



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

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COMMISSIONER

**City of Biddeford
Biddeford Middle School
York County
Biddeford, Maine
A-926-71-B-R/A**

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

After review of the air emissions license 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

The City of Biddeford; Biddeford Middle School (BMS) located in Biddeford, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational facility.

BMS has also requested to add one boiler and one emergency generator to their Air Emission License.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type</u>	<u>Stack #</u>
Boiler #1	4.2	4,156 scf/hr	natural gas	1
Boiler #2	6.0	5,882 scf/hr	natural gas	2
Boiler #3	6.0	5,882 scf/hr	natural gas	2
*Boiler #4	4.2	4,156 scf/hr	natural gas	1
*Emergency Generator	4.8	34.6 gal/hr	Diesel @ 15 ppm S	3

* Indicates new equipment

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C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. This application is determined to be a renewal including a minor modification 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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

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 CMR 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

Boilers #1, #2, #3 and #4 are used for facility heating and hot water needs.

All four boilers have maximum heat inputs less than 10 MMBtu/hr and therefore are not subject to the New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989. As the boilers are classified as gas-fired boilers, the boilers are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart JJJJJ, for area source industrial, commercial, and institutional boilers, per 40 CFR Part 63.11195.

A summary of the BPT and BACT analysis for Boilers #1, #2, #3 and #4 is the following:

1. BMS shall fire only natural gas in the boilers.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (as amended) regulates PM emission limits. However, a PM emission limit of 0.05 lb/MMBtu is more stringent and shall be considered BPT for Boilers #1, #2, and #3 and BACT for Boiler #4. The PM₁₀ limits are derived from the PM limits.
3. *Low Sulfur Fuel*, 06-096 CMR 106 (as amended) regulates fuel sulfur content. However the use of natural gas is more stringent and shall be considered BPT for Boilers #1, #2, and #3 and BACT for Boiler #4.
4. SO₂, NO_x, CO, and VOC emission limits are based upon AP-42 data dated 7/98.
5. Visible emissions from the boilers shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

C. Emergency Generator

BMS proposes to install one emergency generator rated at 4.8 MMBtu/hr firing diesel fuel. The generator is subject to New Source Performance Standards (NSPS) 40 CFR, Part 60, Subprt IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. The generator is also subject to the NESHAP 40 CFR, Part 63, Subpart ZZZZ, however, meeting the requirements of the NSPS also satisfies the requirements of the NESHAP per 40 CFR Part 63.6590(b)(3)(iii).

Emergency Generator is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

The BACT emission limits for the generator is based on the following:

1. The generator shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm.
2. The generator shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. The generator shall be limited to 500 hours per

year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.

3. The generator shall be equipped with a non-resettable hour meter.
4. 06-096 CMR 103 (as amended) regulates PM emission limits. However, the manufacturer provided not-to-exceed emission rate of 0.021 lb/MMBtu (0.1 lb/hr) is more stringent and shall be considered BACT. The PM₁₀ limits are derived from the PM limits.
5. NO_x, CO, and VOC emission limits are based manufacturer not-to-exceed data.
6. BMS shall operate and maintain the generator in accordance with the manufacturer's written instructions. BMS shall not change settings that are not approved in writing by the manufacturer.
7. Visible emissions from the generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Annual Emissions

1. Annual emissions for the boilers are based on continuous operation.
2. Emissions from the generator are based on 500 hours of operation on a calendar year basis.
3. BMS shall be restricted to the following annual emissions, based on a calendar year basis:

Total Licensed Annual Emission for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers	3.75	3.75	0.04	7.36	6.18	0.40
Generator	0.03	0.03	0.01	1.32	0.19	0.04
Total TPY	3.78	3.78	0.05	8.68	6.37	0.44

III. AMBIENT AIR QUALITY ANALYSIS

According to the 06-096 CMR 115 (as amended), the level of air quality analyses required for a minor source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

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-926-71-B-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 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

- C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility 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 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect 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.
[06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall

prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Boilers

A. BMS shall fire only natural gas in Boilers #1, #2, #3 and #4.
[06-096 CMR 115, BPT, BACT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.05	MEDEP Chapter 115, BPT
Boiler #2	PM	0.05	MEDEP Chapter 115, BPT
Boiler #3	PM	0.05	MEDEP Chapter 115, BPT
Boiler #4	PM	0.05	MEDEP Chapter 115, BACT

C. Emissions shall not exceed the following [06-096 CMR 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)
Boiler #1	0.21	0.21	0.01	0.42	0.35	0.02
Boiler #2	0.30	0.30	0.01	0.59	0.49	0.03
Boiler #3	0.30	0.30	0.01	0.59	0.49	0.03
Boiler #4	0.21	0.21	0.01	0.42	0.35	0.02

D. Visible emissions from Boilers #1, #2, #3, and #4 shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.
[06-096 CMR 101]

(17) Emergency Generator

A. The generator is limited to 500 hours per year total operation, on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115, BACT]

B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Generator	PM	0.021	06-096 CMR 103(2)(B)(1)(a), BACT

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

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Emergency Generator	0.10	0.10	0.01	5.27	0.75	0.04

D. Visible emissions from the generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

E. The Emergency Generator shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. The generator shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]
2. The diesel fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur). 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 CFR §60.4207(b) and 06-096 CMR 115]
3. A non-resettable hour meter shall be installed and operated on the generator. [40 CFR §60.4209(a)]
4. The generator shall be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). These limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]
5. The generators shall be operated and maintained according to the manufacturer's written instructions or procedures developed by BMS that are approved by the engine manufacturer. BMS may only change those settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

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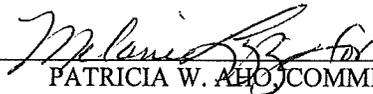
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- (18) BMS shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF November, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:


PATRICIA W. AHO, COMMISSIONER

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/29/2010

Date of application acceptance: 8/17/2010

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality.

