



DEPARTMENT ORDER

**Maine Maritime Academy  
Hancock County  
Castine, Maine  
A-78-71-O-A (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

Maine Maritime Academy (MMA) was issued Air Emission License A-78-71-M-R/A on July 24, 2014, for the operation of emission sources associated with their educational facility. The license was subsequently amended on January 30, 2015 (A-78-71-N-A).

MMA has requested an amendment to their license in order to make the following changes:

1. Replace Andrews Boiler #1;
2. Correct the classification of Dismukes Boilers #1 and #2;
3. Correct the installation date of Curtis Boiler #1A; and
4. Install an Engine Test Cell.

The equipment addressed in this license amendment is located at 1 Pleasant Street, Castine, Maine.

B. Emission Equipment

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

**Boilers**

<b>Equipment</b>	<b>Max. Capacity (MMBtu/hr)</b>	<b>Maximum Firing Rate (gal/hr)</b>	<b>Fuel Type, % sulfur</b>	<b>Date of Manuf.</b>	<b>Date of Install.</b>	<b>Stack #</b>
Andrews Boiler #1*	4.2	30.6	Distillate fuel, 0.5%	2015	2016	5
Dismukes Boiler #1	1.3	12.2	Distillate fuel, 0.5%	2011	2011	3
Dismukes Boiler #2	1.3	12.2	Distillate fuel, 0.5%	2011	2011	3
Curtis Boiler #1A	3.4	30.0	Distillate fuel, 0.5%	2014	2015**	2

\*This equipment replaces the previous "Andrews Boiler #1."

\*\*MMA requested that the Date of Installation for Curtis Boiler #1A be corrected.

In addition to the equipment listed above, MMA has requested the installation of an Engine Test Cell to test a variety of engines ranging in size between 10 kW and approximately 1,000 kW. This process will be described in more detail in the Best Practical Treatment section of this 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.

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.

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. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	4.3	13.3	+9.0	100
PM <sub>10</sub>	4.3	13.3	+9.0	100
SO <sub>2</sub>	17.7	87.7	+70.0	100
NO <sub>x</sub>	6.9	56.9	+50.0	100
CO	3.0	18.0	+15.0	100
VOC	0.6	3.6	+3.0	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 C.M.R. ch. 100. 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. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### B. Dismukes Boilers #1 and #2

In previous license A-78-71-M-R/A, Dismukes Boilers #1 and #2 were incorrectly determined to be subject to *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ. The Dismukes Boilers #1 and #2 are hot water heaters each less than 1.6 MMBtu/hr and are therefore not subject to 40 C.F.R. Part 63, Subpart JJJJJ. The Order section has been revised accordingly.

C. Andrews Boiler #1

MMA has replaced the previously licensed Andrews Boiler #1 with a new boiler with the same name. The new Andrews Boiler #1 is rated at 4.2 MMBtu/hr and fires distillate fuel.

1. BACT Findings

The BACT emission limits for Andrews Boiler #1 were based on the following:

- PM/PM<sub>10</sub> – 0.08 lb/MMBtu based on 06-096 C.M.R. ch. 115, BPT
- SO<sub>2</sub> – based on firing distillate fuel with a maximum sulfur content of 0.5% by weight
- NO<sub>x</sub> – 20 lb/1000 gal based on AP-42 Table 1.3-1 dated 5/10
- CO – 5 lb/1000 gal based on AP-42 Table 1.3-1 dated 5/10
- VOC – 0.34 lb/1000 gal based on AP-42 Table 1.3-3 dated 5/10
- Visible Emissions – 06-096 C.M.R. ch. 115, BPT

The BACT emission limits for Andrews Boiler #1 are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Andrews Boiler #1	PM	0.08

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Andrews Boiler #1	0.33	0.33	2.11	0.60	0.15	0.01

Visible emissions from the boiler shall not exceed 20% opacity on a six-minute block average basis.

MMA shall be limited to a facility-wide fuel use in the boilers of 500,000 gallons of distillate fuel on a 12-month rolling total basis. MMA shall keep records (e.g. fuel receipts) to document fuel use, both on a monthly and 12-month rolling total basis. Records shall include the type of fuel used and the sulfur content of the fuel.

Fuel Sulfur Content Requirements

MMA's boilers 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 distillate fuel purchased or otherwise obtained for use in MMA's boilers shall not exceed 0.0015% by weight (15 ppm).

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

Due to its size, Andrews Boiler #1 is not subject to *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 JJJJJ

Andrews Boiler #1 is 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 JJJJJ. The unit is considered a new boiler rated less than 10 MMBtu/hr. [40 C.F.R. §§ 63.11193 and 63.11195]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart JJJJJ requirements is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, MMA is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

(1) Initial Notification of Compliance

MMA submitted their Initial Notification to EPA on February 19, 2016.

(2) Boiler Tune-Up Program

(i) A boiler tune-up program shall be implemented. [40 C.F.R. § 63.11223]

(ii) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

<b>Boiler Category</b>	<b>Tune-Up Frequency</b>
<b>New and Existing Oil-fired Boilers with Less Frequent Tune-up Requirements</b>	
Oil fired boilers with a heat input capacity of $\leq$ 5MMBtu/hr	Every 5 years

[40 C.F.R. § 63.11223(a) and Table 2]

(iii) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 C.F.R. § 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 C.F.R. § 63.11223(b)(7)]

(iv) Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

1. The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
2. A description of any corrective actions taken as part of the tune-up of the boiler; and
3. The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

(3) Compliance Report

A compliance report shall be prepared by March 1<sup>st</sup> every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following: [40 C.F.R. § 63.11225(b)]

- (i) Company name and address;
- (ii) A statement of whether the source has complied with all the relevant requirements of this Subpart;
- (iii) A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
- (iv) The following certifications, as applicable:
  1. "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
  2. "No secondary materials that are solid waste were combusted in any affected unit."
  3. "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:

- (1) Copies of notifications and reports with supporting compliance documentation;
- (2) Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
- (3) Records of the occurrence and duration of each malfunction of each applicable boiler; and
- (4) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review.  
[40 C.F.R. § 63.11225(a)(4)(vi)]

D. Engine Test Cell

MMA has proposed the operation of an Engine Test Cell in their lab located in Andrews Hall. The Engine Test Cell will be used to test a variety of marine engines, primarily compression ignition, ranging in size from 10 kW to approximately 1,000 kW.

MMA will use the lab and Engine Test Cell to perform research and emissions testing for the purposes of new technology development in the area of novel combustion systems or advanced combustion strategies and to demonstrate the effectiveness of emerging technologies for the industry. The engines MMA will test are intended for use on board vessels either as propulsion engines, generators, or in some instances, both. The engines being tested are not installed in, or an integrated part of, the final product. To be operated in the Engine Test Cell, all engines require lab infrastructure, such as but not limited to, cooling water, an exhaust system, a fuel system, gauges, and other control systems. In some instances the engines may remain in the Engine Test Cell for testing over an extended period of time.

1. BACT Findings

Due to the variability of the engines to be operated in the Engine Test Cell, it is not possible to assign short-term emission limits. MMA intends to operate the Engine Test Cell with a variety of engine sizes, operating loads, fuels, and fuel sulfur contents (including sulfur contents in excess of what would classify the fuel as distillate fuel). However, the nature of the testing will provide MMA with a wealth of data concerning actual emissions from this equipment. Therefore, BACT for the Engine Test Cell has been determined to be the following annual emission limits based on a 12-month rolling total:

<b>Pollutant</b>	<b>Ton/Year</b>
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	9.0
SO <sub>2</sub>	70.0
NO <sub>x</sub>	50.0
CO	15.0
VOC	3.0

In addition, BACT shall include the Engine Test Cell exhausting through a stack that is 40 feet above ground level.

Visible emissions from the Engine Test Cell shall not exceed 30% opacity on a six-minute block average basis, except for no more than two (2) six-minute block averages in a 3-hour period, during which time visible emissions shall not exceed 50% opacity.



2. Periodic Monitoring

Periodic monitoring for the Engine Test Cell shall include the following recordkeeping:

- a. Amount of each fuel fired on a monthly and 12-month rolling total basis
- b. Sulfur content of each fuel fired
- c. Monthly and 12-month rolling total emissions of PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC including the basis for these emissions calculations.

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

Engines operated in test cells are specifically exempted from *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 C.F.R. Part 60, Subpart IIII per § 60.4200(b).

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subparts ZZZZ and PPPPP

In a letter dated March 30, 2016, EPA determined that the Engine Test Cell proposed by MMA would not be subject to *National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands*, 40 C.F.R. Part 63, Subpart PPPPP. This subpart applies to owners or operators of engine test cells/stands at a major source of hazardous air pollutants (HAP). EPA determined that so long as MMA is subject to license restrictions limiting them to area source level of HAP, MMA's proposed Engine Test Cell would not be subject to 40 C.F.R. Part 63, Subpart PPPPP. MMA has accepted such a restriction.

In a letter dated March 30, 2016, EPA determined that the Engine Test Cell proposed by MMA would not be subject to *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. This subpart applies to stationary engines at both major and area sources of HAP unless the engine is being tested in an engine test cell/stand as defined by 40 C.F.R. Part 63, Subpart PPPPP. EPA determined that because the engines will be tested in an engine test cell/stand as defined by 40 C.F.R. Part 63, Subpart PPPPP, the engines being tested would not be subject to 40 C.F.R. Part 63, Subpart ZZZZ.

E. Annual Emissions

1. Total Annual Emissions

MMA shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year were calculated based on the following:

- Firing of 500,000 gal/year of distillate fuel in the boilers;
- Operating the emergency generators for 100 hr/year each; and
- Annual emission limits for the Engine Test Cell.

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

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers	4.2	4.2	4.2	17.6	5.0	1.3	0.1
Emergency Generators	0.1	0.1	0.1	0.1	1.9	1.7	0.5
Engine Test Cell	9.0	9.0	9.0	70.0	50.0	15.0	3.0
<b>Total TPY</b>	<b>13.3</b>	<b>13.3</b>	<b>13.3</b>	<b>87.7</b>	<b>56.9</b>	<b>18.0</b>	<b>3.6</b>

<b>Pollutant</b>	<b>Tons/year</b>
Single HAP	9.9
Total HAP	24.9

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, 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<sub>2</sub>e).

The quantity of CO<sub>2</sub>e emissions from this facility are expected to be less than 100,000 tons per year. 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:

<b>Pollutant</b>	<b>Tons/Year</b>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	50
CO	250

The total annual licensed emissions for the facility are above at least one of the emission levels contained in the table above; however, after taking into consideration the following factors:

- similarity with other licensed sources based on size, emissions, and local topography;
- location, including proximity to other sources, complex terrain and Class I areas; and
- background air quality data available in or representative of the local area.

The Department has determined that an ambient air quality impact analysis is not required for the facility and that Ambient Air Quality Standards (AAQS) will not be exceeded.

### 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-78-71-O-A subject to the conditions found in Air Emission License A-78-71-M-R/A, in amendment A-78-71-N-A, and the following conditions.

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.

The following shall replace Condition (16) of Air Emission License A-78-71-M-R/A:

(16) **Boilers**

A. Fuel

1. Total fuel use for MMA's boilers shall not exceed 500,000 gal/yr of distillate fuel, based on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]
2. Prior to July 1, 2018, the boilers shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 C.M.R. ch. 115, BPT/BACT]
3. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel for use in the boilers with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 106]
4. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

<u>Emission Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Curtis Boiler #1A	PM	0.08	06-096 C.M.R. ch. 115, BPT
Curtis Boiler #2A	PM	0.08	06-096 C.M.R. ch. 115, BPT
Curtis Boiler #3A	PM	0.08	06-096 C.M.R. ch. 115, BPT
Dismukes Boiler #1	PM	0.12	06-096 C.M.R. ch. 115, BPT
Dismukes Boiler #2	PM	0.12	06-096 C.M.R. ch. 115, BPT
Andrews Boiler #1	PM	0.08	06-096 C.M.R. ch. 115, BACT
Andrews Boiler #2	PM	0.08	06-096 C.M.R. ch. 115, BPT
Student Union #1	PM	0.12	06-096 C.M.R. ch. 115, BPT
Student Union #2	PM	0.12	06-096 C.M.R. ch. 115, BPT
Library Boiler #1A	PM	0.08	06-096 C.M.R. ch. 115, BPT
Library Boiler #2A	PM	0.08	06-096 C.M.R. ch. 115, BPT

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

<u>Emission Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Curtis Boiler #1A	0.27	0.27	1.71	0.49	0.12	0.01
Curtis Boiler #2A	0.27	0.27	1.71	0.49	0.12	0.01
Curtis Boiler #3A	0.27	0.27	1.71	0.49	0.12	0.01
Dismukes Boiler #1	0.16	0.16	0.65	0.19	0.05	0.01
Dismukes Boiler #2	0.16	0.16	0.65	0.19	0.05	0.01
Andrews Boiler #1	0.33	0.33	2.11	0.60	0.15	0.01

<b>Emission Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Andrews Boiler #2	0.27	0.27	0.71	0.49	0.12	0.01
Student Union #1	0.34	0.34	1.41	0.40	0.10	0.01
Student Union #2	0.34	0.34	1.41	0.40	0.10	0.01
Library Boiler #1A	0.14	0.14	0.91	0.26	0.06	0.01
Library Boiler #2A	0.14	0.14	0.91	0.26	0.06	0.01

- D. Visible emissions from each boiler stack shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]
- E. Boiler MACT (40 C.F.R. Part 63, Subpart JJJJJ)  
[incorporated under 06-096 C.M.R. ch. 115, BPT]

The following requirements apply to Curtis Boilers #1A, #2A, and #3A, Andrews Boilers #1 and #2, Student Union #1 and #2, and the Library Boilers #1A and #2A.

1. The facility shall implement a boiler tune-up program. [40 C.F.R. § 63.11223]
  - a. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

<b>Boiler Category</b>	<b>Tune-Up Frequency</b>
<b>New and Existing Oil-fired Boilers with Less Frequent Tune-up Requirements</b>	
Oil fired boilers with a heat input capacity of ≤5MMBtu/hr	Every 5 years

[40 C.F.R. § 63.11223(a) and Table 2]

- b. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
  - (1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(1)]
  - (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]
  - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection for oil fired boilers less than or equal to 5 MMBtu/hour. [40 C.F.R. § 63.11223(b)(3)]

- (4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
- (5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.  
[40 C.F.R. § 63.11223(b)(5)]
- (6) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up.  
[40 C.F.R. § 63.11223(b)(7)]

c. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

- (1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
- (2) A description of any corrective actions taken as part of the tune-up of the boiler; and
- (3) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [40 C.F.R. § 63.11223(b)(6)]

## 2. Compliance Report

A compliance report shall be prepared by March 1<sup>st</sup> every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in §§ 63.11225(b)(1) and (2), including the following:  
[40 C.F.R. § 63.11225(b)]

- a. Company name and address;
- b. A statement of whether the source has complied with all the relevant requirements of this Subpart;
- c. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature;
- d. The following certifications, as applicable:
  - (1) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
  - (2) "No secondary materials that are solid waste were combusted in any affected unit."

(3) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

3. Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJ including the following [40 C.F.R. § 63.11225(c)]:
  - a. Copies of notifications and reports with supporting compliance documentation;
  - b. Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
  - c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
  - d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review.

**The following are New Conditions:**

**(21) Engine Test Cell**

- A. Emissions from the Engine Test Cell shall not exceed the following on a 12-month rolling total basis [06-096 C.M.R. ch. 115, BACT]:

<b>Pollutant</b>	<b>Ton/Year</b>
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	9.0
SO <sub>2</sub>	70.0
NO <sub>x</sub>	50.0
CO	15.0
VOC	3.0

- B. Emissions from the Engine Test Cell shall exhaust through a 40-foot high stack. [06-096 C.M.R. ch. 115, BACT]
- C. Visible emissions from the Engine Test Cell shall not exceed 30% opacity on a six-minute block average basis, except for no more than two (2) six-minute block averages in a 3-hour period, during which time visible emissions shall not exceed 50% opacity. [06-096 C.M.R. ch. 115, BACT]

D. MMA shall keep the following records related to the Engine Test Cell [06-096 C.M.R. ch. 115, BACT]:

1. Amount of each fuel fired on a monthly and 12-month rolling total basis.
2. Sulfur content of each fuel fired.
3. Monthly and 12-month rolling total emissions of PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC including the basis for these emissions calculations.

(22) **Facility Wide HAP Limits**

Facility wide emissions of HAP shall not exceed 9.9 ton/year for any single HAP and 24.9 ton/year for all HAPs combined, based on a 12-month rolling total. Compliance shall be demonstrated by records of fuel use and calculations of HAP emissions either by use of standard emission factors or measured values as appropriate. [06-096 C.M.R. ch. 115, BACT]

(23) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 C.M.R. ch. 137, the licensee shall annually report to the Department, in a format prescribed by the Department, the information necessary to accurately update the State's emission inventory. The emission statement shall be submitted as specified by the date in 06-096 C.M.R. ch. 137.

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF January, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for  
PAUL MERCER, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-78-71-M-R/A.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 6/2/16

Date of application acceptance: 6/6/16

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

