



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

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COMMISSIONER

**JSI Store Fixtures Incorporated  
Piscataquis County  
Milo, Maine  
A-1065-71-B-M (SM)**

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

**FINDINGS OF FACT**

After review of the air emissions license minor revision application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

JSI Store Fixtures, Inc. (JSI) was issued Air Emission License A-1065-71-A-N on December 20, 2011, permitting the operation of emission sources associated with their wood furniture manufacturing facility.

JSI has requested a minor revision to their license in order to add an existing #2 Fuel Oil fired boiler, dust collectors (cyclones) and spray booths to their license.

The equipment addressed in this license is located at 140 Park Street Milo, ME 04463.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Boilers**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBtu/hr)</u></b>	<b><u>Maximum Firing Rate (gal/hr)</u></b>	<b><u>Fuel Type, % sulfur</u></b>	<b><u>Install. Date</u></b>	<b><u>Stack #</u></b>
Boiler #1	5.8	41.7	#2 Fuel Oil, 0.5	1966	B1

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

JSI also operates the following fuel burning sources which are identified as insignificant activities as listed in 06-096 CMR 115 Appendix B (B) (2) and are listed here for inventory purposes only. This equipment is natural gas fired.

Equipment	Location	Maximum Capacity MMBtu/hr
2 Buderus Water Heaters	Warehouse Area	0.15
Furnace	Drying Room	0.14
Space Heaters	Loading Dock	<1
Office Heater	Administrative Office Area	0.18

### Process Equipment

JSI operates two cyclones to collect and control particulate wood dust generated during the cutting and sanding of retail store fixtures. These cyclones separate sawdust and grindings from the airstream.

In addition, JSI operates six paint booths used while staining, lacquering, and laminating. The paint booths are equipped with fabric filters and exhaust externally.

#### C. Application Classification

This amendment will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. Therefore, this modification is determined to be a minor revision and has been processed as such.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down

approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boiler # 1

JSI operates Boiler #1 for heat. The boiler is rated at 5.8 MMBtu/hr and fires #2 fuel oil. The boiler was installed in 1966 and exhausts through its own stack.

Due to the size and year of installation, the boiler 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.

1. BACT Findings

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

PM/PM<sub>10</sub> – 0.12 lb/MMBtu based on 06-096 CMR 103

SO<sub>2</sub> –based on firing ASTM D396 #2 fuel oil (0.5% sulfur); 0.5 lb/MMBtu;

NO<sub>x</sub> – 20 lb/1000 gal, AP-42, Table 1.3-1 dated 5/10

CO – 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10

VOC – 0.34 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10

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

<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>
Boiler #1 (5.8 MMBtu/hr) #2 fuel	0.69	0.69	2.94	0.83	0.21	0.01

Visible emissions from the boiler 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 101(2)(B)(1)(b)]

JSI shall be limited to 20,000 gallons/yr of #2 fuel oil fired in Boiler #1.

Prior to January 1, 2016 or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in Boiler #1 shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning January 1, 2016 or on the date specified in the statute, the facility shall fire #2 fuel oil 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 #2 fuel oil 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 the boiler shall include recordkeeping to document fuel use on a calendar year basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

3. 40 CFR Part 63 Subpart JJJJJ

Boiler #1 may be 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 an existing oil boiler rated less than 10 MMBtu/hr.

For informational purposes, 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 JSI is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA is due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

- (a) A boiler tune-up program shall be implemented to include the initial tune-up of applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(1)]
  
- (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; 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 system, seasonal boilers, and limited use boilers. [40 CFR Part 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 CFR Part 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; 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 system, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
  - 4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 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 CFR Part 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 CFR Part 63.11223(b)(7)]
  
- (c) After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]
  
- (d) The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

1. 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	Every 2 years
<b><i>New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements</i></b>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
Oil Boiler 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	Every 5 years

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

2. 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)]

b. 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 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.

Note: EPA will require submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. However, the system will not be in place until October 2013, so sources may submit the written NOCS to the EPA Administrator. [63.1125(a)(4)(vi)]

### C. Process Equipment

#### 1. Cutting and Sanding Operations

JSI operates general process equipment which emits particulate matter. BACT for particulate matter emissions is met by controlling the process sources with cyclones. Cutting and sanding of the retail store fixtures creates dust and grinding. The dust and grindings are controlled and collected through the operation of two cyclones.

Visible emission from each cyclone shall not exceed 20% opacity on a 6-minute block average basis, except for no more than one 6 minute block average in a 1-hour period. [06-096 CMR 101(2)(B)(3)(d)]

#### 2. Paint Booths

JSI has six paint booths used while staining, lacquering, and laminating. The paint booths are equipped with fabric filters and exhaust externally.

Visible Emissions from the Spray Booth shall not exceed an opacity of 20% on a 6-minute block average basis, except for no more than one 6 minute block average in a 1-hour period. [06-096 CMR 115, BACT]

D. Annual Emissions

1. Total Annual Emissions

JSI shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on 20,000 gal/yr of #2 fuel oil.

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

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers	0.17	0.17	0.71	0.20	0.05	0.01
Process	-	-	-	-	-	49.0
<b>Total TPY</b>	<b>0.17</b>	<b>0.17</b>	<b>0.71</b>	<b>0.20</b>	<b>0.05</b>	<b>49.0</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).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, JSI is below the major source threshold of 100,000 tons of CO<sub>2</sub>e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

3. Hazardous Air Pollutants (HAP)

JSI shall be limited to emitting no more than 9.9 tons per year of a single HAP and no more than 24.9 tons per year of total combined HAP.

### **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 emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

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

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

### **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-1065-71-B-M subject to the conditions found in Air Emission License A-1065-71-A-N and in 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.

**SPECIFIC CONDITIONS**

The following are new conditions:

(20) **Boiler #1**

A. Fuel

1. Total fuel use for Boiler #1 shall not exceed 20,000 gal/yr of #2 fuel oil, based on a calendar year. [06-096 CMR 115, BACT]
2. Prior to January 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the #2 fuel oil fired in the boiler shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BACT]
3. Beginning January 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
4. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
5. 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 fuel use shall be kept on a calendar year basis. [06-096 CMR 115, BACT]

B. Emissions shall not exceed the following:

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

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

Emission 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	0.69	0.69	2.94	0.83	0.21	0.01

- D. Visible emissions from Boiler # shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(21) **Cutting and Sanding Operating**

- A. JSI shall operate and maintain cyclones for particulate control on cutting and sanding operations. [06-096 CMR 115, BACT]
- B. JSI shall conduct a monthly inspection of the cyclones and maintain a log detailing all routine and non-routine maintenance on each cyclone. The log shall contain location, date, nature of failure, and action taken to correct the failure. [06-096 CMR 115, BACT]
- C. Visible Emissions from each cyclone shall not exceed 20% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(22) **Spray Booths**

- A. Each Spray Booth shall vent through a fabric filter to control visible emissions. [06-096 CMR 115, BACT]
- B. JSI shall conduct a monthly inspection of the spray booth and maintain a log recording all routine and non-routine maintenance of the Spray Booth. [06-096 CMR 115, BACT]
- C. Visible Emissions from each Spray Booth shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 27 DAY OF August, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for  
PATRICIA W. AHO, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-1065-71-A-N (SM).**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/1/2012

Date of application acceptance: 8/3/2012

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

