



DEPARTMENT ORDER

**MaineGeneral Medical Center –
Thayer Campus
Kennebec County
Waterville, Maine
A-438-71-L-M (SM)**

**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

MaineGeneral Medical Center – Thayer Campus (MGMC) was issued Air Emission License A-438-71-J-R/A on November 5, 2012, for the operation of emission sources associated with their healthcare facility. The license was subsequently amended on July 24, 2015 (A-438-71-K-A).

MGMC has requested a minor revision to their license in order to re-designate Boilers #1, #3, and #4 as gas-fired boilers as defined in 40 C.F.R. Part 63, Subpart JJJJJ and to remove Boiler #2 from their license. The Department is also using this amendment as an opportunity to update the facility's fuel sulfur content requirements to reflect the most recent version of 38 M.R.S. § 603-A(2)(A)(3).

The equipment addressed in this license amendment is located at 149 North Street, Waterville, Maine.

B. Emission Equipment

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

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Date of Manuf.	Date of Install.	Stack #
Boiler #1	6.3	46.0 gal/hr	Distillate fuel, 0.5%	2001	2012	
		69.6 gal/hr	Propane			
		6,100 scf/hr	Natural gas			
Boiler #3	10.8	77.1 gal/hr	Distillate fuel, 0.5%	1963	1963	1
		72.0 gal/hr	#6 Fuel oil, 2.0%			
		119.3 gal/hr	Propane			
		10,500 scf/hr	Natural gas			
Boiler #4	8.4	60.0 gal/hr	Distillate fuel, 0.5%	1982	1982	
		53.9 gal/hr	#6 Fuel oil, 2.0%			
		93.0 gal/hr	Propane			
		8,200 scf/hr	Natural gas			

Boiler #2 has been removed from service and is hereby removed from this air emission license.

C. Definitions

Distillate Fuel. For the purposes of this license, *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.

Gas-Fired Boiler. For the purposes of this license and in accordance with 40 C.F.R. Part 63, Subpart JJJJJ, *gas-fired boiler* means 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 for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 C.F.R. § 63.11237]

D. Application Classification

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

This amendment will not increase emissions of any pollutant. Therefore, this amendment is determined to be a minor revision and has been processed as such.

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 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. Re-designation of Boilers #1, #3, and #4

Previously, Boilers #1, #3, and #4 were considered existing oil-fired boilers under *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ, because they fired distillate fuel or #6 fuel oil in addition to natural gas and/or propane. As of October 2016, however, MGMC has operated all three boilers as gas-fired boilers as defined in 40 C.F.R. § 63.11237.

As required in 40 C.F.R. § 63.11225(g), MGMC submitted a letter to the U.S. Environmental Protection Agency (EPA) and the Department dated January 12, 2018, providing notice of the fuel change that resulted in Boilers #1, #3, and #4 meeting the definition of gas-fired boiler as defined in 40 C.F.R. § 63.11237. [40 C.F.R. §§ 63.11225(g)]

Gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJ. However, boilers which fire fuel oil are not. A “gas-fired boiler” is defined 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 C.F.R. § 63.11237]

Any boiler designed to burn fuels besides gaseous fuels prior to June 4, 2010, will be considered an existing boiler under this rule. A boiler which currently fires gaseous fuels, but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

If any of the three boilers fail to meet the definition of gas-fired boiler in the future, MGMC shall notify EPA and the Department of the fuel change within 30 days of the change as required by 40 C.F.R. § 63.11225(g), and the boilers shall become subject to 40 C.F.R. Part 63, Subpart JJJJJ as existing oil-fired boilers. [40 C.F.R. § 63.11225(g) and 06-096 C.M.R. ch. 115, BPT]

C. Fuel Sulfur Content Requirement Revision

Air Emission License A-438-71-J-R/A (11/5/2012) included the fuel sulfur content requirements of 38 M.R.S. § 603-A(2)(A)(3). These requirements focused on the consumer of the fuel, and included fuel sulfur content limits of 0.005% sulfur by weight beginning July 1, 2016, and 0.0015% sulfur by weight beginning January 1, 2018 for distillate fuel and a fuel sulfur content limit of 0.5% sulfur by weight beginning January 1, 2018, for #6 fuel oil (residual fuel).

Several years after that license was issued, on May 10, 2015, the Maine Legislature revised 38 M.R.S. § 603-A to switch the focus of the statute from the consumer to the distributor, to remove the interim fuel sulfur content of 0.005% sulfur by weight for distillate fuel, and to change the date requiring the change to 0.0015% sulfur by weight for distillate fuel and 0.5% sulfur by weight for residual fuel from January 1, 2018, to July 1, 2018.

Due to this change, the Department is updating in this amendment the fuel sulfur content language previously included for Boilers #1, #3, and #4 to mirror the revised language of 38 M.R.S. § 603-A(2)(A)(3), as follows:

Boilers #1, #3, and #4 are licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the sulfur content of the distillate fuel purchased or otherwise obtained for use in Boilers #1, #3, and #4 shall not exceed 0.0015% by weight (15 ppm).

Boilers #3 and #4 are licensed to fire residual fuel. The sulfur content of the residual fuel fired is currently limited to 2.0% by weight per *Low Sulfur Fuel*, 06-096 C.M.R. ch. 106. Per 38 M.R.S. §§ 603-A(2)(A)(1) and (2), as of July 1, 2018, no person shall import, distribute, or offer for sale any residual fuel oil with a sulfur content greater than 0.5% by weight. Therefore, beginning July 1, 2018, the sulfur content of the residual fuel purchased or otherwise obtained for use in Boilers #3 and #4 shall not exceed 0.5% by weight.

D. Annual Emissions

The facility's licensed annual emissions totals are not changing as a result of this amendment and shall remain as currently licensed.

III. **AMBIENT AIR QUALITY ANALYSIS**

MGMC previously submitted an ambient air quality impact analysis for air emission license A-438-73-B-R (dated December 9, 1996) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate Ambient Air Quality Standards (AAQS). Since the maximum short-term emission limits are not changing, an additional air quality impact analysis is not required for this 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-438-71-L-M subject to the conditions found in Air Emission License A-438-71-J-R/A, in amendment A-438-71-K-A, and the following condition.

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 (16) of Air Emission License A-438-71-J-R/A (November 5, 2012):

(16) **Boilers #1, #3, and #4**

A. Fuels

1. Boilers #1, #3, and #4 are licensed to fire distillate fuel, while only Boilers #3 and #4 are licensed to fire #6 fuel oil. Distillate fuel and #6 fuel oil use combined shall not exceed the equivalent of 75,000 MMBtu/year on a 12-month rolling total basis. To demonstrate compliance, MGMC shall keep records on a monthly and 12-month rolling total basis documenting the total heat input (in MMBtu) based upon monthly fuel use. [06-096 C.M.R. ch. 115, BPT]

a. Distillate Fuel Sulfur Content

- (1) Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight in Boilers #1, #3, and #4. [06-096 C.M.R. ch. 115, BPT]
- (2) Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm) for use in Boilers #1, #3, and #4. [06-096 C.M.R. ch. 115, BPT]
- (3) Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. [06-096 C.M.R. ch. 115, BPT]

b. #6 Fuel Oil Sulfur Content

- (1) Prior to July 1, 2018, the facility shall fire #6 fuel oil with a maximum sulfur content not to exceed 2.0% by weight in Boilers #3 and #4. [06-096 C.M.R. ch. 115, BPT]
 - (2) Beginning July 1, 2018, the facility shall not purchase or otherwise obtain #6 fuel oil with a maximum sulfur content that exceeds 0.5% by weight for use in Boilers #3 and #4. [06-096 C.M.R. ch. 115, BPT]
 - (3) Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. [06-096 C.M.R. ch. 115, BPT]
2. Boilers #1, #3, and #4 are licensed to fire natural gas and/or propane with no annual fuel use limit. Records of annual natural gas and propane use shall be maintained on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following:

Unit	Fuel	Pollutant	lb/MMBtu	Origin and Authority
Boilers #1, #3, and #4 [each]	Distillate fuel	PM	0.08	06-096 C.M.R. ch. 115, BPT
Boilers #3 and #4 [each]	#6 Fuel oil	PM	0.20	06-096 C.M.R. ch. 103(2.)(A.)(1)
Boilers #1, #3, and #4 [each]	Propane	PM	0.05	06-096 C.M.R. ch. 115, BACT
Boilers #1, #3, and #4 [each]	Natural gas	PM	0.05	06-096 C.M.R. ch. 115, BACT

C. When firing distillate fuel, emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.5	0.5	3.1	1.9	0.2	0.1
Boiler #3	0.9	0.9	5.4	3.2	0.4	0.1
Boiler #4	0.7	0.7	4.2	2.5	0.3	0.1

D. When firing #6 fuel oil, emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #3	2.2	2.2	22.7	5.4	0.4	0.1
Boiler #4	1.7	1.7	17.7	4.2	0.3	0.1

E. When firing propane, emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.3	0.3	0.1	0.9	0.5	0.1
Boiler #3	0.5	0.5	0.1	1.6	0.9	0.1
Boiler #4	0.4	0.4	0.1	1.2	0.7	0.1

F. When firing natural gas, emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.3	0.3	0.1	0.6	0.5	0.1
Boiler #3	0.5	0.5	0.1	1.1	0.9	0.1
Boiler #4	0.4	0.4	0.1	0.8	0.7	0.1

G. Visible Emissions

1. When firing distillate fuel or #6 fuel oil, visible emissions from Stack #1 shall not exceed 20% on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]
2. When firing propane and/or natural gas, visible emissions from Stack #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

H. If Boilers #1, #3, and/or #4 fail to meet the definition of gas-fired boiler in the future, MGMC shall notify EPA and the Department of the fuel change within 30 days of the change as required by 40 C.F.R. § 63.11225(g), and the boilers shall become subject to 40 C.F.R. Part 63, Subpart JJJJJ as existing oil-fired boilers. [40 C.F.R. § 63.11225(g) and 06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 20 DAY OF February, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Paul Mercer*
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-438-71-J-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 16, 2018

Date of application acceptance: January 19, 2018

Date filed with the Board of Environmental Protection:

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

