



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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Lovell Lumber Company, Inc.
Oxford County
Lovell, Maine
A-676-71-F-N

Departmental
Findings of Fact and Order
Air Emission License
After-The-Fact Renewal

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 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Air Emission License for Lovell Lumber Company, Inc. (Lovell Lumber) expired on March 9, 2012. Lovell Lumber has applied to renew their expired license permitting the operation of emission sources associated with their sawmill and planer mill facility.

The equipment addressed in this license is located at 3 Mill Street, Lovell, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Unit</u>	<u>Max. Capacity, MMBtu/hr</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Manuf. Date</u>	<u>Install. Date</u>	<u>Stack #</u>
Boiler #4	8.6	1920 lb/hr	Wood	1982	1982	4
Boiler #5	5.3	37.5 gal/hr	Diesel, 0.0015%	1984	1997	5

Emergency Generator

<u>Unit</u>	<u>Max. Capacity, MMBtu/hr</u>	<u>Power Output, KW</u>	<u>Firing Rate gal/hr</u>	<u>Fuel Type, % sulfur</u>	<u>Manuf. Date</u>	<u>Install. Date</u>	<u>Stack #</u>
Drive #2	1.2	113	9.0	Diesel, 0.0015%	1993	2005	1

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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
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Process Equipment

<u>Unit</u>	<u>Production Rate</u>	<u>Manuf. Date</u>	<u>Install. Date</u>	<u>Pollution Control Equipment</u>
Pre-Dryer (Drying Kiln)	4.2 MMBF/yr	1981	1982	none

C. Application Classification

The previous air emission license for Lovell Lumber expired on March 9, 2012. A complete application was not submitted prior to the expiration date, therefore Lovell Lumber is considered to be an existing source applying for an after-the-fact renewal. 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).

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 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.

BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology (BACT) analysis per 06-096 CMR 115 (as amended).

B. Facility Description

Lovell Lumber operates a sawmill and planer mill facility that produces kiln-dried and surfaced eastern white pine lumber. Upon arrival at the facility, the logs are measured and moved to a storage area. In a first-in-first-out order, logs are moved from the storage area to the debarker, where their bark is removed. The debarked logs are then sent to the sawmill; the bark is sold as bark mulch.

The initial board cutting is done by one double cut bandsaw. The rough cut boards are sent through an edger and trimmer, then graded and sorted. The boards are dried either for two weeks in the drying kiln or for 3-4 months if air dried in the lumber yard. Dried boards are sent to the planer mill, where they are trimmed to exact length, smoothed, and cut with any molding or joining cuts as needed to make the desired end product. From the planer mill, the boards are sent to storage to await shipment.

Sawdust from the sawing process is collected with cyclones and stored in a silo for use as fuel in the wood fired boiler. Larger waste wood pieces from the sawmill are chipped and sold to the paper industry.

Shavings from the planing process are blown to the bagger house, bagged, and sold as animal bedding. Sawdust and chipped ends from the planing process are fed to the wood fuel silo, for use as fuel in the wood fired boiler.

Lovell Lumber operates Boilers #4 and #5 as the principle heat sources for the facility's drying kilns and sawmill and planer mill buildings. Boiler #4 is a wood fired boiler and Boiler #5 fires diesel fuel. Lovell also operates one emergency diesel generator when necessary to produce power for their facility.

C. Boiler # 4

Boiler #4 is a wood-fired, low-pressure boiler manufactured in 1982 with a maximum design heat input of 8.6 MMBtu/hr. Boiler #4 exhausts through a 54 ft above ground level (AGL) stack, designated Stack #4.

1. NSPS

Due to the size and year of installation, Boiler #4 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.

2. BACT/BPT Determination

BACT, as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended), is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts. The BACT analysis is presented for each pollutant from Boiler #4 in the following paragraphs.

Particulate Matter (PM and PM₁₀)

Options to control PM emissions from wood waste combustion boilers similar to Boiler #4 in size and age include the use of add-on controls and fuel switching. The addition of a pollution control device such as a scrubber or electrostatic precipitator on this boiler is not economically feasible for the

facility. Since wood waste is a fuel inherently available from this manufacturing process, changing fuels would not only incur the expense of boiler modifications, but would also create the problem of how to dispose of the generated wood waste.

Boiler #4 makes use of a cyclone with ash reinjection to control particulate emissions in the boiler exhaust. Lovell Lumber shall conduct an inspection and maintenance program which shall include monthly visual inspections for any fractures or holes in the cyclone shell that would affect its operation. Lovell Lumber shall record the dates and findings of monthly visual inspections and any maintenance in an inspection/maintenance log. This log shall be maintained on site and shall be made available to the Department upon request.

The Department finds good combustion controls, the above specified maintenance practices, and a limit of 0.12 lb/MMBtu for PM and PM₁₀ emissions constitute BACT for Boiler #4.

Sulfur Dioxide (SO₂)

Sulfur dioxide is formed from the oxidation of sulfur in fuel. The options to control SO₂ emissions from fuel combustion include low sulfur fuel and add-on treatment of the combustion exhaust gases.

Based on review of the RACT/BACT/LAER Clearinghouse (RBLC), EPA's AP-42 database, and other Maine DEP air licenses, add-on controls for SO₂ emissions from boilers of similar size and age firing wood waste were not identified. Due to the inherently low sulfur content of wood, additional SO₂ control for this unit is not economically feasible.

The Department finds good combustion controls with a limit of 0.025 lb/MMBtu constitutes BACT for SO₂ emissions from Boiler #4.

Nitrogen Oxides (NO_x)

Options for controlling NO_x emissions from Boiler #4 include combustion control, selective catalytic reduction, selective non-catalytic reduction, and flue gas recirculation. Additional control technology for this boiler is considered economically infeasible. Review of recent, similar projects did not identify any required add-on controls to reduce NO_x emissions from boilers of comparable size and age firing wood waste.

The Department finds the use of good combustion controls with a limit of 0.22 lb/MMBtu constitutes BACT for NO_x emissions from Boiler #4.

Carbon Monoxide (CO)

Control of CO is accomplished by providing adequate fuel residence time and sufficiently high temperature in the combustion zone to ensure complete combustion. These control factors, however, also tend to result in higher emissions of NO_x. Review of data available shows no boilers of similar age and size firing wood waste employing add-on CO control.

The Department finds that good combustion controls and a limit of 0.60 lb/MMBtu constitute BACT for CO emissions from Boiler #4.

Volatile Organic Compounds (VOC)

VOC are emitted from boilers firing wood waste as a result of incomplete combustion of fuel in the form of unburned hydrocarbons. Control of VOC emissions can be accomplished by providing adequate fuel residence time and high temperature in the combustion zone to ensure complete combustion.

The Department finds the use of good combustion controls with a limit of 0.017 lb/MMBtu constitutes BACT for VOC emissions from Boiler #4.

Greenhouse Gases (GHG)

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, GHG are calculated and reported as carbon dioxide equivalents (CO₂e).

GHG emissions, including CO₂, that are generated from combustion of wood waste are considered to be biogenic GHG emissions. EPA has not made a final determination as to how biogenic CO₂ emissions should be treated in the quantification of GHG emissions. Review of GHG controls for wood fired boilers of similar age and size finds no required add-on control devices or strategies to control CO₂e emissions.

Based on the above information, the Department finds that good operation and maintenance practices to maximize boiler efficiency is BACT for GHG emissions from Boiler #4.

3. BACT/BPT Findings

The BACT/BPT emission limits for Boiler #4 are based on the following:

- PM, PM₁₀ – 0.12 lb/MMBtu, 06-096 CMR 103, *Fuel Burning Equipment Particulate Emission Standard*
- SO₂ – 0.025 lb/MMBtu, AP-42, Table 1.6-2, dated 9/03

NO_x – 0.22 lb/MMBtu, AP-42, Table 1.6-2, dated 9/03
 CO – 0.60 lb/MMBtu, AP-42, Table 1.6-2, dated 9/03
 VOC – 0.017 lb/MMBtu, AP-42, Table 1.6-3, dated 9/03
 Opacity – 06-096 CMR 101, *Visible Emissions Regulation*

Emission limits for Boiler #4 are as follows:

<u>Emission Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Boiler #4 <i>8.6 MMBtu/hr, Wood</i>	PM	0.12

<u>Emission Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Boiler #4 <i>8.6 MMBtu/hr, Wood</i>	1.0	1.0	0.2	1.9	5.2	0.2

Visible emissions from the boiler shall not exceed 30% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period.

Lovell Lumber is restricted to firing no greater than 7570 tons per year (ton/yr) of wood at 50% moisture or the equivalent, based on a 12-month rolling total. Lovell Lumber shall document fuel use to demonstrate compliance with the facility's fuel use restriction for Boiler #4. The fuel use records shall be maintained on a monthly and a 12-month rolling total basis.

D. Boiler # 5

Boiler #5 is a Clever Brooks boiler manufactured in 1984 with a maximum design heat input of 5.3 MMBtu/hr. Boiler #5 fires distillate fuel and exhausts through a 39 ft AGL stack, designated Stack #5. This boiler is used as a back-up unit for Boiler #4.

1. NSPS

Due to the size and year of installation, Boiler #5 is not subject to 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.

2. BACT/BPT Determination

The BACT analysis is presented for each pollutant from Boiler #5 in the following paragraphs.

Particulate Matter (PM and PM₁₀)

Units firing fuels with low ash content and high combustion efficiency exhibit low particulate matter emissions. The Department finds good combustion controls with a limit of 0.12 lb/MMBtu constitute BACT for PM and PM₁₀ emissions from Boiler #5 firing distillate fuel.

Sulfur Dioxide (SO₂)

Sulfur dioxide is formed from the oxidation of sulfur in fuel. The options to control SO₂ emissions from fuel combustion include low sulfur fuel and add-on treatment of the combustion exhaust gases.

Based on review of available technology and regulatory determinations, add-on controls for SO₂ emissions from boilers of similar size firing distillate fuel were not identified. Due to the sulfur content of 0.0015% by weight (150 ppm) of the fuel, additional SO₂ control is not economically feasible.

The Department finds good combustion controls with a limit of 0.0015 lb/MMBtu constitutes BACT for SO₂ emissions from Boiler #5 firing distillate fuel with a sulfur content not to exceed 0.0015% by weight.

Nitrogen Oxides (NO_x)

Options for controlling NO_x emissions from Boiler #5 include combustion control, selective catalytic reduction, selective non-catalytic reduction, and flue gas recirculation. Review of recent, similar projects did not identify any required add-on controls to reduce NO_x emissions from distillate fuel fired boilers of similar size and age. Additional control technology for Boiler #5 is considered economically infeasible.

The Department finds the use of good combustion controls with a limit of 20 lb/1000 gal distillate fuel constitutes BACT for Boiler #5 NO_x emissions.

Carbon Monoxide (CO)

Control of CO is accomplished by providing adequate fuel residence time and sufficiently high temperature in the combustion zone to ensure complete combustion. These control factors, however, also tend to result in higher emissions of NO_x. Review of data available shows no boilers of similar ages and sizes firing distillate fuel employing any add-on CO control.

The Department finds that good combustion controls with a limit of 5 lb/100 gal fuel constitutes BACT for CO emissions from Boiler #5.

Volatile Organic Compounds (VOC)

VOCs are emitted from boilers as a result of incomplete combustion of fuel in the form of unburned hydrocarbons. Control of VOCs can be accomplished

by providing adequate fuel residence time and high temperature in the combustion zone to ensure complete combustion.

The Department finds the use of good combustion controls with a limit of 0.252 lb/1000 gal distillate fuel constitutes BACT for Boiler #5 VOC emissions.

Greenhouse Gases (GHG)

Emissions of GHG from boilers result from combustion of hydrocarbons in fossil fuels such as fuel oil and natural gas. Available options to minimize GHG emissions include new burners, operation and maintenance practices to maximize boiler efficiency, fuel switching, and carbon capture and storage. Lovell Lumber follows good operation and maintenance practices to maximize boiler efficiency. The other options are addressed individually in the following paragraphs.

Carbon capture and storage (CCS) involves separation and capture of CO₂ from the flue gas, pressurization of the captured CO₂, transportation of the CO₂ via pipeline, and finally injection and long-term geologic storage of the captured CO₂. This process, not a proven technology on a commercial basis, is neither physically nor economically viable for this facility and has been eliminated from further consideration.

The switching to a different fuel is not an economically viable option for this facility at this time. Review of GHG controls for boilers of similar ages and sizes finds no further required control devices or strategies for boilers similar to Boiler #5 firing ultra low sulfur distillate fuel to control CO₂e emissions.

Based on the above information, the Department finds that good operation and maintenance practices to maximize boiler efficiency is BACT for GHG emissions from Boiler #5 firing diesel fuel.

3. BACT/BPT Findings

The BACT/BPT emission limits for the boiler are based on the following:

PM, PM ₁₀ –	0.12 lb/MMBtu, 06-096 CMR 103
SO ₂ –	0.0015 lb/MMBtu based on firing ultra low sulfur distillate fuel @ 150 ppm (0.0015%) sulfur
NO _x –	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 –	0.252 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
Opacity –	06-096 CMR 101

Emission limits for Boiler #5 are as follows:

Emission Unit	Pollutant	lb/MMBtu
Boiler #5 5.2 MMBtu/hr, Diesel/Distillate Fuel	PM	0.12

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #5 5.2 MMBtu/hr, Diesel/Distillate Fuel	0.64	0.64	0.01	0.75	0.19	0.01

Visible emissions from Boiler #5 shall not exceed 20% opacity on a six-minute block average, except for no more than one six-minute block average in a three-hour period.

As previously licensed, Lovell Lumber is restricted to a facility wide diesel fuel limit of 155,000 gallons per year (gal/yr) based on a twelve-month rolling total. This restriction includes fuel fired in Boiler #5 and in the facility's emergency diesel generator. Lovell Lumber has not requested a change in this restriction; therefore, the facility shall continue to be subject to this restriction.

Lovell Lumber shall maintain fuel use records which demonstrate compliance with the facility's diesel fuel use limit and fuel sulfur content limit. The sulfur content and quantity of fuel used shall be documented on a monthly and a 12-month rolling total basis.

E. NESHAPs and Boilers #4 and #5

Boilers #4 and #5 may be subject to the *National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63, Subpart JJJJJ). Boiler #4 is considered an existing biomass boiler, and Boiler #5 is considered an existing oil fired boiler.

For informational purposes, a summary of the currently applicable federal 40 CFR Part 63, Subpart JJJJJ requirements is listed below. At this time, the Maine Department of Environmental Protection has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA; however, Lovell Lumber 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 was due on September 17, 2011.
[40 CFR Part 63.11225(a)(2)]
- ii. Boiler Tune-Up Program
 - (a) A boiler tune-up program shall be implemented to include the tune-up of applicable boilers by March 21, 2012, according to the rule currently in place. [40 CFR Part 63.11196(a)(1)] However, a No Action Assurance letter was issued on March 13, 2012, stating that EPA will exercise its enforcement discretion to not pursue enforcement action for failure to complete the required tune-up by the stated compliance date. The rule is expected to have a future compliance date in either 2013 or 2014 once the final revisions are promulgated.
 - (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; however, the burner must be inspected at least once every 36 months. [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. [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 (ppm), by volume, and oxygen in volume percent, before and after adjustments are made. [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 one week of start-up. [40 CFR Part 63.11223(b)(7)]
 - (c) A Notification of Compliance Status shall be submitted to EPA no later than 120 days after conducting the initial boiler tune-up. [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 has been submitted.

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size and age of the boiler. [40 CFR Part 63.11223(a)]
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 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 type and amount of fuel 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(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.

F. Emergency Generator

Lovell Lumber operates one emergency generator, Drive #2, which was manufactured in 1993. The emergency generator is rated at 1.2 MMBtu/hr (113 kW), and fires diesel fuel. This unit exhausts through a 37 ft AGL stack, designated Stack #1.

1. NSPS

Drive #2 was manufactured prior to April 1, 2006; therefore, Drive #2 is not subject to NSPS 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

2. BACT/BPT Findings

The BACT/BPT emission limits for the generator are based on the following:

PM, PM₁₀ – 0.31 lb/MMBtu from AP-42 Table 3.3-1 (dated 10/96)
SO₂ – 0.0015 lb/MMBtu based on firing 0.0015% sulfur diesel fuel

NO_x – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
 CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
 VOC – 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
 Opacity – 06-096 CMR 101

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator: Drive #2 <i>1.2 MMBtu/hr, Diesel</i>	0.4	0.4	0.002	5.3	1.1	0.4

Visible emissions from Drive #2 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.

The emergency generator shall be limited to 500 hours of operation a year, based on a 12-month rolling total. Lovell Lumber shall keep records of the hours of operation for Drive #2.

3. NESHAPs

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants [NESHAP] for Stationary Reciprocating Internal Combustion Engines*, is applicable to Drive #2. The unit is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source and is not subject to NSPS regulations. EPA's August 9, 2010, memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt this unit from the federal NESHAP requirements.

Emergency Definition:

Emergency stationary reciprocating internal combustion engine (RICE) is defined in 40 CFR Part 63, Subpart ZZZZ as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE 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 RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f).

§63.6640(f) limits maintenance checks and readiness testing of the units to 100 hours per year. Emergency stationary RICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

40 CFR Part 63, Subpart ZZZZ Requirements for Drive #2 are as follows:

Compliance Date	Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))
No later than May 3, 2013	<ul style="list-style-type: none">- Change oil and filter every 500 hours of operation or annually, whichever comes first;- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first;- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

Drive #2 shall be operated and maintained according to the manufacturer's emission-related written instructions, or Lovell Lumber shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

A non-resettable hour meter shall be installed and operated on Drive #2. [40 CFR §63.6625(f)]

Drive #2 shall be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a

financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours/year) may be used as part of a demand response program. [40 CFR §63.6640(f)(1)]

Lovell Lumber shall keep records that include maintenance conducted on the Drive #2 and the hours of operation of the engine recorded from 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 were spent for non-emergency. If the generator is used for demand response operation, Lovell Lumber must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(e) and (f)]

G. Drying Kiln

Lovell Lumber currently operates one green lumber Drying Kiln with the capacity to process 4.2 million board feet per year (MMBF/yr). Lovell Lumber shall maintain a record of Drying Kiln use which includes the quantity of wood dried in the kiln, the wood species, and drying dates. The record shall also include the quantity of any wood air-dried, indicating species and drying dates. This record shall be maintained on a monthly as well as a twelve-month rolling total basis.

Lovell Lumber predominantly dries Eastern White Pine. Using the emission factor of 2.26 pounds of VOC per 1000 board feet for white pine [from NCASI *Emissions From Lumber Drying*, Technical Bulletin 718 (07/1996)] and the current annual drying production from the Drying Kiln of 4.2 MMBF/yr, Lovell Lumber emits approximately 4.7 tons of VOC per year from the kiln drying process.

H. Cyclones/Separators

Lovell Lumber makes use of cyclones to control particulate emissions from the sawing and planing processes. Lovell Lumber shall conduct an inspection and maintenance program for the process cyclones which allows for the following:

- periodic emptying of the cyclone drop containers as necessary to minimize PM emissions; and
- monthly visual inspections of the cyclone shells and drop points for any fractures or holes in the cyclone shells that would affect their operation and to determine the necessity of emptying the drop containers.

Lovell Lumber shall record the dates and findings of monthly visual inspections as well as any necessary maintenance and drop container emptying in an inspection/maintenance log. This log shall be maintained on site and shall be made available to the Department upon request.

Visible emissions from the cyclones shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period.

I. Fugitive Emissions

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

J. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period.

K. Annual Emissions

1. Total Annual Emissions

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

- 7570 tons/year of 50% moisture wood fuel in Boiler #4;
- 4500 gal/yr diesel fuel burned in Drive #2 (the equivalent of its maximum 500 hr/yr of licensed operation); and
- 150,500 gal/yr diesel/distillate fuel burned in Boiler #5 (the balance of the 155,000 gal/yr diesel/distillate fuel licensed facility wide cap).

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Boiler #4	4.1	4.1	0.9	7.5	20.4	0.6
Boiler #5	1.3	1.3	0.02	1.5	0.4	0.02
Emergency Generator (Drive #2)	0.1	0.1	0.001	1.4	0.3	0.1
Drying Kiln (Kiln #1)	--	--	--	--	--	4.7
Total TPY	5.5	5.5	0.92	10.4	21.1	5.42

2. Greenhouse Gases

Based on the facility's fuel use limits, 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, Lovell Lumber is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling is not required for a renewal if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, Lovell Lumber is below the emissions level required for modeling.

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-676-71-F-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 emission 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) **Boiler #4**

A. Fuel

1. Total fuel use for Boiler #4 shall not exceed 7570 tons/year of 50% moisture wood or equivalent, based on a 12-month rolling total.
2. Lovell Lumber shall maintain a fuel use record which demonstrates compliance with the facility's fuel use restriction for Boiler #4. The fuel use record shall be maintained on a monthly and a 12-month rolling total basis. [06-096 CMR 115, BACT/BPT]

B. Emissions from Boiler #4 shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #4 <i>8.6 MMBtu/hr, Wood</i>	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #4 <i>8.6 MMBtu/hr, Wood</i>	1.0	1.0	0.2	1.9	5.2	0.2

D. Visible emissions from Boiler #4 shall not exceed 30% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101]

(17) **Boiler #5**

A. Total combined fuel use for Boiler #5 and the diesel generator Drive #2 shall not exceed 155,000 gal/yr of diesel/distillate fuel with a maximum sulfur content of 0.0015% by weight, based on a 12-month rolling total.

Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. [06-096 CMR 115, BACT/BPT]

B. Emissions from Boiler #5 shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #5 <i>5.3 MMBtu/hr, Diesel/Distillate Fuel</i>	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #5 <i>5.3 MMBtu/hr, Diesel/Distillate fuel</i>	0.64	0.64	0.01	0.75	0.19	0.01

D. Visible emissions from Boiler #5 shall not exceed 20% opacity on a six-minute block average, except for no more than one six-minute block average in a continuous three-hour period. [06-096 CMR 101]

(18) **Emergency Generator: Drive #2**

A. Drive #2 is limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115, BACT/BPT]

B. The fuel oil sulfur content for Drive #2 shall be limited to 0.0015% sulfur. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BACT/BPT]

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator: Drive #2 <i>1.2 MMBtu/hr, Diesel</i>	0.4	0.4	0.002	5.3	1.1	0.4

D. Visible emissions from Drive #2 shall not exceed 20% opacity on a six-minute block average, except for no more than two six-minute block averages in a three-hour period. [06-096 CMR 101]

E. The emergency generator Drive #2 shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. No later than May 3, 2013, Lovell Lumber shall meet the following operational limitations for Drive #2:
 - a. Change the oil and filter annually,
 - b. Inspect the air cleaner annually, and
 - c. Inspect the hoses and belts annually and replace as necessary.
2. A log shall be maintained documenting compliance with the operational limitations.
[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]
3. A non-resettable hour meter shall be installed and operated on Drive #2.
[40 CFR §63.6625(f)]
4. Maintenance, Testing, and Non-Emergency Operating Situations
 - a. Drive #2 shall be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours/year) may be used as

part of a demand response program. These limits are based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §63.6640(f)(1) and 06-096 CMR 115]

- b. Lovell Lumber shall keep records that include maintenance conducted on Drive #2 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 were spent for non-emergency. If the generator is used for demand response operation, Lovell Lumber must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(e) and (f)]
5. Drive #2 shall be operated and maintained according to the manufacturer's emission-related written instructions, or Lovell Lumber shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(19) **Drying Kiln**

- A. Lovell Lumber shall be restricted to drying in the Drying Kiln no more than 4.2 MMBF per year of lumber based on a 12-month rolling total. [06-096 CMR 115, BPT]
- B. Lovell Lumber shall maintain a record of wood drying. The record shall include the quantity of wood dried, wood species, and drying dates. The record shall be maintained on a monthly as well as a 12-month rolling total basis. [06-096 CMR 115, BPT]

(20) **Cyclones/Separators**

- A. Lovell Lumber shall conduct an inspection and maintenance program for the process cyclones/separators which includes the following:
 - periodic emptying of the cyclone drop containers as necessary to minimize PM emissions; and
 - monthly visual inspections of the cyclone shells and drop points for any fractures or holes in the cyclone shells that would affect their operation and to determine the necessity of emptying the drop containers.Lovell Lumber shall record the dates and findings of monthly visual inspections as well as any necessary maintenance and drop container emptying in an inspection/maintenance log. This log shall be maintained on site and shall be made available to the Department upon request. [06-096 CMR 115, BACT/BPT]

Lovell Lumber Company, Inc.
Oxford County
Lovell, Maine
A-676-71-F-N

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B. Visible emissions from the cyclones/separators shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. [06-096 CMR 101, BACT/BPT]

(21) **Fugitive Emissions**

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

(22) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. [06-096 CMR 101]

(23) Lovell Lumber 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 20th DAY OF June, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Patricia W. Aho*
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 9, 2012

Date of application acceptance: April 10, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Jane Gilbert, Bureau of Air Quality.



