



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Maine School Administrative District  
44 (MSAD 44)  
Oxford County  
Bethel, Maine  
A-1105-71-A-N**

**Departmental  
Findings of Fact and Order  
Air Emission License  
After-the-Fact**

**FINDINGS OF FACT**

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 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

Maine School Administrative District 44 (MSAD 44) has applied for an Air Emission License permitting the operation of emission sources associated with their Telstar Middle School and High School facility. Two existing distillate fuel fired boilers and one existing Emergency Generator are being licensed, in addition to a proposed new wood pellet boiler.

The equipment addressed in this license is located at 284 Walkers Mills Road, Bethel, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143

**Boilers**

<u>Equipment</u>	<u>Maximum Input Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type</u>	<u>Date of Manuf.</u>	<u>Stack #</u>
Boiler 1	8.9	63.5 gal/hr	distillate oil, ASTM D396	2004	1
Boiler 2	8.9	63.5 gal/hr	distillate oil, ASTM D396	2004	1
Boiler 3	2.7	326 lb/hr	wood pellets	2014	2

**Generator**

<u>Equipment</u>	<u>Maximum Input Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Power Output Rating</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>
Emergency Generator	250 kW	19.4	250 kW	distillate oil, 0.0015% s	2009

C. Application Classification

MSAD 44 is classified as an existing source that is applying for its first air emission license, after-the-fact. A source is considered a major source based on whether or not total licensed annual emissions exceed the "Significant Emission" levels as defined in the Department's *Definition Regulation*, 06-096 CMR 100 (as amended).

<u>Pollutant</u>	<u>Total Licensed Annual Emissions (TPY)</u>	<u>Significant Emission Levels</u>
PM	1.8	100
PM <sub>10</sub>	1.8	100
SO <sub>2</sub>	3.8	100
NO <sub>x</sub>	8.5	100
CO	2.5	100
VOC	0.3	50
CO <sub>2</sub> e	< 100,000	100,000

The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). The license includes fuel limits and operating limits, but even without these limits the source would be considered a natural minor. The facility is

licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

## 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.

BPT for new sources, modifications, and existing sources that have never been licensed 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.

### B. Boilers 1 and 2

Boilers 1 and 2 are existing distillate fuel fired units, each rated at a maximum input capacity of 8.9 MMBtu/hr (63.5 gal/hr). The units were manufactured by Unilux in 2004 and installed on-site in 2006. Boilers 1 and 2 both exhaust through stack 1, at a height of 59 feet above ground level with an inside diameter of 1.18 feet.

The boilers provide heat and hot water to the school complex. During normal operations, it is expected that the wood pellet fired boiler (Boiler 3) will carry much of the load; however, during the coldest times of the year, or as otherwise needed, at least one of the oil boilers will run at partial load to provide for additional heating capacity. MSAD 44 has proposed a distillate fuel limit for the boilers.

Due to the size of the units, Boilers 1 and 2 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.

Boilers 1 and 2 are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). The units are considered existing oil boilers rated less than 10 MMBtu/hr.

1. BACT Findings

MSAD 44 included a BACT analysis for the oil boilers as part of the application. Potential emission controls and emission minimization methods identified and evaluated for the existing boilers included:

- fabric filters, electrostatic precipitators (ESP), mechanical collectors, and venturi scrubbers for particulate matter and hazardous air pollutants;
- wet scrubbers and low sulfur fuel for sulfur dioxide;
- selective noncatalytic reduction (SNCR) and selective catalytic reduction (SCR) for nitrogen oxides;
- oxidation catalysts and good combustion for carbon monoxide and hazardous air pollutants;
- thermal oxidizers, oxidation catalysts, and venturi scrubbers for volatile organic compounds and hazardous air pollutants.

Based on the size of Boilers 1 and 2, comparisons to similar oil boilers' operations, cost of controls, and relatively low emissions from each boiler, no add-on controls shall be required. BACT for Boilers 1 and 2 is the use of good combustion practices and the firing of distillate fuel.

The BACT emission limits for the boilers were based on the following:

- PM/PM<sub>10</sub> – 0.08 lb/MMBtu based on BACT
- SO<sub>2</sub> – based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur by weight)
- NO<sub>x</sub> – 0.3 lb/MMBtu based on similar source data
- 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
- Opacity – 06-096 CMR 115 BACT

The BACT emission limits for the boilers are the following:

Unit	Pollutant	lb/MMBtu
Boiler 1	PM	0.12
Boiler 2	PM	0.12

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 1 (8.9 MMBtu/hr)	0.71	0.71	4.48	2.67	0.32	0.02
Boiler 2 (8.9 MMBtu/hr)	0.71	0.71	4.48	2.67	0.32	0.02

Visible emissions from the boilers' stack 1 shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

MSAD 44 shall be limited to a total of 100,000 gallons/yr of distillate fuel from Boilers 1 and 2 on a calendar year basis.

The requirements applicable to Boilers 1 and 2 in 40 CFR Part 63, Subpart JJJJJ, including work practice standards and compliance, recordkeeping, and reporting requirements shall be considered BACT for Boilers 1 and 2.

Prior to July 1, 2016, or by the date otherwise stated in 38 MRS §603-A(2)(A)(3), the distillate fuel fired by Boilers 1 and 2 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRS §603-A(2)(A)(3), beginning July 1, 2016, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

## 2. Periodic Monitoring

Periodic monitoring for boilers 1 and 2 shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

### C. Boiler 3

Boiler 3 is a new wood pellet boiler, provided by AFS Energy Systems, rated at a maximum input capacity of 2.7 MMBtu/hr (326 lb/hr). The unit was manufactured in 2014. Boiler 3 exhaust will pass through a multi-cyclone prior to being released to the atmosphere through stack 2, at a height of 55 feet above ground level with an inside diameter of 1.33 feet.

Boiler 3 will be the primary provider of heat and hot water to the school complex, displacing a large portion of the distillate oil currently fired in the existing boilers. Boilers 1 and 2 will be operated as needed to provide additional heating capacity. MSAD 44 has proposed a fuel limit for Boiler 3, based on wood pellets with a heat content of 8244 Btu/lb.

The AFS Energy System is a 'stoker' combustor coupled with a boiler. The AFS description of the unit includes the following: the system is equipped with a multi-zone

underfed open retort stoker with refractory hearth and grate; an independent forced draft and over-fire combustion air system; an induced draft fan; and a control system with logic and PID control (Proportional Integral Derivative). The control system data includes boiler status, boiler load, draft, calculated fuel input, furnace temperature, flue gas temperature, flue O<sub>2</sub>, and ambient temperature. The system will be controlled by load, but also has a timed cycle override to maintain fire during low demand periods. The unit is equipped with O<sub>2</sub> trim.

Due to the size of Boiler 3, it 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.

Boiler 3 is subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). The unit is considered a new biomass boiler rated less than 10 MMBtu/hr.

1. BACT Findings

MSAD 44 included a BACT analysis for Boiler 3 as part of the application. The BACT submittal included a review of EPA's AP-42 Emissions Database; State Agencies (Maine, Connecticut, New Hampshire, Vermont, Rhode Island, and Massachusetts); *Air Emissions Test Report: Small Biomass Energy System Particulate Matter Emissions Testing* by Gammie Air Monitoring, LLC and Vermont Air Pollution Control Division (June 2009); *Emission Controls for Small Wood-Fired Boilers*, produced for the U.S. Forest Service by Resource System Group (2010); and vendor information.

The following table contains recently permitted sources in New England:

**Summary of Comparable Licensed Sources**

Location	Heat Input (MMBtu/hr)	PM/PM <sub>10</sub> Control Methods	Permitted PM <sub>10</sub> Limit (lb/MMBtu)	Basis for Limit
Farmington, ME (wood pellets)	2.3	None	0.10	BACT analysis (manufacturer test data)
Waterville, ME (wood pellets)	5.1	Multi-cyclone	0.23	BACT analysis
Naples, ME (wood pellets)	5.2	None	0.1	BACT analysis
Oakland, ME	8.75	Multi-cyclone	0.25	BACT analysis

Summary of Comparable Licensed Sources continued				
Location	Heat Input (MMBtu/hr)	PM/PM <sub>10</sub> Control Methods	Permitted PM <sub>10</sub> Limit (lb/MMBtu)	Basis for Limit
Houlton, ME	2.7	Multi-cyclone & Baghouse	0.03*	Proposed Boiler MACT and BACT analysis
Falmouth, ME	9.9	Multi-cyclone	0.3	BACT analysis
Paxton, MA (wood pellets)	7.0	Multi-cyclone	0.1	BACT analysis
Somers, CT	25.1	ESP	0.1	BACT analysis
Salisbury, CT	26.7	ESP	0.057	BACT analysis
Glocester, RI	4.6	High Efficiency Multi-cyclone	0.20	BACT analysis
North Scituate, RI	9.1	High Efficiency Multi-cyclone	0.10	BACT analysis
Groton, MA	12	Cyclone & Baghouse	0.10	State Emission Limit
Keene, NH	6.7	ESP	0.30	State Emission Limit
Montpelier, VT	6.7 & 9.3	ESP	0.20	Most Stringent Emission Rate (MSER) Analysis

\* Note: The Houlton, ME facility installed the baghouse to meet the proposed Boiler MACT, with a condition that the PM emissions limit could be reevaluated and possibly modified if the Boiler MACT limits were less stringent than proposed. The numeric limit was removed from the MACT prior to finalization.

The following summarizes the BACT findings for Boiler 3:

PM/PM<sub>10</sub> – Particulate emissions from fuel combustion is formed from incomplete combustion of fuel and non-combustible material in the fuel.

The identification and evaluation of particulate matter controls for Boiler 3 included mechanical collectors, dry electrostatic precipitators (ESPs), fabric filters (baghouses), electrostatic recyclones, wet scrubbers, good combustion practices, or a combination of options.

Mechanical collectors separate particulate matter from an exhaust stream utilizing centrifugal force. Types of mechanical collectors include single cyclones, multi-cyclones, high efficiency multi-cyclones (HEMCs), and core separators. Single

cyclones and multi-cyclones typically remove a large portion of larger particles and a smaller portion of smaller particles. High efficiency multi-cyclones typically have a higher collection efficiency due to use of a higher pressure drop; however, this results in greater energy demands and can be less efficient at low loads. Core Separator™ is a specific control design that maintains a relatively high pressure drop at all operating loads, but it is a high cost option. Mechanical collectors are feasible for Boiler 3 and a multi-cyclone was proposed as BACT for particulate matter control.

Dry electrostatic precipitators (ESPs) consist of charging particles in the exhaust stream using high voltage, oppositely charging a collection surface, removing collected dust utilizing a rapping process, and collecting the dust in hoppers. An electrostatic precipitator was determined not to be economically feasible due to high capital costs for a boiler of this size.

Fabric filters consist of collecting particulate matter on the surface of filter bags as the exhaust passes through the fabric. The bags are then periodically cleaned or replaced to maintain a high removal efficiency. Historically, fabric filters have not been selected for small wood boilers due to fire hazards. There is also a potential for filter bag clogging, but this potential is more likely with greener fuel. Financial and technical resources are needed to purchase the original unit and replacement filter bags, and to service the unit to proactively prevent fire and/or clogging problems. Due to the cost and uncertainty of operational issues of fabric filters on wood fired boilers of this size, fabric filters were not considered BACT for Boiler 3.

An electrostatic recyclone consists of a single cyclone coupled with an electrified cylindrical chamber. The electrified chamber exhaust is re-circulated back to the cyclone causing particle agglomeration. As the agglomeration gets larger, particles are more likely to be captured by the cyclone component of the system. These types of units are installed in Europe, but none are currently operating in the United States and were not considered as BACT for Boiler 3.

Wet scrubbers consist of capturing solid and liquid particles by routing the exhaust through a wet spray. The pollutants, in solid and gaseous forms, are absorbed into the liquid droplets of the spray. The liquid is purged and the particles removed. Based on the high capital and operating cost, the environmental issues of make-up water requirements and disposal, and since no wet scrubbers were found to be operational on smaller wood fired units, wet scrubbers were not considered technically, environmentally, or economically feasible for Boiler 3.



BACT for PM/PM<sub>10</sub> emissions from Boiler 3 shall be the installation of a new, efficient boiler, a multi-cyclone, good combustion and maintenance practices, the use of clean wood fuel, and the following emission limits:

PM Emission Limit	PM <sub>10</sub> Emission Limit	Emission Limit Basis
0.27 lb/hr	0.27 lb/hr	0.1 lb/MMBtu, 06-096 CMR 115, BACT

The limits meet the requirements found in *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (as amended).

SO<sub>2</sub> – Sulfur dioxide is formed from the combustion of sulfur present in the fuel.

The identification and evaluation of SO<sub>2</sub> controls for Boiler 3 included a wet scrubber.

Wet scrubbers remove the sulfur from the flue gas by adding a caustic scrubbing solution. However, wood is an inherently low sulfur content fuel and wet scrubbers are primarily used on fossil fuel fired combustion units. A wet scrubbing system was not considered economically or environmentally feasible for Boiler 3.

BACT for SO<sub>2</sub> emissions from Boiler 3 shall be the utilization of clean wood pellets (a low sulfur fuel) and the following emission limit:

SO <sub>2</sub> Emission Limit	Emission Limit Basis
0.07 lb/hr	AP-42 Table 1.6-2, dated 9/03 (0.025 lb/MMBtu)

NO<sub>x</sub> – Nitrogen oxide is generated from fuel NO<sub>x</sub> inherent in the fuel fired and thermal NO<sub>x</sub> formed during the combustion process.

The identification and evaluation of NO<sub>x</sub> controls for Boiler 3 included selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), and good combustion practices.

Add-on SCR and SNCR controls reduce NO<sub>x</sub> emissions through the injection of urea or ammonia in the gas exhaust stream under specific temperature ranges of 1600-2100°F for SNCR and 575-800°F for SCR. The SCR system also utilizes a catalyst. Due to the requirement for a continuously high operating load with a hot exhaust stream, the cost for an SNCR or SCR system, and additional particulate controls which would be needed to prevent fouling of the chemical process, the identified add-on NO<sub>x</sub> controls were not considered technically or economically feasible for Boiler 3.

BACT for NO<sub>x</sub> emissions from Boiler 3 shall be the installation of a new, efficient boiler, good combustion and maintenance practices, the use of clean wood fuel, and the following emission limits:

<b>NO<sub>x</sub> Emission Limit</b>	<b>Emission Limit Basis</b>
1.3 lb/hr	AP-42 Table 1.6-2, dated 9/03 (0.49 lb/MMBtu)

CO – Carbon monoxide emissions are a result of incomplete combustion.

The identification and evaluation of CO controls for Boiler 3 included an oxidation catalyst system and good combustion practices.

An oxidation catalyst catalytically oxidizes CO to CO<sub>2</sub>, requiring a relatively high exhaust temperature. Due to the requirement for a continuously high exhaust temperature and the cost of an oxidation catalyst system on a relatively small boiler, an oxidation catalyst was not considered technically or economically feasible for Boiler 3.

BACT for CO emissions from Boiler 3 shall be the installation of a new, efficient boiler, good combustion and maintenance practices, the use of clean wood fuel, and the following emission limit:

<b>CO Emission Limit</b>	<b>Emission Limit Basis</b>
0.49 lb/hr	06-096 CMR 115, BACT (0.18 lb/MMBtu)

VOC – Volatile organic compound emissions are a result of incomplete combustion.

The identification and evaluation of VOC controls for Boiler 3 included a thermal oxidizer, an oxidation catalyst, a venturi scrubber and good combustion practices. Particulate matter add-on controls can also reduce VOC emissions since VOC's can condense on particles.

A thermal oxidizer re-burns the exhaust gas to oxidize VOCs. An oxidation catalyst re-burns the exhaust gas at a lower temperature with the addition of a catalyst to oxidize VOCs. In a venturi scrubber, gases are absorbed by a liquid sprayed within a chamber. Due to the cost of the VOC controls on a relatively small boiler and the need for another combustion source to re-burn the exhaust gas, the identified add-on VOC controls were not considered economically or environmentally feasible for Boiler 3.

BACT for VOC emissions from Boiler 3 shall be the installation of a new, efficient boiler, good combustion and maintenance practices, the use of clean

wood fuel, the use of a multi-cyclone to collect VOCs which condense on solid particles, and the following emission limit:

VOC Emission Limit	Emission Limit Basis
0.05 lb/hr	AP-42 Table 1.6-3, dated 9/03 (0.017 lb/MMBtu)

HAP – Hazardous air pollutant emissions occur primarily as particulate matter and in gaseous form as VOCs. CO is an indicator of most gaseous HAPs.

The identification and evaluation of HAP controls for Boiler 3 are the same as described in the previous paragraphs for PM and VOC controls.

BACT for HAP emissions from Boiler 3 shall be the installation of a new, efficient boiler, good combustion and maintenance practices, the use of clean wood fuel, and the use of a multi-cyclone. Based on the requirements for PM, CO, and VOC, as well as the size of the boiler and its relatively small emissions, no specific HAP emission limits are required for Boiler 3 at this time

Opacity - Visible emissions from Boiler 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.

Additional BACT findings –

The requirements applicable to Boiler 3 in 40 CFR Part 63, Subpart JJJJJ, including work practice standards and compliance, recordkeeping, and reporting requirements shall be considered BACT for Boiler 3.

Boiler 3 shall be limited to 1428 tons/year of natural wood pellets at 8244 Btu/lb heat content, or equivalent, based on a calendar year basis. Compliance with the fuel use limit may be based on delivery records, calculation of fuel use through auger rotations, calculations based on steam production, or other methods as approved by the Department.

## 2. Periodic Monitoring

Periodic monitoring for Boiler 3 shall include recordkeeping to document fuel use both on a monthly and calendar year basis.

D. 40 CFR Part 63 Subpart JJJJJ

Boilers 1, 2 and 3 are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ).

A summary of the currently applicable federal 40 CFR 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 MSAD 44 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>.

1. Compliance Dates, Notifications, and Work Practice Requirements

a. Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014 for Boilers 1 and 2 and within 120 after the source becomes subject to the standard for Boiler 3. [40 CFR Part 63.11225(a)(2)]

b. Boiler Tune-Up Program

i. A boiler tune-up program was to have been implemented to include the initial tune-up of Boilers 1 and 2 no later than March 21, 2014. [40 CFR Parts 63.11223 and 63.11210] As a new source with applicable work practice standards or management practices, Boiler 3 is not required to complete an initial performance tune-up. [40 CFR Part 63.11210(f)]

(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>
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below <b>[Boilers 1 and 2]</b>	Every 2 years
<i><b>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</b></i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
Oil units with a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up <b>[Boiler 3]</b>	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

- (b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]
- ii. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
  - (a) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
  - (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]

- (c) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
- (d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
- (e) 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 CFR Part 63.11223(b)(5)]
- (f) 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 CFR Part 63.11223(b)(7)]

iii. After conducting the initial boiler tune-up for Boilers 1 and 2, a Notification of Compliance Status should have been submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)] Per EPA, if the regular tune-up is the only requirement, new boilers (Boiler 3) do not have to submit a Notice of Compliance Status (NOCS) since no initial boiler tune-up is required.

## 2. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; 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; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

### E. Wood Working Shop

MSAD 44 includes a wood working shop with a fabric filter.

1. BACT Findings

BACT for the emissions from the wood working shop is the use of a fabric filter and a visible emissions limit, not to exceed 10% opacity on a 6-minute average basis, except for no more than one 6-minute block average in a 1-hour basis.

2. Periodic Monitoring

The wood shop fabric filter shall be properly maintained. Compliance records shall be kept documenting routine and unplanned maintenance on the fabric filter, including dates, times, and tasks performed.

F. Emergency Generator

MSAD 44 operates a Caterpillar distillate fuel fired Emergency Generator. The Emergency Generator has a maximum input capacity rated of 2.7 MMBtu/hr (19.4 gal/hr) and an output of 250 kW. The Emergency Generator was manufactured and installed in 2009. The unit is not operated as part of any demand response or load shedding agreement, it is run during emergencies and for routine testing and maintenance. The distillate fuel fired in the unit shall not exceed a sulfur content of 0.0015% by weight. The Emergency Generator exhausts through an approximately six foot tall vertical stack which is equipped with a flip top that opens during operation.

1. BACT Findings

The BACT emission limits for the Emergency Generator are based on the following:

- PM/PM<sub>10</sub> - 0.12 lb/MMBtu from 06-096 CMR 103
- SO<sub>2</sub> - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO<sub>x</sub> - 4.41 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
- CO - 0.95 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
- VOC - 0.36 lb/MMBtu from AP-42, Table 3.3-1 dated 10/96
- Opacity - 06-096 CMR 101

The BACT emission limits for the Emergency Generator are the following:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator (2.7 MMBtu/hr), distillate fuel	0.32	0.32	0.004	11.9	2.57	0.97

Visible emissions from the distillate fuel-fired Emergency Generator shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

2. 40 CFR Part 60, Subpart III

The federal regulation 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to the Emergency Generator listed above since the unit was ordered after July 11, 2005 and manufactured after April 1, 2006.

a. Emergency Definition:

Emergency stationary ICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE 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 ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
  - (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
  - (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an



Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except if the following conditions are met:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart III Requirements:

(1) Manufacturer Certification Requirement

The Emergency Generator shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

- (2) Ultra-Low Sulfur Fuel Requirement  
The fuel fired in the Emergency Generator shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR §60.4207(b)]
- (3) Non-Resettable Hour Meter Requirement  
A non-resettable hour meter shall be installed and operated on the Emergency Generator. [40 CFR §60.4209(a)]
- (4) Operation and Maintenance Requirements  
The Emergency Generator shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by facility that are approved by the engine manufacturer MSAD 44 may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]
- (5) Annual Time Limit for Maintenance and Testing  
The Emergency Generator shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]
- (6) Initial Notification Requirement  
No initial notification is required for emergency engines. [40 CFR §60.4214(b)]
- (7) Recordkeeping  
MSAD 44 shall keep records that include maintenance conducted on the engines and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), MSAD 44 shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4214(b)]

(8) Annual Reporting Requirements for Demand Response Availability Over 15 Hours Per Year (for generators greater than 100 brake hp)

If MSAD 44 operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

G. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

H. Annual Emissions

1. Total Annual Emissions

MSAD 44 shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on 100,000 gal/yr distillate fuel, 1428 tons/yr of wood pellets, and 100 hrs/yr for the generator:

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

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boilers 1 and 2	0.6	0.6	3.5	2.1	0.3	0.02
Boiler 3	1.2	1.2	0.3	5.8	2.1	0.2
Emergency Generator	0.02	0.02	---	0.6	0.1	0.05
<b>Total TPY</b>	<b>1.8</b>	<b>1.8</b>	<b>3.8</b>	<b>8.5</b>	<b>2.5</b>	<b>0.3</b>

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 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), 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 is less than 100,000 tons per year, based on the following:

- the facility’s fuel use limits;
- worst case emission factors from the following sources: U.S. EPA’s AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

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 shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 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:

<u>Pollutant</u>	<u>Tons/Year</u>
PM <sub>10</sub>	25
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.

### 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 A-1105-71-A-N 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 emissions 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 1, 2, and 3**

**A. Fuel**

**1. Boilers 1 and 2**

- a. Total fuel use for Boilers 1 and 2 shall not exceed 100,000 gal/yr of distillate fuel, based on a calendar year total basis. [06-096 CMR 115, BACT]
- b. Prior to July 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in the boiler shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BACT]
- c. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
- d. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
- e. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual distillate fuel use shall be kept on a monthly and calendar year total basis. [06-096 CMR 115, BACT]

**2. Boiler 3**

- a. Total fuel use for Boiler 3 shall not exceed 1428 tons of wood pellets at an average heat content of 8244 Btu/lb, or equivalent, on a calendar year total basis. [06-096 CMR 115, BACT]
- b. Compliance shall be demonstrated based on delivery records, calculation of fuel use through auger rotations, calculations based on steam production, or other methods as approved by the Department. Records of annual wood pellet fuel use shall be kept on a monthly and calendar year total basis. [096-096 CMR 115, BACT]

**B. Emissions shall not exceed the following:**

<b>Emission Unit</b>	<b>Pollutant</b>	<b>lb/MMBtu</b>	<b>Origin and Authority</b>
Boiler 1	PM	0.08	06-096 CMR 115, BACT
Boiler 2	PM	0.08	06-096 CMR 115, BACT



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

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 1 (8.9 MMBtu/hr) distillate fuel	0.71	0.71	4.48	2.67	0.32	0.02
Boiler 2 (8.9 MMBtu/hr) distillate fuel	0.71	0.71	4.48	2.67	0.32	0.02
Boiler 3 (2.7 MMBtu/hr) wood pellets	0.27	0.27	0.07	1.3	0.49	0.05

D. Visible Emissions

1. Visible emissions from Stack 1 for Boilers 1 and 2 shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 115, BACT]
2. Visible emissions from Boiler 3 (Stack 2) 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. [06-096 CMR 115, BACT]

E. 40 CFR Part 63, Subpart JJJJJ Requirements (Boiler MACT) for Boilers 1, 2, and 3 [incorporated under 06-096 CMR 115, BACT]

1. An Initial Notification submittal to EPA was due no later than January 20, 2014 for Boilers 1 and 2 and within 120 after the source becomes subject to the standard for Boiler 3. [40 CFR Part 63.11225(a)(2)]
2. The facility was to have implemented an initial tune-up of Boilers 1 and 2 no later than March 21, 2014. [40 CFR Parts 63.11223 and 63.11210] As a new source with applicable work practice standards or management practices, Boiler 3 is not required to complete an initial performance tune-up. [40 CFR Part 63.11210(f)]
  - (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:

Boiler Category	Tune-Up Frequency
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below [Boilers 1 and 2]	Every 2 years
<i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
Oil Boilers with a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up [Boiler 3]	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

- (b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]
3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
- (a) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
- (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]

- (c) 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; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
  - (d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
  - (e) 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 CFR Part 63.11223(b)(5)]
  - (f) 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 CFR Part 63.11223(b)(7)]
4. After conducting the initial boiler tune-up for Boilers 1 and 2, a Notification of Compliance Status should have been submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)] Per EPA, if the regular tune-up is the only requirement, new boilers (Boiler 3) do not have to submit a Notice of Compliance Status (NOCS) since no initial boiler tune-up is required.
5. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; 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; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.
- (17) **Wood Working Shop**
- A. Particulate matter emissions from the wood working shop shall be controlled through the use of a fabric filter. [09-096 CMR 115, BACT]
  - B. The wood shop fabric filter shall be properly maintained. Compliance records shall be kept documenting routine and unplanned maintenance on the fabric filter, including dates, times, and tasks performed. [09-096 CMR 115, BACT]

- C. Visible Emissions from the wood working shop fabric filter shall not exceed 10% opacity on a 6-minute average basis, except for no more than one 6-minute block average in a 1-hour basis. [09-096 CMR 115, BACT]

(18) **Emergency Generator**

- A. The emergency generator shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]
- B. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Emergency Generator (2.7 MMBtu/hr), distillate fuel	0.32	0.32	0.004	11.9	2.57	0.97

C. Visible Emissions

Visible emissions from the distillate fuel-fired generator shall each 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]

- D. The Emergency Generator shall meet the applicable requirements of 40 CFR Part 60, Subpart III, including the following:
1. **Manufacturer Certification**  
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. **Ultra-Low Sulfur Fuel**  
The fuel fired in the generator shall not exceed 15 ppm sulfur (0.0015% sulfur), except that any existing fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. 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. **Non-Resettable Hour Meter**  
A non-resettable hour meter shall be installed and operated on the generator. [40 CFR §60.4209(a)]

4. Annual Time Limit for Maintenance and Testing
  - a. The generator shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]
  - b. MSAD 44 shall keep records that include maintenance conducted on the generator(s) and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), MSAD 44 shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.
5. Operation and Maintenance

The generator shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by MSAD 44 that are approved by the engine manufacturer. MSAD 44 may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]
6. Annual Reporting For Demand Response Availability Over 15 Hours Per Year (for generators greater than 100 brake hp)

If MSAD 44 operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), the facility shall submit an annual report containing the information in §60.4214(d)(1)(i) through (vii). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX)

(www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §60.4214(d)]

(19) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

- (20) MSAD 44 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 (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 12 DAY OF January, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Maureen Allen Robert Corne for  
PATRICIA W. AHO, COMMISSIONER

**The term of this license shall be ten (10) years from the signature date above.**

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 25, 2014  
Date of application acceptance: October 29, 2014

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.

