

Central Maine Medical Center)	Departmental
Androscoggin County)	Findings of Fact and Order
Lewiston, Maine)	Air Emission License
A-387-71-I-R/A		

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant’s file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Central Maine Medical Center (CMMC) of Lewiston, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their health care facility.
2. This renewal also includes an amendment to include changes made to some of the fuel burning equipment and subsequently the permitted emissions from that equipment.

B. Emission Equipment

CMMC is authorized to operate the following equipment:

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Fuel Type, % Sulfur</u>	<u>Maximum Firing Rate</u>	<u>Stack #</u>
Emergency Generator #1	700	Diesel fuel, 0.05%	48.8 (gal/hr)	G-1
Emergency Generator #2	600	Diesel fuel, 0.05%	41.8 (gal/hr)	G-2
Emergency Generator #3	1500	Diesel fuel, 0.05%	104.5 (gal/hr)	G-3

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Maximum Firing Rate</u>	<u>Stack #</u>
Boiler #1	27	#6 Fuel Oil, 0.7%	180 gal/hr	1
Boiler #2	27	#6 Fuel Oil, 0.7%	180 gal/hr	1
Boiler #3	9	#6 Fuel Oil, 0.7% Or Natural Gas	60 gal/hr at 9000 scf/hr	1

C. Application Classification

The application for air emission license renewal for CMMC includes an amendment to include changes made to some of the fuel burning equipment and subsequently the permitted emissions from that equipment. Therefore, the license is considered to be a renewal and an amendment. The amendment will not result in the licensing of increased emissions. This source is determined to be a minor source 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 Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

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 #1, #2 and #3

CMMC is a 250 Bed, not-for-profit hospital. CMMC currently operates three boilers, designated Boilers #1, #2 and #3, primarily for facility hot water and heating needs. All three boilers exhaust to a common stack, designated Stack #1.

Central Maine Medical Center)
Androscoggin County)
Lewiston, Maine)
A-387-71-I-R/A 3

Departmental
Findings of Fact and Order
Air Emission License

Boilers #1 and #2 have maximum heat input capacities of 27 MMBtu/hr each. Both Boilers #1 and #2 were manufactured in 1969 and are therefore not subject to EPA New Source Performance Standards (NSPS) Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units applicable to boilers with a heat input of greater than 10 MMBtu/hr and manufactured after June 9, 1989).

Boiler #3 was previously licensed as having a maximum design heat input capacity of 12.2 MMBtu/hr at a fuel firing rate of 81.2 gallons per hour (gal/hr) of #6 fuel oil (Air Emission License A-387-71-D-R). CMMC has made permanent changes to the burner front of Boiler #3 reducing the boiler's maximum fuel firing rate to 60 gal/hr of #6 fuel oil which equates to a maximum heat input capacity of 9 MMBtu/hr.

Boiler #3 was manufactured in 1967 and has a maximum heat input capacity below the NSPS applicability threshold and is therefore not subject to EPA NSPS Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units applicable to boilers with a heat input of greater than 10 MMBtu/hr and manufactured after June 9, 1989). Boiler #3 is also designed to fire natural gas.

CMMC's previous license restricted the facility to firing no greater than a combined total of 800,000 gallons per year (gal/yr) of #6 fuel oil, with a sulfur content of no greater than 0.7% sulfur by weight, in Boilers #1, #2 and #3 on a twelve-month rolling total basis. CMMC has not requested a change in this fuel usage restriction and will therefore continue to be subject to this restriction. In order to demonstrate compliance with the annual fuel restriction and the sulfur content restriction, CMMC shall maintain a fuel use log, which shall include the fuel oil consumption and certification of sulfur content of the fuel.

CMMC's previous license also restricted the facility to firing no greater than 40 million standard cubic feet (scf) of natural gas per year in Boiler #3 based on a twelve-month rolling total. CMMC has not requested a change in this fuel usage restriction and will therefore continue to be subject to this restriction. In order to demonstrate compliance with this restriction, CMMC shall include natural gas consumption in the facility's fuel use log.

In order to meet Maine Ambient Air Quality Standards (MAAQS), CMMC's previous license also established a combined firing rate for Boilers #1, #2 and #3 of no greater than 200 gal/hr of #6 fuel oil at any one time. During periods of start-up, it is necessary to run the boiler units at their maximum fuel burning capacities and if all the boilers experience a start-up at the same time, the resulting fuel firing rate for that period would be approximately 360 gal/hr, exceeding the 200 gal/hr limit. For this reason, CMMC has requested that the permit be amended to allow the firing rate to be averaged over a 24-hour period. However, unless the previously conducted modeling were reevaluated to determine the worst case scenario, the longest averaging period available could only be equal to the shortest averaging period of any of the criteria pollutant standards that the facility's emissions were modeled against. Therefore, because the Sulfur Dioxide (SO₂) MAAQS standard has an averaging period of 3-hours, CMMC is restricted to an average of 200 gal/hr fuel over 3-hours.

A summary of the BPT analysis for Boilers #1 (27 MMBtu/hr), #2 (27 MMBtu/hr) and #3 (9 MMBtu/hr) is as follows:

1. BPT sulfur content for the #6 fuel oil fired in the boilers is no greater than 0.7% sulfur by weight.
2. BPT for PM for Boilers #1, #2 and #3 is 0.12 lb/MMBtu. PM₁₀ emission limits for Boilers #1, #2 and #3 are based on PM limits.
3. NO_x, CO and VOC emission limits are based upon AP-42 data dated 9/98 for the combustion of #6 fuel oil.
4. Visible Emissions:
 - a. Visible emissions from stack #1, during periods when only one of the three boilers (Boilers #1, #2 and #3) is operational, shall not exceed 20% opacity on a 6-minute block average except, for no more than one 6-minute block average in a 3-hour period.
 - b. Visible emissions from stack #1, during periods when more than one of the three boilers (Boilers #1, #2 and #3) is operational, shall not exceed 30% opacity on a 6-minute block average except, for no more than two 6-minute block averages in a 3-hour period.

C. Emergency Diesel Generators

CMMC currently utilizes three emergency diesel generators, designated Emergency Generators #1, #2 and #3, to provide power to vital electrical systems at CMMC during periods of emergency. Each generator exhausts to its own stack. As previously licensed, the emergency generators shall be restricted to firing low sulfur diesel fuel with a sulfur content of no greater than 0.05% sulfur by weight.

CMMC is limited to operating the emergency diesel generator units no greater than 500 hours per year each based on a twelve-month rolling total. In addition, the emergency diesel generator units will be operated only when normal testing procedures, as recommended by the manufacturer, are being performed or in case of an emergency as defined in Chapter 100 of the Department Regulations. In order to demonstrate compliance with the hours of operation restrictions, CMMC shall continue to maintain and operate hour meters on each generator unit. CMMC shall maintain a log of emergency diesel generator unit operations in which entries of the dates, times, hour meter reading and reason of operation for the generator shall be kept.

A summary of the BPT analysis for Emergency Diesel Generators #1, #2 and #3 is as follows:

1. The PM/PM₁₀ limits are derived from Chapter 103.
2. SO₂, NO_x, CO and VOC emission limits are based upon AP-42 data dated 10/96 for diesel engines of greater than 600 HP.
3. Visible emissions from each diesel stack shall not exceed 30% opacity on a 6-minute block average except, for no more than two 6-minute block averages in a 3-hour period.

D. Annual Emission Restrictions

CMMC shall be assessed fees based on the following annual emissions, based on a twelve-month rolling total:

Pollutant	Tons/Year		
	Boilers #1, #2 and #3	Emergency Diesels #1, #2 and #3	Total
PM	6.7	0.8	7.5
PM ₁₀	6.7	0.8	7.5
SO ₂	44.0	0.3	44.3
NO _x	22.0	21.9	43.9
CO	2.0	5.8	7.8
VOC	0.5	2.4	2.9

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, CMMC is below the emissions level required for modeling and monitoring.

Central Maine Medical Center)
Androscoggin County)
Lewiston, Maine)
A-387-71-I-R/A 6

Departmental
Findings of Fact and Order
Air Emission 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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-387-71-I-R/A subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License 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 MRSA §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. [MEDEP Chapter 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. [MEDEP Chapter 115]

Central Maine Medical Center)
Androscoggin County)
Lewiston, Maine)
A-387-71-I-R/A 7

Departmental
Findings of Fact and Order
Air Emission License

- (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. [MEDEP Chapter 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 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. [MEDEP Chapter 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. 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
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
[MEDEP Chapter 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:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) 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

(iii)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.
[MEDEP Chapter 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. [MEDEP Chapter 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 emission 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. [MEDEP Chapter 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. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

- (16) Boilers #1, #2 and #3
- A. CMMC shall be restricted to firing a combined total of no greater than 800,000 gallons per year of #6 fuel oil in the facility's boilers, based on a twelve-month rolling total. [MEDEP Chapter 115, BPT]
- B. CMMC shall be restricted to firing only #6 fuel oil with a sulfur content of no greater than 0.7% sulfur by weight in the facility's boilers. [MEDEP Chapter 115, BPT]
- C. CMMC shall be restricted to firing a combined total of no greater than 40 million scf per year of natural gas in Boiler #3 based on a twelve-month rolling total. [MEDEP Chapter 115, BPT]

- D. CMMC shall maintain a record of fuel use for the boilers, which shall include fuel purchase receipts indicating the quantity of fuel purchased and supplier certification indicating sulfur content of the purchased fuel. The fuel record shall be maintained on a monthly as well as the twelve-month rolling total basis. [MEDEP Chapter 115, BPT]
- E. CMMC shall limit the firing rate in Boilers #1, #2 and #3 such that the combined firing rate of the three boilers does not exceed 200 gal/hr based on a 3-hour rolling average. Compliance with this limit shall be demonstrated through the use of fuel flow meters that monitor the fuel firing rate to each of the three boilers. [MEDEP Chapter 115, BPT]
- F. Emissions from Boilers #1, #2 and #3 each shall not exceed the following:

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler #1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	3.2	3.2	19.8	9.9	0.9	0.2
Boiler #2	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	3.2	3.2	19.8	9.9	0.9	0.2
Boiler #3	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	1.1	1.1	6.6	3.3	0.3	0.07

[MEDEP Chapter 115]

G. Visible Emissions

- a. Visible emissions from stack #1, during periods when only one of the three boilers (Boilers #1, #2 and #3) is operational, shall not exceed 20% opacity on a 6-minute block average except, for no more than one 6-minute block average in a 3-hour period. [MEDEP Chapter 101]
- b. Visible emissions from stack #1, during periods when more than one of the three boilers (Boilers #1, #2 and #3) is operational, shall not exceed 30% opacity on a 6-minute block average except, for no more than two 6-minute block averages in a 3-hour period. [MEDEP Chapter 101]

(17) Emergency Diesel Generators

- A. CMMC shall fire only diesel fuel oil with a maximum sulfur content of 0.05% by weight in the emergency diesel generators. Compliance shall be based on fuel receipts from the supplier showing the quantity of fuel delivered and supplier certification indicating sulfur content of the purchased fuel. [MEDEP Chapter 115, BPT]

- B. The emergency diesel generators shall each be limited to 500 hours per year of operation, based on a twelve-month rolling total. CMMC shall continue to maintain and operate hour meters on each of the emergency diesel generators. [MEDEP Chapter 115, BPT]
- C. The emergency diesel generators shall be operated only when normal testing procedures, as recommended by the manufacturer, are being performed or in case of an emergency as defined in Chapter 100 of the Department Regulations. [MEDEP Chapter 115, BPT]
- D. A log documenting the dates, times, meter readings and reason of operation for each emergency diesel generator shall be kept. The log shall include receipts from the fuel oil supplier and supplier certification indicating fuel oil sulfur content. [MEDEP Chapter 115, BPT]
- E. Emissions from the emergency diesel generators shall not exceed the following:

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Emergency Generator #1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.8	0.8	0.3	21.9	5.8	2.4
Emergency Generator #2	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.7	0.7	0.3	18.7	5.0	2.0
Emergency Generator #3	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	1.8	1.8	0.7	46.8	12.4	5.1

[MEDEP Chapter 115]

- F. Visible emissions from each emergency diesel generator stack shall not exceed 30% opacity on a 6-minute block average except, for no more than two 6-minute block averages in a 3-hour period. [MEDEP Chapter 101]
- (18) CMMC 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 (Title 38 MRSA §605-C).

Central Maine Medical Center)
Androscoggin County)
Lewiston, Maine)
A-387-71-I-R/A 12

**Departmental
Findings of Fact and Order
Air Emission License**

- (19) CMMC shall pay the annual air emission license fee within 31 days of January 31 of each year. Pursuant to 38 MRSA 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for the revocation of the license under 38 MRSA 341-D, Subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

The term of this Order shall be for five (5) years from the signature above.

Date of initial receipt of application: **June 26, 2006**

Date of application acceptance: **June 28, 2006**

Date filed with the Board of Environmental Protection: _____

This Order prepared by, Peter G. Carleton, Bureau of Air Quality