



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**MSAD #49 – Lawrence Junior-Senior High School
Somerset County
Fairfield, Maine
A-502-71-G-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

After review of the air emissions license amendment 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., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Maine School Administrative District #49 – Lawrence Junior-Senior High School (Lawrence High School) was issued Air Emission License A-502-71-F-R on 19 February 2009, permitting the operation of emission sources associated with their school facility.
2. The equipment addressed in this license is located at 9 School Street, Fairfield, Maine.
3. Lawrence High School has requested an amendment to their license in order to replace existing Boiler #1 with two new sectional boilers, to be designated Boiler #1 and Boiler #2. Existing Boiler #2 will be re-designated Boiler #3.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1 (new)	2.25	18.8	#2 fuel oil, 0.5%S	1
Boiler #2 (new)	2.25	18.8	#2 fuel oil, 0.5%S	1
Boiler #3 (existing)	8.37	60.0	#2 fuel oil, 0.5%S	1

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1235 CENTRAL DRIVE, SKYWAY PARK
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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. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	1.26	1.26	0	100
PM ₁₀	1.26	1.26	0	100
SO ₂	5.29	5.29	0	100
NO _x	3.78	3.78	0	100
CO	0.38	0.38	0	100
VOC	0.03	0.03	0	50

This modification is determined to be 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 (last amended December 24, 2005). 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 (last amended December 24, 2005). 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 #1, #2 and #3

New Boilers #1 and #2 are both HB Smith Model LO28HES9, with Carlin 1050 FFD #2 oil burners, employing CCT 60200 CAD Cell Flame Safeguard Units. Both boilers have heat input capacities of 2.25 MMBtu/hr and were manufactured and installed in 2009. Because both boilers have a heat input capacity of 2.25 MMBtu/hr, they each are **not** subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

Existing Boiler #3 was manufactured and installed in 1994 and has a heat input capacity of 8.37 MMBtu/hr; therefore Boiler #3 is **not** subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989

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

1. The total fuel use for the facility shall not exceed 150,000 gallons per year of ASTM D396 compliant #2 fuel oil, with a maximum sulfur content not to exceed 0.5% by weight, based on a 12 month rolling total.
2. The SO₂ emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
3. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
4. NO_x emission limits for Boilers #1 and #2 are based on AP-42 dated 9/98. NO_x emission limits for Boiler #3 are based on data from similar #2 oil fired boilers of this size and age.

5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
6. Visible emissions from the common stack serving Boilers #1, #2 and #3 shall not exceed 20% 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. Annual Emissions

Lawrence High School shall be restricted to the following annual emissions, based on a 12 month rolling total:

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers 1, 2 & 3	1.26	1.26	5.29	3.78	0.38	0.03
Total TPY	1.3	1.3	5.3	3.8	0.4	0.1

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, 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-502-71-G-A subject to the conditions found in Air Emission License A-502-71-F-R, and in the following conditions:

The following condition shall replace Specific Condition (16) in Air Emission License A-502-71-F-R:

SPECIFIC CONDITIONS

(16) Boilers #1 , #2 and #3

A. Total fuel use for the facility shall not exceed 150,000 gallons per year of ASTM D396 complaint #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight. Compliance shall be demonstrated by fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions from Boiler #3 shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions from Boilers #1, #2 and #3 (each) shall not exceed the following [06-096 CMR 115, BPT]:

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 & #2	0.27	0.27	1.13	0.32	0.08	0.01
Boiler #3	1.00	1.00	4.21	3.01	0.30	0.02

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D. Visible emissions from the common stack serving Boilers #1, #2 and #3 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]

DONE AND DATED IN AUGUSTA, MAINE THIS *10th* DAY OF *September*, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Brooks Jr.*

DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-502-71-F-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/20/2009

Date of application acceptance: 3/30/2009

Date filed with the Board of Environmental Protection: _____

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.

