



DEPARTMENT ORDER

The University of Maine System  
Franklin County  
Farmington, Maine  
A-603-71-N-A

Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #4

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

The University of Maine System's Farmington campus (UMF) was issued Air Emission License A-603-71-I-R/A on January 31, 2013, for the operation of emission sources associated with their educational facility. The license was subsequently amended on May 18, 2015 (A-603-71-J-A) to add Boiler #1, on April 6, 2017 (A-603-71-K-A) to correct licensed equipment and remove two small boilers, and on April 22, 2020 (A-603-71-L-A) to remove two boilers and a parts washer and to add an emergency generator.

The equipment addressed in this license amendment is located at The University of Maine System's Farmington Campus, Farmington, Maine.

UMF has requested an amendment to their license in order to add a new biomass fired boiler and to increase the annual biomass firing limit to more accurately reflect the moisture content of the fuel being used.

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	Date of Manuf.	Date of Install.	Stack #
Boiler #1	20.9	2.43 ton/hr*	Biomass	2015	2015	1
		231 gal/hr	Propane			
Boiler #2**	9.9	1.15 ton/hr	Biomass	2023	2023	2

\*Value updated to reflect typical biomass moisture content of 50% by weight.

\*\*New to license.

C. Definitions

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings). This definition also includes wood chips and processed pellets made from wood or other forest residues. Inclusion in this definition does not constitute a determination that the material is not considered a solid waste. UMF should consult with the Department before adding any new biomass type to its fuel mix.

Records or Logs mean either hardcopy or electronic records.

D. Application Classification

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

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emissions” 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:

<b>Pollutant</b>	<b>Current License (tpy)</b>	<b>Future License (tpy)</b>	<b>Net Change (tpy)</b>	<b>Significant Emission Levels</b>
PM	6.1	10.7	4.6	100
PM <sub>10</sub>	6.1	10.7	4.6	100
PM <sub>2.5</sub>	6.1	10.7	4.6	100
SO <sub>2</sub>	21.8	21.9	0.1	100
NO <sub>x</sub>	15.1	16.2	1.1	100
CO	17.5	20.6	3.1	100
VOC	0.8	0.9	0.1	100

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.

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 and #2 Fuel Use

UMF has requested a combined fuel use limit for Boilers #1 and #2 of 6,600 ton/yr of biomass at 50% moisture, by weight. This is an increase from the previous facility-wide limit of 5,500 ton/yr. This is because the fuel that the facility is receiving typically has a heat content of 4,300 Btu/lb, whereas the calculations when Boiler #1 was initially licensed estimated a heat content of 5,160 Btu/lb. The tonnage increase will equate to the same total heat input as assumed with the previous fuel limit, and therefore will not result in an increase in emissions from Boiler #1. This license does not require an updated BACT analysis for Boiler #1 and does not change the BACT findings for Boiler #1. BACT for Boiler #2 is presented below.

The combined total amount of biomass fired in Boilers #1 and #2 shall not exceed the equivalent of 6,600 ton/yr (at 50% moisture) on a 12-month rolling total basis. Compliance shall be demonstrated by fuel records showing the quantity and type of the fuel delivered. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis.

C. Boiler #2

UMF intends to operate Boiler #2 to produce hot water for hydronic heating. Boiler #2 will operate during the summer months to reduce reliance on UMF's fossil-fuel fired auxiliary boilers, and during the heating season it will operate instead of Boiler #1 or share the load with Boiler #1 whenever possible. Boiler #2 is rated at 9.9 MMBtu/hr and will fire green, hardwood bole chips at approximately 45-50% moisture. Boiler #2 will be installed in 2023 and exhaust through its own stack, Stack #2.

1. BACT Findings

UMF submitted a BACT analysis for control of emissions from Boiler #2, summarized here.

a. Particulate Matter (PM, PM<sub>10</sub>, PM<sub>2.5</sub>)

UMF has proposed the use of a multiclone to control PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. PM collected in the multiclone will be primarily wood ash with very little unburned fuel value and will be collected in a barrel or hopper for disposal. Based on using green, hardwood bole chips, which burn cleaner than either dry fuel or green fuel containing more sawdust and bark, emissions are expected to be 0.22 lb/MMBtu for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> (this license conservatively assumes all PM emitted is less than 2.5 microns), based on AP-42 Table 1.6-1 (dated 4/2022).

A variety of control equipment systems were evaluated, and ultimately it was determined that the most appropriate control was the use of a multiclone for a boiler of this size burning primarily hardwood bole chips at 50% moisture.

Baghouses and fabric filters are technically feasible, but there is a high risk of fires which can destroy the bags due to smoldering particulates that may be carried over from the firebox. Although internal fire suppression systems are incorporated into the design, these are meant to preserve the baghouse shell and do not save the filters and other internal components that are considered expendable in the event of a fire. This results in lost time and expense, and in UMF's case would risk student safety if heating was lost due to a potential baghouse fire.

Electrostatic precipitators (ESPs) are technically feasible, but there is a significant increase in initial and ongoing costs associated with them. The boiler manufacturer determined that the capital cost for an ESP would increase the cost of the boiler by \$578,600 compared to the cost of the proposed multiclone system. Initial costs would include the ESP system and electrical components, support foundations, and a larger, more powerful induced draft (ID) fan to overcome the increased pressure drop of the ESP. Because of the high moisture content of the wood, the ESP would need to be relatively large compared to the size required for a boiler of similar size firing other fuel types, due to the electrostatic characteristics of the moist exhaust. Ongoing costs include electrical usage for the transformer/rectifier system to power the electrical fields, electrical heaters to prevent condensation and corrosion in the internal components, and increased power requirements for the ID fan compared to the proposed system. Based on an energy cost of \$0.2031/kw-hr (from the U.S. Energy Information Administration, average for Maine, February 2023), this results in an annual cost of \$13,344. Other ongoing costs include items such as increased fly ash disposal costs and replacement of the electrical insulators and moving parts such as the rapper systems on a routine basis. The annualized cost per ton of pollutant controlled by an ESP was calculated to be \$16,726.33/ton for PM. Therefore, an ESP is considered economically infeasible.

A wet scrubber or wet ESP have similar energy and capital cost drawbacks as noted above, in addition to significant additional environmental impacts and added cost due to waste water generation and management.

The Department finds that BACT for PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from Boiler #2 is the use of a multiclone, a combined fuel limit of 6,600 tons/yr of biomass at 50% moisture by weight fired in Boilers #1 and #2, and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO<sub>2</sub>)

UMF has proposed to fire only biomass in Boiler #2. The use of this fuel results in minimal emissions of SO<sub>2</sub>, and additional add-on pollution controls are not economically feasible.

The Department finds that BACT for SO<sub>2</sub> emissions from Boiler #2 is a combined fuel use limit of 6,600 ton/yr of biomass at 50% moisture by weight fired in Boilers #1 and #2 and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC)

Emissions of NO<sub>x</sub>, CO, and VOC will be minimized by optimizing the efficiency of the boiler system and ensuring good combustion practices consistent with boilers of similar design. The boiler will use an oxygen trim system to optimize combustion for these parameters. Additional control measures would not be economically feasible.

The Department finds that BACT for NO<sub>x</sub>, CO, and VOC emissions from Boiler #2 is the use of an oxygen trim system, good combustion practices, a combined fuel use limit of 6,600 ton/yr of biomass at 50% moisture by weight fired in Boilers #1 and #2, and the emission limits listed in the tables below.

d. Emission Limits

The BACT emission limits for Boiler #2 were based on the following:

Biomass

PM/PM <sub>10</sub> /PM <sub>2.5</sub>	– 0.22 lb/MMBtu based on AP-42 Table 1.6-1 dated 4/2022
SO <sub>2</sub>	– 0.025 lb/MMBtu based on AP-42 Table 1.6-2 dated 4/2022
NO <sub>x</sub>	– 0.22 lb/MMBtu based on AP-42 Table 1.6-2 dated 4/2022
CO	– 0.60 lb/MMBtu based on AP-42 Table 1.6-2 dated 4/2022
VOC	– 0.017 lb/MMBtu based on AP-42 Table 1.6-3 dated 4/2022
Visible Emissions	– 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Boiler #2 are the following:

Unit	Pollutant	lb/MMBtu
Boiler #2	PM	0.22

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	PM <sub>2.5</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #2 <i>biomass</i>	2.18	2.18	2.18	0.25	2.18	5.94	0.17

2. Visible Emissions

Visible emissions from Boiler #2 shall not exceed 30% opacity on a six-minute block average basis, except for periods of startup, shutdown, or malfunction during which time UMF must meet the normal operating visible emissions standard or the following alternative visible emissions standard:

During periods of startup, shutdown, or malfunction, visible emissions shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. For each time UMF elects to comply with this alternative emission standard for periods of startup, shutdown, or malfunction, UMF shall keep records sufficient to document the date, time, and duration of each event. These records shall be maintained for at least six years and provided to the Department upon request.

3. Periodic Monitoring

Periodic monitoring for Boiler #2 shall include recordkeeping to document fuel use both on a monthly and 12-month rolling total basis.

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

Due to the size, the boiler 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]

5. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJ

Boiler #2 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]

Applicable federal 40 C.F.R. Part 63, Subpart JJJJJ requirements include the following. Additional rule information can be found on the following website: <https://www.epa.gov/stationary-sources-air-pollution/compliance-industrial-commercial-and-institutional-area-source>.

a. Compliance Dates, Notifications, and Work Practice Requirements

(1) Initial Notification of Compliance

An Initial Notification submittal to EPA is due within 120 days after the source becomes subject to the standard. [40 C.F.R. § 63.11225(a)(2)]

(2) Boiler Tune-Up Program

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

(ii) Tune-ups 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>
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup.

[40 C.F.R. §§ 63.11223(a), 63.11223(c), 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, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [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, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [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, submitted to the Department and/or EPA upon request. 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/or 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

- (1) 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)]:
  - (i) Copies of notifications and reports with supporting compliance documentation;
  - (ii) Identification of each boiler, date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
  - (iii) Records of the occurrence and duration of each malfunction of each applicable boiler; and
  - (iv) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.
- (2) Records shall be in a form suitable and readily available for expeditious review. Each record must be kept for 5 years following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provides access at the site for at least 2 years after the date of each recorded action. The records may be maintained off-site for the remaining 3 years. [40 C.F.R. § 63.11225(d)] Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart JJJJJ shall be streamlined to the more stringent six-year requirement.

D. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- Firing 6,600 ton/yr of wood with a heating value of 4,300 Btu/lb at 50% moisture;
- Firing 600,000 gal/yr of distillate fuel in the facility’s boilers;
- Firing 500,000 gal/yr of propane in the facility’s boilers;
- Operating the Olsen Generator and the Front Street Generator for 100 hr/yr each.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

**Total Licensed Annual Emissions for the Facility**  
**Tons/year**

(used to calculate the annual license fee)

	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Wood	6.2	6.2	6.2	0.7	6.2	17.0	0.5
Distillate Fuel	3.4	3.4	3.4	21.2	6.0	1.5	0.1
Propane	1.1	1.1	1.1	--	3.3	1.9	0.3
Olsen Generator	--	--	--	--	0.2	0.1	--
Front Street Generator	--	--	--	--	0.5	0.1	--
<b>Total TPY</b>	<b>10.7</b>	<b>10.7</b>	<b>10.7</b>	<b>21.9</b>	<b>16.2</b>	<b>20.6</b>	<b>0.9</b>

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

**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:

Pollutant	Tons/Year
PM <sub>10</sub>	25
PM <sub>2.5</sub>	15
SO <sub>2</sub>	50
NO <sub>x</sub>	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license amendment.

This determination is based on information provided by the applicant regarding the expected construction and operation of the proposed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.)

deviates from what was included in the application, the Department may require UMF to submit additional information and may require an ambient air quality impact analysis at that time.

### **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-603-71-N-A subject to the conditions found in Air Emission License A-603-71-I-R/A, in amendments A-603-71-J-A, A-603-71-K-A, and A-603-71-L-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.

### **SPECIFIC CONDITIONS**

**Condition (19)A. of Air Emission License A-603-71-J-A is deleted.**

**The following are new conditions:**

**(21) Boiler #1 and Boiler #2 Fuel Use**

- A. The combined total amount of wood fired in Boilers #1 and #2 shall not exceed the equivalent of 6,600 ton/yr (at 50% moisture) on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT/BPT]
- B. The propane fired in Boiler #1 shall be counted toward the facility-wide propane fuel limit of 500,000 gal/yr on a 12-month rolling total basis as established in Condition (16)B. of Air Emission License A-603-71-J-A (issued 5/18/2015). [06-096 C.M.R. ch. 115, BPT]
- C. Compliance shall be demonstrated by fuel records showing the quantity and type 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, BACT/BPT]

(22) **Boiler #2**

A. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #2	PM	0.22	06-096 C.M.R. ch. 115, BACT

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

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	PM <sub>2.5</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #2	2.18	2.18	2.18	0.25	2.18	5.94	0.17

C. Visible emissions from Boiler #2 shall not exceed 30% opacity on a six-minute block average basis, except for periods of startup, shutdown, or malfunction during which time UMF must meet the normal operating visible emissions standard or the following alternative visible emissions standard:

During periods of startup, shutdown, or malfunction, visible emissions shall not exceed 40% opacity on a six-minute block average basis. This alternative visible emissions standard shall not be utilized for more than two hours (20 consecutive six-minute block averages) per event. For each time UMF elects to comply with this alternative emission standard for periods of startup, shutdown, or malfunction, UMF shall keep records sufficient to document the date, time, and duration of each event. These records shall be maintained for at least six years and provided to the Department upon request.

[06-096 C.M.R. ch. 115, BACT]

D. UMF shall comply with all requirements of 40 C.F.R. Part 63, Subpart JJJJJ applicable to Boiler #2 including, but not limited to, the following:  
[incorporated under 06-096 C.M.R. ch. 115, BACT]

1. An Initial Notification submittal to EPA is due within 120 days after the source becomes subject to the standard. [40 C.F.R. § 63.11225(a)(2)]

2. 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>
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 C.F.R. § 63.11223(a) and Table 2]

Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. [40 C.F.R. § 63.11223(c)]

- 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, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [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, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [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 submitted to the Department and EPA upon request. 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/or 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."

4. Recordkeeping

- a. 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, 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.
  
- b. Records shall be in a form suitable and readily available for expeditious review. Each record must be kept for 5 years following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provides access at the site for at least 2 years after the date of each recorded action. The records may be maintained off-site for the remaining 3 years. [40 C.F.R. § 63.11225(d)] Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart JJJJJ shall be streamlined to the more stringent six-year requirement.

- (23) If the Department determines that any parameter value pertaining to construction and operation of the proposed emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, UMF may be required to submit additional information. Upon written request from the Department, UMF shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter.  
[06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 6<sup>th</sup> DAY OF OCTOBER, 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_ for  
MELANIE LOYZIM, COMMISSIONER

**The term of this license amendment shall be concurrent with Air Emission License A-603-71-I-R/A (issued 1/31/2013).**

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 17, 2023

Date of application acceptance: May 19, 2023

Date filed with the Board of Environmental Protection:

This Order prepared by Benjamin Goundie, Bureau of Air Quality.

