing natural gas were based on the following:

PM/PM_{10}	–	0.01 lb/MMBtu based on manufacturer's emission performance data
SO_2	–	0.01 lb/hr based on manufacturer's emission performance data
NO_x	–	0.03 lb/MMBtu based on manufacturer's emission performance data
CO	–	0.01 lb/MMBtu based on manufacturer's emission performance data
VOC	–	0.01 lb/MMBtu based on manufacturer's emission performance data
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Boilers SSC-5 and SSC-6 are the following:

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)
Boilers SSC-5 and SSC-6 [each] Natural gas	0.03	0.03	0.03	0.01	0.08	0.03	0.03

Visible emissions from the combined stack for the boilers shall not exceed 10% opacity on a six-minute block average basis.

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

Due to their sizes, Boilers SSC-5 and SSC-6 are not subject to the New Source Performance Standards (NSPS) *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 JJJJJJ

   Boilers SSC-5 and SSC-6 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 JJJJJJ. The units are considered new gas-fired boilers rated less than 10 MMBtu/hr. Gas-fired boilers are considered exempt from 40 C.F.R. Part 63, Subpart JJJJJJ. [40 C.F.R. §§ 63.11193 and 63.11195]

C. Existing Natural Gas-Fired Boilers

MMC operates the following natural gas-fired boilers for heat and hot water:

<table>
<tr><th>Unit</th><th>Max. Capacity (MMBtu/hr)</th><th>Manuf. Date</th><th>Install. Date</th><th>Stack #</th></tr>
<tr><td>SSC-1</td><td rowspan="4">3.17 [each]</td><td rowspan="4">2006</td><td rowspan="4">2006/2007</td><td rowspan="2">1</td></tr>
<tr><td>SSC-2</td></tr>
<tr><td>SSC-3</td><td rowspan="2">2</td></tr>
<tr><td>SSC-4</td></tr>
<tr><td>MMCRI-1</td><td rowspan="2">3.0 [each]</td><td rowspan="3">2000</td><td rowspan="3">2000</td><td rowspan="3">4</td></tr>
<tr><td>MMCRI-2</td></tr>
<tr><td>MMCRI-3</td><td>4.0</td></tr>
<tr><td>MMCRI-4</td><td>5.5</td><td>2008</td><td>2008</td><td>7</td></tr>
<tr><td>100-1</td><td>2.1</td><td rowspan="2">1994</td><td rowspan="2">1994</td><td rowspan="2">5</td></tr>
<tr><td>100-2</td><td>3.4</td></tr>
<tr><td>96-1</td><td rowspan="4">1.2 [each]</td><td rowspan="4">1999</td><td rowspan="4">1999</td><td rowspan="4">6</td></tr>
<tr><td>96-2</td></tr>
<tr><td>96-3</td></tr>
<tr><td>96-4</td></tr>
</table>

1. BPT Findings

The BPT emission limits for the boilers firing natural gas were based on the following:

PM/PM_{10}	–	0.05 lb/MMBtu based on A-934-71-A-N dated 2/1/06, 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. 101

The BPT emission limits for the boilers are the following:

Unit	Pollutant	lb/MMBtu
Boilers SSC-1 and SSC-2 [each]	PM	0.05
Boilers SSC-3 and SSC-4 [each]	PM	0.05
Boilers MMCRI-1 and MMCRI-2 [each]	PM	0.05
Boiler MMCRI-3	PM	0.05
Boiler MMCRI-4	PM	0.05
Boiler 100-2	PM	0.05

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] (3.17 MMBtu/hr each)	0.16	0.16	0.01	0.31	0.26	0.02
Boilers MMCRI-1 and MMCRI-2 [each] (3.0 MMBtu/hr each)	0.15	0.15	0.01	0.29	0.25	0.02
Boiler MMCRI-3 (4.0 MMBtu/hr)	0.20	0.20	0.01	0.39	0.33	0.02
Boiler MMCRI-4 (5.5 MMBtu/hr)	0.28	0.28	0.01	0.54	0.45	0.03
Boiler 100-1 (2.1 MMBtu/hr)	0.11	0.11	0.01	0.21	0.17	0.01
Boiler 100-2 (3.4 MMBtu/hr)	0.17	0.17	0.01	0.33	0.28	0.02
Boilers 96-1, 96-2, 96-3, and 96-4 [each] (1.2 MMBtu/hr each)	0.06	0.06	0.01	0.12	0.10	0.01

Visible emissions from each stack servicing these boilers 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.

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

   Due to the size of the boilers, they are not subject to the New Source Performance Standards (NSPS) *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]

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

   The natural gas-fired boilers 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 JJJJJJ. The units are considered existing gas-fired boilers rated less than 10 MMBtu/hr. Gas-fired boilers are considered exempt from 40 C.F.R. Part 63, Subpart JJJJJJ. [40 C.F.R. §§ 63.11193 and 63.11195]

D. Generator MMCRI-1

MMC operates Generator MMCRI-1 as an emergency generator. Generator MMCRI-1 is a generator set consisting of an engine and an electrical generator. Generator MMCRI-1 has an engine rated at 2.7 MMBtu/hr (250 kW) which fires distillate fuel. Generator MMCRI-1 was manufactured in 2000.

1. BPT Findings

   The BPT emission limits for Generator MMCRI-1 when firing distillate fuel are based on the following:

PM/PM_{10}	- 0.31 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
SO_2	- 0.0015 lb/MMBtu based on 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 based on AP-42, Table 3.3-1, dated 10/96
CO	- 0.95 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
VOC	- 0.36 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101

The BPT emission limits for Generator MMCRI-1 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)
Generator MMCRI-1 Distillate fuel	0.84	0.84	0.01	11.91	2.57	0.97

Visible emissions from Generator MMCRI-1 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.

Generator MMCRI-1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. There is no limit on emergency operation. Generator MMCRI-1 shall be equipped with a non-resettable hour-meter to record operating time. To demonstrate compliance with the operating hours limit, MMC shall keep records of the total hours of operation and the hours of emergency operation for each unit.

Emergency generators are only to be operated for maintenance purposes, readiness testing purposes, for other allowable non-emergency operations up to 50 hours per year, and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators are 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.

2. New Source Performance Standards (NSPS)

Due to the date of manufacture of the compression ignition emergency engine listed above, the engine is not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart IIII, since the unit was manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

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

The federal regulation *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines,* 40 C.F.R. Part 63, Subpart ZZZZ, is not applicable to the emergency engine listed above. The unit is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source. However, it is considered exempt from the requirements of Subpart ZZZZ since it is categorized as an institutional emergency

engine and it does not operate or is not 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 C.F.R. § 63.6640(f)(4)(ii).

Operation of any emergency engine such that it exceeds 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 C.F.R. § 63.6640(f)(4)(ii), would cause the engine to be subject to 40 C.F.R. Part 63, Subpart ZZZZ, and require compliance with all applicable requirements.

E. Generators MMCRI-2 and SSC-1

MMC operates Generators MMCRI-2 and SSC-1 as emergency generators. The emergency generators are generator sets with each gen set consisting of an engine and an electrical generator. Generators MMCRI-2 and SSC-1 have engines rated at 2.7 MMBtu/hr (250 kW) and 6.4 MMBtu/hr (600 kW), respectively, which fire distillate fuel. Generators MMCRI-2 and SSC-1 were manufactured in 2008 and 2006, respectively.

1. BACT/BPT Findings

The BACT/BPT emission limits for Generator MMCRI-2 when firing distillate fuel are based on the following:

PM/PM_{10}	- 0.14 lb/hr based on manufacturer's emission performance data
SO_2	- 0.0015 lb/MMBtu based on combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO_x	- 2.74 lb/hr based on manufacturer's emission performance data
CO	- 0.59 lb/hr based on manufacturer's emission performance data
VOC	- 0.15 lb/hr based on manufacturer's emission performance data
Visible Emissions	- 06-096 C.M.R. ch. 101

The BACT/BPT emission limits for Generator SSC-1 when firing distillate fuel are based on the following:

PM/PM_{10}	- 0.12 lb/MMBtu based on 06-096 C.M.R. ch. 103
SO_2	- 0.0015 lb/MMBtu based on 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 based on AP-42, Table 3.4-1, dated 10/96
CO	- 0.85 lb/MMBtu based on AP-42, Table 3.4-1, dated 10/96
VOC	- 0.09 lb/MMBtu based on AP-42, Table 3.4-1, dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101

The BACT/BPT emission limits for Generators MMCRI-2 and SSC-1 are the following:

Unit	Pollutant	lb/MMBtu
Generator SSC-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 MMCRI-2* Distillate fuel	0.14	0.14	0.01	2.74	0.59	0.15
Generator SSC-1 Distillate fuel	0.77	0.77	0.01	20.48	5.44	0.58

*Corrected using manufacturer's emissions data provided by the facility

Visible emissions from each of Generators MMCRI-2 and SSC-1 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. 40 C.F.R. Part 60, Subpart IIII

The federal regulation *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart IIII, is applicable to the emergency engines listed above since the units were ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200] By meeting the requirements of Subpart IIII, the units also meet 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. Emergency Engine Designation and Operating Criteria

Under 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 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, non-emergency 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, unless:

1. The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
2. 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.
3. The dispatch follows reliability, emergency operation or similar protocols that follow specific North American Electric Reliability Corporation (NERC), regional, state, public utility commission, or local standards or guidelines.
4. The power is provided only to the facility itself or to support the local transmission and distribution system.

5. 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 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 (MMCRI-2) or in Table 1 of 40 C.F.R. Part 60, Subpart IIII (SSC-1). [40 C.F.R. § 60.4205(a) and 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), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [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 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 C.F.R. § 60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing
As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks, readiness testing, and other allowable non-emergency situations. 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 supply power as part of a financial arrangement with another entity unless the conditions in 40 C.F.R. § 60.4211(f)(3)(i) are met). [40 C.F.R. § 60.4211(f)]

(6) Initial Notification Requirement
No initial notification is required under Subpart IIII for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping
MMC 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, including what classified the operation as emergency, and the number of hours each unit operated for non-emergency purposes. If the engines are operated to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 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 engine operation for these purposes. [40 C.F.R. § 60.4214(b)]

F. Annual Emissions

1. Total 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 8,760 operating hours per year for each boiler and 100 operating hours per year for each generator:

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-5 and SSC-6	0.2	0.2	0.1	0.7	0.2	0.2
Existing Boilers	8.4	8.4	0.1	16.5	13.9	0.9
Generators	0.1	0.1	0.1	1.8	0.4	0.1
Total TPY	**8.7**	**8.7**	**0.3**	**19.0**	**14.5**	**1.2**

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 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 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_2e).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's natural gas fuel usage and non-emergency generator operating hour restriction;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 C.F.R. Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 C.F.R. 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 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.

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-934-71-E-R/A 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. § 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 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 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 Part 70 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]

SPECIFIC CONDITIONS

(16) **Boilers SSC-5 and SSC-6**

A. Boilers SSC-5 and SSC-6 are licensed to fire natural gas. [06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, 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)
Boilers SSC-5 and SSC-6 [each]	0.03	0.03	0.03	0.01	0.08	0.03	0.03

C. Visible emissions from the combined stack for Boilers SSC-5 and SSC-6 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

(17) **Natural Gas-Fired Boilers**

A. 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, and 96-4 are all licensed to fire natural gas. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

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

Unit	Pollutant	lb/MMBtu	Origin and Authority
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]:

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] (3.17 MMBtu/hr each)	0.16	0.16	0.01	0.31	0.26	0.02
Boilers MMCRI-1 and MMCRI-2 [each] (3.0 MMBtu/hr each)	0.15	0.15	0.01	0.29	0.25	0.02
Boiler MMCRI-3 (4.0 MMBtu/hr)	0.20	0.20	0.01	0.39	0.33	0.02
Boiler MMCRI-4 (5.5 MMBtu/hr)	0.28	0.28	0.01	0.54	0.45	0.03
Boiler 100-1 (2.1 MMBtu/hr)	0.11	0.11	0.01	0.21	0.17	0.01
Boiler 100-2 (3.4 MMBtu/hr)	0.17	0.17	0.01	0.33	0.28	0.02
Boilers 96-1, 96-2, 96-3, and 96-4 [each] (1.2 MMBtu/hr each)	0.06	0.06	0.01	0.12	0.10	0.01

D. Visible emissions from each stack servicing these boilers 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. [06-096 C.M.R. ch. 101]

(18) **Generator MMCRI-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. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

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 Distillate fuel	0.84	0.84	0.01	11.91	2.57	0.97

F. Visible emissions from Generator MMCRI-1 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 C.M.R. ch. 101]

G. 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]

(19) **Generators MMCRI-2 and SSC-1**

A. 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

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator MMCRI-2 Distillate fuel	0.14	0.14	0.01	2.74	0.59	0.15
Generator SSC-1 Distillate fuel	0.77	0.77	0.01	20.48	5.44	0.58

C. Visible emissions from Generators MMCRI-2 and SSC-1 shall each not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a continuous three-hour period. [06-096 C.M.R. ch. 101]

D. Generators MMCRI-2 and SSC-1 shall each meet the applicable requirements of 40 C.F.R. Part 60, Subpart IIII, including the following:

1. Manufacturer Certification
   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 (MMCRI-2) or in Table 1 of 40 C.F.R. Part 60, Subpart IIII (SSC-1). [40 C.F.R. §§ 60.4205(a) and 60.4205(b)]

2. Ultra-Low Sulfur Fuel
   The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [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, readiness testing, and other allowable non-emergency situations. 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 supply power as part of a financial arrangement with another entity unless the conditions in 40 C.F.R. § 60.4211(f)(3)(i) are met). 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, including what classified the operation as emergency, and the number of hours each unit operated for non-emergency purposes. If the engines are operated to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in 40 C.F.R. § 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 engine operation for these purposes. [06-096 C.M.R. ch. 115, BPT]

5. Operation and Maintenance
The engines 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 C.F.R. § 60.4211(a)]

(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 5 DAY OF October , 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, 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 M.R.S. § 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: 6/10/2016
Date of application acceptance: 6/16/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan E. Rice, Bureau of Air Quality.