



## OLD TOWN FUEL & FIBER

October 17, 2011

Ms. Kathy Tarbuck  
Maine Department of Environmental Protection  
Bureau of Air Quality  
17 State House Station  
Augusta, ME 04333-0017

Dear Kathy,

Old Town Fuel & Fiber (OTFF) is submitting the enclosed application in support of a proposed increase in the mill's 265.2 MMBtu/hr biomass boiler carbon monoxide (CO) limit. The current CO license limits for the biomass boiler are 0.35 lb/MMBtu and 119.3 lb/hr. Since startup, OTFF has burnt mostly green wood. The moisture content is significantly higher than burning construction demolition wood (CDW). OTFF believes this is a major cause of the increased CO emissions. In addition to burning green wood only, the biomass boiler's age and relatively small size make it difficult for the mill to meet the current limits.

Adjustments to the overfire air system as well as other optimization measures have been taken in an effort to reduce CO emissions. Although the mill has seen some favorable emission levels at times, maintaining a CO emission rate at or below 0.35 lb/MMBtu is not feasible. Therefore, the mill is requesting a CO emission limit of 0.90 lb/MMBtu for the biomass boiler. The proposed emission rate will result in an increase of CO emissions above the significant emission level; therefore the enclosed is an application for a major modification pursuant to Chapters 115 and 140. The application includes a Best Available Control Technology (BACT) Analysis, Air Dispersion Modeling Analysis, supporting calculations and data, as well as applicable notification documents.

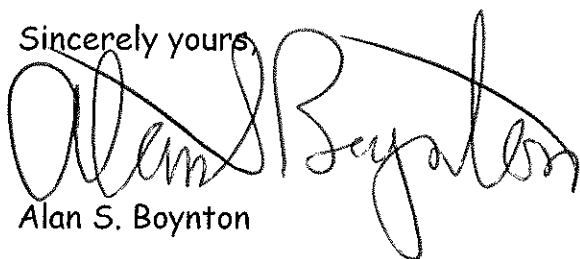
In addition to a request for an increase in the CO limit, OTFF is requesting an increase in the allowable incineration time of non-condensable gases (NCGs) in the



biomass boiler. Currently, the mill is restricted to incinerating NCGs up to 20% of the total NCG incineration time. To keep SO<sub>2</sub> emission levels below the significant emission level, OTFF is requesting an increase in the allowable incineration time from 20% to 29.7%. Supporting calculations can be found in Attachment D of the application. As requested by the DEP in prior correspondence, a modeling analysis for SO<sub>2</sub> is not being submitted with this application.

Kathy, please let me know if you have any questions or need additional information. Colby Sturtevant will email the modeling files directly to Kevin Ostrowski.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Alan S. Boynton". The signature is fluid and cursive, with a large initial "A" and "B".

Alan S. Boynton

cc: Colby Sturtevant, M&D  
USEPA, Region I  
City of Old Town

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## CHAPTER 140

### AIR EMISSION LICENSE APPLICATION FORMS

#### Section A: Facility Information

Owner or Operator (*Legal name as registered with the Secretary of State*):  
Red Shield Acquisition, LLC

Facility Site Address (*Physical, no post office boxes please*):  
24 Portland Street

City/Town:	County:	ZIP:
Old Town	Penobscot	04468

Facility Description:  
Red Shield Acquisition operates a bleached hardwood kraft pulp mill.

Application Description:  
This application is a request to increase the mill's biomass boiler carbon monoxide air emissions and allow increased burning of low volume high concentration non-condensable gases (LVHC NCGs) in the biomass boiler.

Current License #: A - 180 - 70 - A - I  
(Existing facilities only)

#### For Department Use Only

App. Track Number(s): \_\_\_\_\_

Proposed License #: A - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

#### Application Type

- ☐ Initial Part 70 License
- ☐ Renewal of a Part 70 License
- ☒ Part 70 Significant License Modification
- ☐ Part 70 Minor License Modification
- ☐ Part 70 Section 502(b)(10) Change
- ☐ Part 70 Administrative Revision
- ☒ Other: Chapter 115 Major Modification

#### Processing Category

- ☐ No changes to existing license
- ☐ Changes proposed to existing license with an expected implementation date of \_\_\_\_\_



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## Section A: Facility Information (cont.)

### Owner or Operator:

*Person or company who owns, leases, operates, controls, or supervises the facility.*

Name: Richard D. Arnold  
Title: President  
Company: Red Shield Acquisition, LLC (d/b/a Old Town Fuel & Fiber)  
Mailing Address: P.O. Box 564  
City/Town, State, ZIP: Old Town, ME 04468  
Phone: 207-827-7711  
Fax: 207-827-8888  
E-mail: dick.arnold@oldtownff.com

### Facility Contact:

*Environmental Manager or person responsible for receiving official correspondence from the Department.*

Name: Alan S. Boynton  
Title: Environmental Manager  
Company: Red Shield Acquisition, LLC (d/b/a Old Town Fuel & Fiber)  
Mailing Address: P.O. Box 564  
City/Town, State, ZIP: Old Town, Me 04468  
Phone: 207-827-7711  
Fax: 207-827-8260  
E-mail: alan.boynton@oldtownff.com



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## Section A: Facility Information (cont.)

### Application Contact:

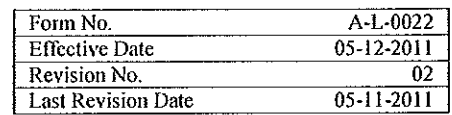
*For example, an outside consultant retained to complete this application.*

Name: Alan S. Boynton  
Title: Environmental Manager  
Company: Red Shield Acquisition, LLC (d/b/a Old Town Fuel & Fiber)  
Mailing Address: P.O. Box 564  
City/Town, State, ZIP: Old Town, ME 04468  
Phone: 207-827-7711  
Fax: 207-827-8260  
E-mail: alan.boynton@oldtownff.com

### Billing Contact:

*Person who should receive the annual invoice for the air emission license fee.*

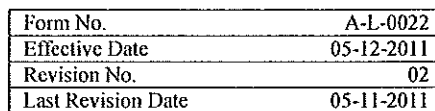
Name: Cheryle Levesque  
Title:  
Company: Red Shield Acquisition, LLC (d/b/a Old Town Fuel & Fiber)  
Mailing Address: P.O. Box 564  
City/Town, State, ZIP: Old Town, ME 04468  
Phone: 207-827-7711  
Fax: 207-827-8888  
E-mail: cheryle.levesque@oldtownff.com



North American Industry Classification System (NAICS) Code	Description
322110	wood pulp mfg
221119	electric power generation

Emission Unit ID	Stack #	Description
<i>PB#1</i>	<i>1</i>	<i>Power Boiler #1 (example)</i>
<i>C Recovery</i>	<i>2</i>	<i>Recovery Boiler (example)</i>
<i>Tank 3</i>	<i>fugitive</i>	<i>Gasoline Storage Tank (example)</i>

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## I. Application Checklist

- ☒ Published Notice of Intent to File (Not required for Part 70 Minor License Modifications, Administrative Revisions, 502(b)(10) Changes, or Significant License Modifications.)
- ☒ Included tear sheet or copy of the Notice of Intent to File from the newspaper
- ☒ Submitted copy of application to local municipal office
- ☒ Sent a copy of application to EPA (Not required for Administrative Revisions.)
- ☐ Sent a copy of application to affected states (Not required for Part 70 Administrative Revisions, License Transfers, or 502(b)(10) Changes.)
- ☒ Notified abutters by certified mail (Transfers only)

## II. Insignificant Activities

[illegible]





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## Section D: General Applicable Requirements

I. Is this facility required to file an annual emission statement per 06-096 CMR 137?

☒ Yes ☐ No

If no, explain: \_\_\_\_\_

II. Is this facility required to file an Air Toxics Emission Statement per 06-096 CMR137?

☒ Yes ☐ No

If no, explain: \_\_\_\_\_

III. Hazardous Air Pollutants (as defined by: EPA, Office of Air Quality, Planning & Standards. Section 112 Hazardous Air Pollutants List)

Does this facility have the Potential to Emit:

- a. ☒  $\geq 10$  tons per year of any single Hazardous Air Pollutant
- b. ☒  $\geq 25$  tons per year of all Hazardous Air Pollutants combined
- c. ☐ None of the above

IV. Greenhouse Gases (GHGs) (as defined by: 06-096 CMR 100, Definitions Regulation)

### New Sources

The facility has the potential to emit GHGs:

- a. ☐  $\geq 100,000$  tons per year on a CO<sub>2</sub>e basis
- b. ☐  $\geq 75,000$  tons per year on a CO<sub>2</sub>e basis and is subject to PSD permitting for another regulated NSR pollutant
- c. ☐ None of the above

### Existing Sources

The facility has:

- a. ☐ Potential to emit GHGs  $\geq 100,000$  tons per year on a CO<sub>2</sub>e basis and has a net emissions increase of GHGs  $\geq 75,000$  tons per year on a CO<sub>2</sub>e basis
- b. ☐ A net emissions increase of GHGs  $\geq 75,000$  tons per year on a CO<sub>2</sub>e basis and is subject to PSD permitting for another regulated NSR pollutant
- c. ☒ None of the above



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## Section D: General Applicable Requirements (cont.)

### V. Applicable State Regulations (06-096 CMR)

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Chapter 101 | <input type="checkbox"/> Chapter 121            | <input type="checkbox"/> Chapter 135            |
| <input checked="" type="checkbox"/> Chapter 103 | <input type="checkbox"/> Chapter 122            | <input type="checkbox"/> Chapter 136            |
| <input type="checkbox"/> Chapter 104            | <input type="checkbox"/> Chapter 123            | <input checked="" type="checkbox"/> Chapter 137 |
| <input checked="" type="checkbox"/> Chapter 105 | <input checked="" type="checkbox"/> Chapter 124 | <input checked="" type="checkbox"/> Chapter 138 |
| <input checked="" type="checkbox"/> Chapter 106 | <input type="checkbox"/> Chapter 125            | <input type="checkbox"/> Chapter 148            |
| <input type="checkbox"/> Chapter 107            | <input type="checkbox"/> Chapter 126            | <input type="checkbox"/> Chapter 150            |
| <input type="checkbox"/> Chapter 111            | <input type="checkbox"/> Chapter 129            | <input type="checkbox"/> Chapter 151            |
| <input type="checkbox"/> Chapter 112            | <input type="checkbox"/> Chapter 130            | <input type="checkbox"/> Chapter 153            |
| <input type="checkbox"/> Chapter 113            | <input type="checkbox"/> Chapter 131            | <input type="checkbox"/> Chapter 156            |
| <input type="checkbox"/> Chapter 114            | <input type="checkbox"/> Chapter 132            | <input type="checkbox"/> Chapter 159            |
| <input checked="" type="checkbox"/> Chapter 117 | <input type="checkbox"/> Chapter 133            | <input type="checkbox"/> Chapter _____          |
| <input type="checkbox"/> Chapter 118            | <input checked="" type="checkbox"/> Chapter 134 | <input type="checkbox"/> Chapter _____          |

### VI. Applicable Federal Regulations (40 CFR)

- ☒ Part 60 (NSPS) Subparts – list all that apply: A, BB, Db,
- ☐ Part 61 (NESHAP) Subparts – list all that apply: \_\_\_\_\_
- ☒ Part 63 (NESHAP for Source Categories) Subparts – list all that apply: MM, S
- ☐ Part 64 (CAM) List emission units subject to CAM: \_\_\_\_\_
- ☒ Part 70 (State Operating Permit Program for Part 70 Sources)
- ☐ Part 72 (Acid Rain Program) - list emission unit(s): \_\_\_\_\_
- ☐ Part 75 (Continuous Emission Monitoring for Acid Rain Sources)
- ☐ Part 82 (Protection of Stratospheric Ozone)
- ☐ Part 89 (Control of emissions from Compression-Ignition Engines)
- ☐ Part 90 (Control of emissions from Non-Road Spark-Ignition Engines  $\leq 19$  kw)
- ☒ Part 98 (Mandatory Greenhouse Gas Reporting)
- ☐ Part \_\_\_\_\_



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## Section E: Fuel Burning Equipment

Emission Unit ID: Biomass Boiler

### I. Equipment Description

a. Type of Equipment - (Boiler, furnace, engine, etc.)	biomass boiler		
b. Manufacturer -	Babcock & Wilcox		
c. Model -			
d. Max. Heat Input (MMBtu/hr) -	265.2		
e. Date of Manufacture -	1986		
f. Date of Installation -	2004/2005		
g. 40 CFR Part 60 Applicability -	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	Subpart(s): A, Db
h. 40 CFR Part 63 Applicability -	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	Subpart(s):
i. 40 CFR Part 72 Applicability -	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	Subpart(s):
j. 40 CFR Part _____ Applicability -	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	Subpart(s):

### II. Fuels

Type/Grade	Sulfur Content (%)	Max Firing Rate
wood, wood chips & bark		265.2 MMBtu/hr
waste paper		
construction demolition wood		133 MMBtu/hr
natural gas		90 MMBtu/hr
waste oil		5,000 gal/yr
oil pads		2,500 lb/yr



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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): Biomass Boiler

### III. Control Equipment

Description	Pollutant(s) Controlled	Efficiency % (capture/control)	Installation Date
multiclone	particulate matter		2004/2005
electrostatic precipitator	particulate matter		2004/2005

### Current or Proposed Emission Limits

<b>Fuel Type:</b> <u>Any licensed</u>					
Pollutant	Performance Standard (Identify lb/MMBtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM	0.03 lb/MMBtu		BACT	8	35
PM <sub>10</sub>	0.03 lb/MMBtu		BACT	8	35
PM <sub>2.5</sub>					
SO <sub>2</sub>			BACT	6.6	29
NO <sub>x</sub>	0.25 lb/MMBtu	24 hr	BACT	66.3	290.3
CO	0.35 lb/MMBtu	30 day rolling	BACT	119.3	406.6
VOC			BACT	4.5	19.7
lead			BACT	0.106	0.46



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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): Biomass Boiler

*Duplicate page as needed to accommodate all fuel types for this Emission Unit.*

Fuel Type: _____					
Pollutant	Performance Standard (Identify lb/MMbtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM					
PM <sub>10</sub>					
PM <sub>2.5</sub>					
SO <sub>2</sub>					
NO <sub>x</sub>					
CO					
VOC					

Fuel Type: _____					
Pollutant	Performance Standard (Identify lb/MMbtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM					
PM <sub>10</sub>					
PM <sub>2.5</sub>					
SO <sub>2</sub>					
NO <sub>x</sub>					
CO					
VOC					



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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): Biomass Boiler

### IV. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

☐ Yes ☒ No

If yes, for what pollutant(s)? \_\_\_\_\_

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

<input checked="" type="checkbox"/> Opacity	<input type="checkbox"/> TRS	<input type="checkbox"/> NH <sub>3</sub>
<input type="checkbox"/> SO <sub>2</sub>	<input type="checkbox"/> Mercury	<input type="checkbox"/> PM
<input checked="" type="checkbox"/> NO <sub>x</sub>	<input checked="" type="checkbox"/> O <sub>2</sub>	<input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> CO	<input type="checkbox"/> CO <sub>2</sub>	

c. Parameter Monitors

Parameter Monitored	Monitor Frequency	Record Frequency
ESP secondary voltage	1/day	1/day
ESP secondary current	1/day	1/day

### V. Stack Data

How are the emissions released? ☐ Fugitive ☒ Stack

For stack emissions only:

a. Stack ID -	1
b. Orientation -	<input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal
c. Rain Cap -	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
d. Height (feet) -	135 AGL
e. Diameter (feet) -	6.5
f. Gas Exit Flow Rate (acfm) -	102,600 (2010 emissions test)
g. Gas Exit Velocity (ft/sec) -	51.6 (2010 emissions test)
h. Exit Temperature (deg F) -	378 (2010 emissions test)



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## Section E: Fuel Burning Equipment

Emission Unit ID: Lime Kiln

### VI. Equipment Description

a. Type of Equipment - (Boiler, furnace, engine, etc.)	lime kiln
b. Manufacturer -	F. L. Smith
c. Model -	
d. Max. Heat Input (MMBtu/hr) -	64 MMBtu/hr burner
e. Date of Manufacture -	
f. Date of Installation -	1974
g. 40 CFR Part 60 Applicability -	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Subpart(s):
h. 40 CFR Part 63 Applicability -	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Subpart(s): MM
i. 40 CFR Part 72 Applicability -	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Subpart(s):
j. 40 CFR Part _____ Applicability -	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Subpart(s):

### VII. Fuels

Type/Grade	Sulfur Content (%)	Max Firing Rate
natural gas		64 MMBtu/hr
#6 Fuel oil	2% lic	64 MMBtu/hr
waste oil		64 MMBtu/hr



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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): lime kiln

### VIII. Control Equipment

Description	Pollutant(s) Controlled	Efficiency % (capture/control)	Installation Date
venturi scrubber	PM		1974

### Current or Proposed Emission Limits

<b>Fuel Type:</b> <u>Any licensed</u>					
Pollutant	Performance Standard (Identify lb/MMBtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM	0.13 hr/dscf corrected to 10% O <sub>2</sub>		Subpart MM	32.9	144.1
PM <sub>10</sub>			BPT	32.9	144.1
PM <sub>2.5</sub>					
SO <sub>2</sub>			BPT	7.1	31.1
NO <sub>x</sub>	170 ppm corrected to 10% O <sub>2</sub>	1 hr	CMR 138	36	157.7
CO			BPT	81.7	357.8
VOC			BPT	1.2	5.3
TRS	20 ppm corrected to 10% O <sub>2</sub>	12 hr	CMR 124	5.3	23.2





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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): lime kiln

*Duplicate page as needed to accommodate all fuel types for this Emission Unit.*

Fuel Type: _____					
Pollutant	Performance Standard (Identify lb/MMbtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM					
PM <sub>10</sub>					
PM <sub>2.5</sub>					
SO <sub>2</sub>					
NO <sub>x</sub>					
CO					
VOC					

Fuel Type: _____					
Pollutant	Performance Standard (Identify lb/MMbtu, ppm, gr/dscf, etc.)	Averaging Period	Regulatory Reference	Mass Emission Rate (lb/hr)	Annual (TPY)
PM					
PM <sub>10</sub>					
PM <sub>2.5</sub>					
SO <sub>2</sub>					
NO <sub>x</sub>					
CO					
VOC					



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## Section E: Fuel Burning Equipment (cont)

Emission Unit ID (cont): lime kiln

### IX. Monitoring

a. Is this Unit subject to Compliance Assurance Monitoring (CAM) under 40 CFR Part 64?

☐ Yes ☒ No

If yes, for what pollutant(s)? \_\_\_\_\_

b. This Unit is equipped with the following Certified Continuous Emission Monitoring Systems:

<input type="checkbox"/> Opacity	<input checked="" type="checkbox"/> TRS	<input type="checkbox"/> NH3
<input type="checkbox"/> SO2	<input type="checkbox"/> Mercury	<input type="checkbox"/> PM
<input type="checkbox"/> NOx	<input checked="" type="checkbox"/> O2	<input type="checkbox"/> Other: _____
<input type="checkbox"/> CO	<input type="checkbox"/> CO2	

c. Parameter Monitors

Parameter Monitored	Monitor Frequency	Record Frequency
scrubber pressure differential	continuous	every 15 minutes
scrubber recycle flow	continuous	every 15 minutes
NCG incineration time	continuous	

### X. Stack Data

How are the emissions released? ☐ Fugitive ☒ Stack

For stack emissions only:

i. Stack ID -	2
j. Orientation -	<input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal
k. Rain Cap -	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
l. Height (feet) -	163
m. Diameter (feet) -	5
n. Gas Exit Flow Rate (acfm) -	22,900 (2010 emissions test)
o. Gas Exit Velocity (ft/sec) -	19.4 (2010 emissions test)
p. Exit Temperature (deg F) -	157 (2010 emissions test)



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## Section J: Certification

Each application submitted to the Department must include the following certification signed by a Responsible Official\*:

"I certify under penalty of law that, based on information and belief formed after reasonable inquiry, I believe the information included in the attached document is true, complete, and accurate."

*Michael L. Footer*  
Responsible Official Signature

10/13/11

Date

Michael L. Footer

Mill Manager

Responsible Official (Printed or Typed)

Title

\*A Responsible Official is defined by MEDEP Chapter 100 as:

- A. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
  - (1) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
  - (2) The delegation of authority to such representatives is approved in advance by the permitting authority;
- B. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- C. For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA).



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## Section K: List of Attachments

- |  |                        |
|--|------------------------|
| <input type="checkbox"/> Plot Plan   | Attachment _____       |
| <input checked="" type="checkbox"/> Public Notice of Intent to File<br>(Copy or tear sheet from the newspaper) | Attachment <u>E</u>    |
| <input checked="" type="checkbox"/> Calculations   | Attachment <u>A, D</u> |
| <input checked="" type="checkbox"/> BPT/BACT Analysis  | Attachment <u>B</u>    |
| <input type="checkbox"/> CAM Plan  | Attachment _____       |
| <input type="checkbox"/> MACT Analysis   | Attachment _____       |
| <input checked="" type="checkbox"/> Ambient Air Quality Impact Analysis  | Attachment <u>C</u>    |
| <input type="checkbox"/> Confidentiality Justification   | Attachment _____       |
| <input type="checkbox"/> Permit Shield   | Attachment _____       |
| <input type="checkbox"/> Meteorology/Air Quality Monitoring Results  | Attachment _____       |
| <input type="checkbox"/> Proposed Alternative Operating Scenarios  | Attachment _____       |
| <input type="checkbox"/> RACT Requirement  | Attachment _____       |
| <input type="checkbox"/> BART Requirement  | Attachment _____       |
| <input type="checkbox"/> Suggested Draft License   | Attachment _____       |
| <input type="checkbox"/> Title, Right, or Interest   | Attachment _____       |
| <input type="checkbox"/> Applicable Requirements   | Attachment _____       |
| <input type="checkbox"/> State-only Requirements   | Attachment _____       |
| <input type="checkbox"/> Compliance Plan   | Attachment _____       |
| <input type="checkbox"/> Compliance Certification  | Attachment _____       |
| <input checked="" type="checkbox"/> Other: abutter notice of intent to file                                    | Attachment <u>F</u>    |
| <input checked="" type="checkbox"/> Other: public meeting notice   | Attachment <u>G</u>    |
| <input checked="" type="checkbox"/> Other: abutter public meeting notice                                       | Attachment <u>H</u>    |
| <input checked="" type="checkbox"/> Other: public meeting comments   | Attachment <u>I</u>    |

## **Section 2**

## 1. Introduction

Old Town Fuel & Fiber (OTFF) is submitting an application to increase the CO emission limit for the mill's existing 265 MMBtu/hr biomass boiler, as well as to request the ability to increase the allowable incineration time of non-condensable gases (NCGs) in the biomass boiler. OTFF is classified as a major stationary source, and the requested license modification is considered a major modification because the potential increase in CO emissions exceeds the significant emission increase level. No other criteria pollutants will have an increase in emissions greater than the significant emission threshold as a result of the proposed modifications; therefore, this BACT analysis only addresses CO. In accordance with Chapter 115 of the Maine Department of Environmental Protection regulations, major modifications are required to comply with the Best Available Control Technology (BACT) requirements. The following table presents OTFF's calculated future potential CO emissions in comparison to the current actual emissions. See Attachment A for associated emissions calculations.

**Table 1: Biomass Boiler Potential Emissions Increase**

<b>Pollutant</b>	<b>Current Actual (tons/yr)</b>	<b>Future Potential (tons/yr)</b>	<b>Potential Increase (tons/yr)</b>	<b>Significant Emission Increase Levels (tons/yr)</b>
Carbon Monoxide	406.0	1045.4	638.9	100

A BACT analysis is a "top down" procedure applied to determine the level of pollution control or emission limit that must be applied to a particular emission unit. The "top down" BACT procedure consists of the following steps:

- Identify all available control technologies
- Eliminate technically infeasible options
- Rank remaining control technologies by control effectiveness
- Evaluate most effective controls and document results (case-by-case consideration of energy, environmental and economic impacts)
- Select BACT

To identify potential emission control technologies, MacMillan & Donnelly (M&D) accessed EPA's RACT/BACT/LAER Clearinghouse (RBLC) as well as state agency websites. The RBLC is a compilation of emission limits and controls on emission units from around the United States that have received air permits from various states and other regulatory agencies. The information is voluntarily provided by the agencies and entered into the RBLC. Due to the voluntary nature of the RBLC, not all permits are submitted for inclusion. In many cases, emission limits and pollution control information included in the following BACT analyses were gathered by contacting state or local air permit agencies.

## 2. Summary of BACT Determinations

OTFF is proposing the continued use of overfire air and good combustion controls, with emission rates of 0.90 lb CO/MMBtu and 238.5 lb/hr as BACT for carbon monoxide (CO). The following table summarizes the determinations of this BACT analysis.

**Table 2: Proposed BACT Emission Rates for Biomass Boiler**

Pollutant	Emission Rate	Control
CO	0.90 lb/MMBtu 238.5 lb/hr	Overfire Air & Good Combustion Controls

## 3. BACT Determinations

### 3.1 Carbon Monoxide

There are several factors that affect the formation and amount of CO generated when combusting biomass. OTFF previously burned a combination of green wood and C & D wood, yet can now only burn green wood. The burning of only green wood results in higher CO emissions due to the higher moisture content in green (wet) wood. The size and age of the biomass boiler also play a significant role in the formation and control of CO emissions. Generally, the older and smaller the biomass boiler, the more difficult it is to prevent the formation of CO emissions.

#### 3.1.1 Identification of Facilities with Biomass Boilers

Searches of similar sized biomass boilers registered in RBLIC were conducted to identify control technologies for the control of CO emissions from biomass boilers. Table 3 summarizes the results of the searches for CO control technologies. A review of the entries in Table 3 indicate the following control technologies in use to control CO emissions:

- Good combustion practices
- No controls
- Boiler designed with staged combustion
- Oxidation catalyst

**Table 3: Facilities with Biomass Boilers and Carbon Monoxide Limits**

Facility	State	Permit Date	Capacity, MMBtu/hr	Primary Fuel	CO Control System	CO Limit, lb/MMBtu
Berlin Biopower	NH	7/26/2010	1,013	Wood	BFB Boiler Design and FGR	0.075
Montville Power, LLC	CT	4/6/2010	600	Clean Wood	Oxidation Catalyst	0.10
Lindale Renewable Energy	TX	1/8/2010	213	Biomass	Good Combustion Practices	0.31
Lufkin Generating Plant	TX	10/26/2009	693	Wood	Good Combustion Practices, Fluidized Bed Design	0.075

Facility	State	Permit Date	Capacity, MMBtu/hr	Primary Fuel	CO Control System	CO Limit, lb/MMBtu
Koda Energy	MN	8/23/2007	308	Wood	Good Combustion Practices	0.43
Northern Sun	ND	5/1/2006	280	Biomass	Good Combustion Practices	0.63
South Point Biomass Generation	OH	4/4/2006	318	Wood	Oxidation Catalyst	0.10
Skagit County Lumber Mill	WA	1/25/2006	430	Bark & Waste Wood	Good Combustion Practices	0.43
Hibbing Public Utilities	MN	6/30/2005	230	Wood	Good Combustion Practices	0.30
Schiller Station	NH	10/25/2004	720	Biomass	Good Combustion Practices w/FBD	0.10
Inland Paperboard and Packaging, Inc.	GA	10/13/2004	856	Bark	Good Combustion Practices	0.29
Del-tin Fiber	LA	2/28/2003	291	Wood Waste	Good Combustion Practices	0.78
Thermal Ventures	VA	2/15/2002	120	Wood	Good Combustion Practices	0.44
S.D. Warren Co. – Skowhegan (SAPPI)	ME	11/27/2001	1300	Wood Waste	Good Boiler Design and Combustion Practices	0.40
Riegelwood Mill	NC	5/10/2001	600	Wood	Good Combustion Practices	0.50
NewPage, Wickliffe Mill (formerly Meadwestvaco)	KY	2/12/2000	631	Bark	N/A	None listed
Boralex – Sherman	ME	4/9/1999	315	Wood	Good Combustion Practices	0.45

There are two entries listed in the above table for having an oxidation catalyst. Montville Power, LLC located in Montville, Connecticut has submitted a permit application to add a biomass boiler to their existing electric-producing operations. The facility has proposed the use of an oxidation catalyst to avoid BACT. The permit was issued on 4/6/2010, and construction has not started yet so the effectiveness of the oxidation catalyst cannot be demonstrated at this point.

The other entry listed above for an oxidation catalyst is at South Point Biomass Generation located in Ohio. The control system is for the combined flue gas from five wood and coal fired boilers, each rated at 175 MMBtu/hr heat input. When the original air quality permit application for this project was submitted, the air quality control region was designated as non-attainment for CO. South Point Biomass Generation had to propose the installation of an oxidation catalyst system in order to meet state requirements for the “lowest achievable emission rate” (LAER).

Today, the air quality region where the South Point Biomass Generation plant is located is in attainment for CO. However, the plant decided to voluntarily install the oxidation catalyst even though it would no longer be required (LAER is no longer applicable and CO was not triggered as a PSD pollutant for this particular project; therefore, a BACT analysis wasn’t performed).

For biomass boilers that are not fluidized bed and do not use an oxidation catalyst, the CO emission limits range from 0.29 – 0.78 lb/MMBtu. Five facilities are identified as having biomass boilers which are sized very close to OTFF’s biomass boiler (265 MMBtu/hr) that list good combustion practices as the primary control for CO. These facilities are:



Hibbing Public Utilities, Minnesota	230 MMBtu/hr	0.30 lb/MMBtu
Northern Sun, North Dakota	280 MMBtu/hr	0.63 lb/MMBtu
Del-tin Fiber, Louisiana	291 MMBtu/hr	0.78 lb/MMBtu
Koda Energy, Minnesota	308 MMBtu/hr	0.43 lb/MMBtu
Boralex - Sherman, Maine	315 MMBtu/hr	0.45 lb/MMBtu

In addition to burning green wood, Hibbing Public Utilities is also licensed to burn low-moisture fuels, such as untreated residuals from manufacturing processes as well as C & D wood, which enables compliance with the boiler's 0.30 lb/MMBtu limit.

Based on the remaining facilities, Koda Energy and Boralex - Sherman operate larger boilers and have CO limits of 0.43 lb/MMBtu and 0.45 lb/MMBtu respectively, with the two closest boilers in size being Northern Sun and Del-tin Fiber, which have CO limits of 0.63 lb/MMBtu and 0.78 lb/MMBtu respectively.

The Maine DEP's website which contains all Title V air licenses was also reviewed for biomass boilers of similar size. Table 4 summarizes the findings, and also includes OTFF's biomass boiler as a comparison.

**Table 4: Similar Biomass Boilers Located in Maine**

Facility	Boiler Type	Manuf. Date	Size (MMBtu/hr)	CDW/RWF	CO limit (lb/MMBtu) (24-hr avg)
Boralex – Ashland	Spreader Stoker	1992	585	30/10	0.95
Boralex – Fort Fairfield	Spreader Stoker	1987	523	0/0	0.45
Boralex – Livermore Falls	Spreader Stoker	1992	586	50/10	0.95
Boralex – Sherman	Spreader Stoker	1985	315	30/10	0.45
Boralex – Stratton	N/A	1988	672	50/0	0.60
<b>OTFF</b>	<b>Spreader Stoker</b>	<b>1986</b>	<b>265</b>	<b>50/0</b>	<b>0.35</b>

The formation of CO in biomass boilers is highly dependent on the type of boiler (spreader stoker or fluidized bed), the age and size of the boiler, fuel(s) being combusted, and combustion controls. The older and smaller the boiler, the more difficult it is to maintain a lower CO emission rate, even with good combustion controls such as overfire air. Additionally, boilers combusting dryer fuels such as CDW and RWF generally experience lower CO emission limits. The biomass boiler at OTFF is the second oldest boiler amongst the other biomass boilers listed in Table 5, and has the lowest heat input capacity amongst all of them. The CO emission limit range for the biomass boilers listed in Table 5 (most of which burn CDW and/or RWF), not including OTFF, is 0.45 lb/MMBtu – 0.95 lb/MMBtu. Since OTFF is now burning only green wood, it has become increasingly difficult to maintain their current CO limit of 0.35 lb/MMBtu.

### 3.1.2 Identification and Evaluation of CO Controls

There are two main approaches that can be used to reduce carbon monoxide emissions from biomass boilers. The first involves combustion modification techniques and the second involves the addition of post-combustion controls. Both of these approaches are discussed below.

### Overfire Air

The main combustion modification technique for reducing CO emissions is the use of an overfire air system. The reduction in CO emissions realized from this technique is highly dependent upon the uncontrolled CO concentration, combustion chamber oxygen content, distribution of the air (e.g., portion of the air introduced through the burners versus through the overfire air ports), and type and method of fuel being fired. The use of an overfire air system ensures that complete combustion takes place, usually in the upper portion of a boiler's combustion chamber, to reduce the level of CO in the boiler exhaust gases.

The use of an overfire air system in a wood-fired boiler can reduce CO emissions up to 25% compared to CO emission levels in boilers without an overfire air system. Levels of CO that are indicative of complete combustion in a wood-fired boiler can range from 400-800 parts per million by volume (ppmv), depending upon fuel quality, moisture content, and combustion control.

### Oxidation Catalyst

The primary post-combustion technique used to reduce CO emissions is the use of an oxidation catalyst system. These conventional systems can provide between 65-95% reduction of CO emissions by passing the boiler flue gas exhaust through a catalyst bed that converts the CO to carbon dioxide. These systems work best if the flue gas exhaust temperature is within the range of 500 - 1,100° F, with an optimum temperature of about 700° F. If the exhaust gas stream temperature of the combustion device in question is lower than the optimum temperature range, then additional heat is necessary in order to raise the temperature to the desired level. This may add significant operating costs to the control system since fuel must be burned in order to supply the additional heat.

Oxidation catalysts work best when clean fuel(s) are being burned, such as natural gas, propane, or #2 fuel oil. Oxidation catalysts are sensitive to contamination from particulate matter build-up, which can cause the catalyst to become plugged or coated, thereby losing its effectiveness. If the catalyst becomes plugged with particulate matter, the catalyst beds must be removed from service and be cleaned. This can result in significant periods of downtime for the boiler. If other fuels are burned, such as wood, particulate matter and metal compounds may interfere with the catalysts' ability to react with the CO and convert the gases to carbon dioxide. Metal compounds can actually poison the catalyst, rendering it useless.

For these reasons, CO oxidation catalyst systems for wood-fired boiler applications generally only work well if they are placed downstream of the particulate matter control device, such as an ESP or baghouse. Soot blowers may still be necessary to remove the remaining particulate matter exiting the ESP to eliminate the possibility of toxic metals build-up that could poison the catalyst. In addition to potential fouling and poisoning from particulates, CO oxidation catalysts may also experience problems with higher sulfur dioxide emissions. Sulfur dioxide emissions are converted to sulfur trioxide (SO<sub>3</sub>) on oxidation catalysts, which can lead to the masking of CO oxidation. To avoid this problem, catalysts need to be extremely oversized so there are

sufficient unmasked portions to achieve the desired CO oxidation. Another way to avoid the formation of SO<sub>3</sub> is to raise the temperature of the flue gas going to the catalyst significantly.

#### Good Combustion Practices

Examples of “good combustion practices” for a wood-fired boiler include operator practices, maintenance practices, maintaining proper stoichiometric fuel-to-air ratios, monitoring of fuel quality and consistency, temperature, and combustion air distribution. Additionally, a start-up, shutdown, and malfunction plan should be developed and followed to ensure that emissions are minimized to the extent practical during these periods of operation. All of these factors can affect the pollutant emission rate generated by the boiler, as well as the boiler combustion efficiency.

By following these “good combustion practices”, CO emissions will be minimized. There is no specific percent reduction that can be given for using good combustion practices; however, without their use, CO emissions from a wood-fired boiler will increase significantly - by a factor of 100% or more as compared to a boiler that uses good combustion practices. It is in OTFF’s interest to use good combustion practices so that boiler efficiency is not compromised.

#### Retrofit

Based on information from Babcock & Wilcox, the manufacturer of the biomass boiler, retrofitting the boiler with a fluidized bed will reduce CO emissions by approximately 10% compared to CO emissions from the current configuration as a stoker grate boiler.

### **3.1.3 Technical Feasibility Analysis**

#### Overfire Air System

The use of overfire air is technically feasible in reducing CO emissions from a wood-fired boiler.

#### Oxidation Catalyst

The use of an oxidation catalyst system on OTFF’s biomass boiler may be technically feasible in reducing CO emissions if the catalyst system is located downstream of the existing ESP, and if the flue gas temperature is raised to a level that will allow optimum performance of the catalyst. Retrofit of a CO catalyst upstream of the ESP, in the HRSG section of the boiler, would not be practical. Residual particulate matter contained in the cleaned flue gas will still have some level of toxic metals present and these could poison the catalyst. The use of a soot blower will help to keep the catalyst bed free of any build-up of toxic metals and particulate matter.

#### Use of Fluidized Bed Boiler

The retrofitting of the stoker grate in the biomass boiler to a fluidized bed to reduce CO emissions is technically feasible.

Good Combustion Practices

Good combustion practices are technically feasible in minimizing CO emissions from a wood-fired boiler.

**Ranking The Technically Feasible Control Alternatives to Establish a Control Hierarchy**

The next step in the BACT analysis is to rank the various control options not eliminated in the previous step. Table 5 below presents all of the technologies discussed for CO control.

**Table 5: CO Control Technology Hierarchy**

<b>Control Technology</b>	<b>Control Efficiency, %</b>
Oxidation Catalyst	65-95
Overfire Air & Good Combustion Practices	> 25
Fluidized Bed	10% incremental reduction over stoker grate emissions

**3.1.4 Control Effectiveness Evaluation**

Starting with the top-ranked control option and working down, the energy, environmental, and economic impacts of each technology are evaluated until a control option is selected as BACT. The economic analysis is based on cost data supplied by equipment suppliers and the use of cost estimating spreadsheets contained in Chapter 2 of EPA's Office of Air Quality Planning & Standards (OAQPS) Control Cost Manual, 6th Edition, January 2002 (Chapter 2 – Estimation: Concepts & Methodology).

Oxidation Catalyst

In order for an oxidation catalyst system retrofit to be practical for OTFF's wood-fired boiler, the catalyst must be placed downstream of the existing ESP. Additionally, a duct burner would need to be added to raise the temperature of the flue gas exhaust from 340°F to approximately 700°F so the catalyst will work effectively. Third, a soot blower would be needed to keep the catalyst free of any toxic metal build-up.

Raising the temperature of the flue gas from 340°F to 700°F would require OTFF to burn approximately 26.8 MMBtu of natural gas per hour at a cost of approximately \$1.72 MM per year based on \$7.31/MMBtu. Additionally, this would add approximately 10.5 tons of CO that would need to be treated, assuming the use of a 30 MMBtu/hr (low-NOx) duct burner. Associated calculations can be found in Attachment B.

Using a duct burner creates a large financial penalty that in itself adds an operating cost of about \$1,729 per ton of CO reduced (assuming a 95% reduction in CO emissions, or 993.1 tons per year). It is not a wise use of a valuable energy resource when the temperature of the flue gas exhausted from the ESP must be substantially raised when the biomass boiler is designed to recoup heat with an economizer. An expenditure of \$1.72 MM per year for the duct burner will

negate a significant portion of the cost savings realized by generating cheaper electricity with the biomass boiler and would seriously compromise the financial viability of continuing the operation of the biomass boiler. In fact, OTFF could not justify continuing operations of the biomass boiler if its operating costs just for burning natural gas were \$1.72 MM per year. The overall operating cost associated with the installation of an oxidation catalyst is approximately \$1,292 per ton of CO reduced.

For the reasons listed above, consideration of an oxidation catalyst system for the biomass boiler is considered economically infeasible and a waste of a valuable energy resource (natural gas). Therefore, an oxidation catalyst system for the biomass boiler is rejected as BACT.

#### Overfire Air System

A cost effectiveness analysis has not been prepared for an overfire air system since the biomass boiler is already equipped with an overfire air system.

#### Good Combustion Practices

The costs associated with maintaining good operating practices for a wood-fired boiler are the direct operating costs for operating and supervisory labor to make sure the boiler is functioning as it should at all times.

### **3.1.5 Selection of BACT**

BACT for the biomass boiler is the continued use of an overfire air system and good operating practices. OTFF will also operate the biomass boiler in a manner that minimizes pollutant emissions by using good combustion practices. The good combustion practices will be documented in a standard operating procedure that will be used as a training guide for the boiler operators.

The main reason for requesting an increase in the CO emission limit for OTFF's biomass boiler is the inability to maintain an emission rate of 0.35 lb/MMBtu when firing solely green wood. The biomass boiler was originally licensed with an emission rate of 0.35 lb/MMBtu because the mill was burning up to 50% by weight C & D fuel, which has a lower moisture content and does not form as much CO emissions as green wood, which has a higher moisture content.

OTFF has made continuous efforts to optimize the biomass boiler to reduce the formation of CO emissions and will continue to do so in the future. Additionally, the proposed modification to incinerate NCGs has also demonstrated reductions in CO emissions from the biomass boiler.

Based on the current emission limits for similar sources in Maine as well as sources listed in RBLC, OTFF proposes a BACT CO emission limits of 0.90 lb/MMBtu and 238.5 lb/hr.

### **Section 3**

## **I. Introduction**

On October 1, 2010, the temporary CO emission limit for Old Town Fuel & Fiber's (OTFF) biomass boiler expired, and the original short-term emission limit of 0.35 lb/MMBtu for CO was reinstated. The 0.35 lb/MMBtu emission limit was originally established when the biomass boiler was installed at the mill (2004/2005), when the intention was to burn construction and demolition wood (C & D) in addition to green wood. However, the mill has only been able to burn green wood due to a decrease in available C & D, and the combustion of solely green wood results in higher CO emissions than when mixed with C & D.

Pursuant to Section 7 of Chapter 115 of Maine Department of Environmental Protection (MEDEP) regulations, MacMillan & Donnelly (M&D) has completed an air quality modeling analysis as part of the application for a proposed increase in CO emissions from the mill's biomass boiler. This report provides a summary of the predicted impacts and the procedures used to obtain them.

## **II. Input Parameters**

### **A. Air Contaminants**

M&D assessed emissions of carbon monoxide (CO) in this modeling analysis. The potential increase in SO<sub>2</sub> emissions from the proposed increase in NCG incineration time is below the significant emission increase threshold, and the DEP has not requested a dispersion modeling analysis for SO<sub>2</sub>. Particulates (PM<sub>10</sub> and PM<sub>2.5</sub>) and oxides of nitrogen (NO<sub>x</sub>) were not modeled because CO and SO<sub>2</sub> are the only pollutants affected by this license modification. For CO, M&D modeled 1-hr and 8-hr averaging periods.

### **B. Modeled Sources**

The sources modeled at OTFF included the biomass boiler, #5 power boiler, recovery boiler, lime kiln, smelt dissolving tank, and the gas turbine. The Riley boiler was not included in this modeling analysis because the mill will no longer be operating the boiler. No interactive sources were required in this modeling analysis. The University of Maine, located in Orono, was not a required interactive source because it is insignificant for both 1-hr and 8-hr CO.

### **C. Operating Scenarios**

M&D performed the modeling analysis assuming worst-case operating scenarios at OTFF for the 1-hr and 8-hr CO. The worst-case operating scenarios included all modeled sources operating simultaneously at 100% load, burning fuels which emit the highest level of CO. The following table represents the worst-case operating scenarios for OTFF.

**Table 1: Modeled Sources at OTFF (Worst Case)**

Source ID	Source	Fuel
BIONCG	Biomass Boiler	Biomass (Green Wood)
#5NONCG	#5 Power Boiler	#6 Oil (0.5% sulfur)
RECOVFO	Recovery Boiler	#6 Oil (0.5% sulfur)
LIMEKILN	Lime Kiln	Lime mud, NCGs, #6 oil (2.0% sulfur), waste oil, natural gas
SMELT	Smelt Dissolving	Weak wash and smelt from recovery boiler
TURBINE	Gas Turbine	Natural gas

#### D. Emission Rates

M&D modeled a CO emission rate of 306.0 lb/hr for the biomass boiler. This emission rate represents the temporary CO limit formerly in place at OTFF. BACT determined a lower emission rate of 0.90 lb/MMBtu. Table 2 summarizes all other emission rates for OTFF used in the modeling analysis.

**Table 2: Maximum Emission Rates for Modeling**

Source	CO	
	lbs/hr	gm/sec
Biomass Boiler	306.0	38.55
#5 Power Boiler	27.40	3.45
Recovery Boiler (#6 oil)	312.7	39.40
Lime Kiln	81.70	10.29
Smelt Dissolving Tank	3.33	0.0076
Gas Turbine	9.71	1.22

#### E. Stack Parameters

The approximate Universal Transverse Mercator (UTM) coordinates and stack base elevations of all stacks are listed in the following table. The UTM coordinates are based on NAD83 datum.

**Table 3: Stack Locations and Base Elevations**

Stack Description	UTM Coordinates		Stack Base Elevation (m amsl)	Stack Base Elevation (ft amsl)
	Easting (m)	Northing (m)		
Biomass Boiler	528774	4973860	26.95	88.40
#5 Power Boiler	528763	4973939	27.68	90.79
Recovery Boiler	528906	4973901	24.87	81.57
Lime Kiln	528826	4974053	27.28	89.48
Smelt Dissolving Tank	528904	4973913	24.93	81.77
Gas Turbine	528749	4973729	27.64	90.66



The stack dimensions and exhaust gas characteristics for all stacks are summarized in Table 4.

**Table 4: Stack Dimensions and Exhaust Gas Characteristics**

Source at 100% Load	Stack height (ft. agl)	Stack height (m. agl)	Stack dia. (ft.)	Stack dia. (m)	Stack flow rate (acfm)	Stack flow rate (m <sup>3</sup> /s)	Stack gas temp. (°F)	Stack gas temp. (K)
Biomass Boiler	135	41.1	6.50	1.98	99,978	47.2	340	444
#5 Power Boiler	180	54.9	7.5	2.9	82,655	39.0	360	455
Recovery Boiler (fuel oil)	250	76.2	9.67	2.95	234,215	110.5	400	478
Lime Kiln	163	49.7	4.0	1.22	25,485	12.0	150	339
Smelt Dissolving Tank	250	76.2	4.92	1.50	14,145	6.7	168	349
Gas Turbine	80	24.4	8	2.44	87,570	41.3	890	750

#### F. Building Parameters

All building and tier information for OTFF was obtained from the most recent modeling analysis (February 2010). The BPIP-PRIME results indicate that the 150' agl tier of the recovery boiler building (BLD76A, Tier 1) is the GEP-controlling structure for the biomass boiler stack. OTFF's biomass boiler stack represents 44% of formula GEP stack height.

#### G. Meteorological Conditions

The meteorological data used for the modeling analysis was supplied by the MEDEP, and consisted of the five year period between 1991 and 1995 recorded at the Juniper Ridge meteorological station. The base elevation for the surface station tower is 46.32 m amsl. Upper air data is from the Caribou Municipal Airport (Station # 14607).

#### H. Receptor Grids

The following nested grid was used in the modeling analysis:

- 20-meter spacing: 528774 m E 4973860 m N (biomass boiler) to 400 meters;
- 100-meter spacing: 400 meters to 2,000 meters;
- 500-meter spacing: 2,000 meters to 7,000 meters; and,
- 1,000-meter spacing: 7,000 meters to 20,000 meters.

As indicated from the receptor grid spacing above, a fenceline was not included in the modeling analysis, as there are no physical barriers where the mill property abuts the Penobscot River. The terrain file that provided receptor elevations and hill heights was obtained from the USGS seamless server website. A 1 arc-second NED file was downloaded from the website for the area surrounding OTFF. AERMET was used to process the elevations and hill heights for the receptor grid.

## I. Applicable Standards

This modeling analysis addresses compliance with Ambient Air Quality Standards (AAQS) for CO. These standards are summarized in the following table.

**Table 5: Air Quality Standards Applicable to OTFF**

Pollutant	Averaging Period	AAQS ( $\mu\text{g}/\text{m}^3$ )
CO	1-hr	40,000
	8-hr	10,000

## J. Background Air Quality Values

The following table lists the background air quality values that were added to the combined source impacts to assess compliance with AAQS. These values are MEDEP's latest published values for rural locations in eastern Maine.

**Table 6: Background Air Quality Values**

Pollutant	Averaging Period	Concentration ( $\mu\text{g}/\text{m}^3$ )
CO	1-hr	656
	8-hr	479

## K. Models and Methodologies

### 1. Models

The AERMOD model (BEEST version 9.84) was used for the modeling analysis.

### 2. Model Options

The regulatory default option was selected for the AERMOD interactive source modeling.

## L. PSD Class II Increment Evaluation

Carbon Monoxide is not subject to Class II increment standards. Per the protocol submitted and approved in November 2010, M&D did not conduct an increment analysis for CO as part of this modeling analysis.

## III. Results

The predicted impacts for the 1-hr and 8-hr standards for CO are summarized in the following table.

Table 7: Maximum Modeled Impacts (Worst Case Operating Scenario)

Pollutant	Averaging Period	Max Impact ( $\mu\text{g}/\text{m}^3$ )	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Combined Impact ( $\mu\text{g}/\text{m}^3$ )	NAAQS ( $\mu\text{g}/\text{m}^3$ )
CO	1-hr	535.7	656	1,191.7	40,000
	8-hr	227.0	479	706	10,000

#### IV. Summary

OTFF was able to demonstrate compliance with the 1-hr and 8-hr CO AAQS when modeling the worst case operating scenarios for OTFF. Copies of all modeling files are included on the attached compact disc. Attachment C contains full summary tables of all modeled impacts and associated calculations.

## Appendix A

Old Town Fuel & Fiber  
A-180-70-B-A

CO Emissions	Biomass Boiler	
	Current	Proposed
Emission Rate (lb/MMBtu)	0.35	0.90
Biomass Boiler Heat Input Rating (MMBtu/hr)	265.2	265.2
Emission Rate (lb/hr)	119.3	238.68
Potential annual emissions (tons)	406.6	1045.4
Potential increase in CO emissions (tons)	638.9	

## Appendix B

Old Town Fuel & Fiber

A-180-70-B-A

<b>Amount of energy (H) required to heat flue gas from 340 deg F to 700 deg F</b>					
m = mass flow rate of flue gas	297,960	lb/hr			
Cp = specific heat of flue gas	0.25	BTU/lb - deg F			
t2 =	700	deg F	(CO reduction of 95%)		
t1 =	340	deg F			
t2 - t1 =	360	deg F			
H = m * Cp * (t2 - t1) =	26,816,400	BTU/hr			
	26.82	MMBtu/hr			
OTFF ytd avg cost of nat gas	\$ 7.31	\$/MMBtu			
	\$ 196.03	\$/hr			
	\$ 1,717,204.26	\$/yr			
CO loading to catalyst	1045.4	ton/yr			
CO removal	993.13	ton/yr			
dollar per ton removed	\$ 1,729.08				

Old Town Fuel & Fiber  
A-180-70-B-A  
**OXIDATION CATALYST - CO CONTROL**

**Equipment Costs**

oxidation catalyst	\$108,000	estimate provided by Michael Pope of Sud-Chemie personal communication with Colby Sturtevant, MacMillan & Donnelly, Inc.
frame and housing	\$25,000	estimate provided by Michael Pope of Sud-Chemie personal communication with Colby Sturtevant, MacMillan & Donnelly, Inc.
natural gas fired duct burner	\$100,000	estimate provided by Joe Richter of BMR Thermal (Coen burner rep)
refractory lined combustion chamber	\$125,000	estimate provided by Joe Richter of BMR Thermal (Coen burner rep)
total system (A)	<b>\$358,000</b>	
freight (0.05A)	\$17,900	Page 2-27 Control Cost Manual
taxes (0.05A)	\$17,900	Based on ME state tax rate
instrumentation (0.1A)	\$35,800	Page 2-27 Control Cost Manual

**Total Purchased Equipment cost (B): \$429,600**

**Direct Installation Costs**

direct installation cost factors provided by Control Cost Manual for thermal and catalytic incinerators and carbon adsorbers

Foundations and supports (0.08B)	\$34,368
Handling and Erection (0.14B)	\$60,144
Electrical (0.01B)	\$4,296

**Total Direct Installation Cost: \$98,808**

**Total direct cost: \$528,408**

**Indirect Costs (Installation)**

standard factors for most control equipment contained in Control Cost Manual

Engineering and Supervision (0.10B)	\$42,960
Construction and Field Expenses (0.05B)	\$21,480
Contractor fees (0.10B)	\$42,960
Startup (0.02B)	\$8,592
Performance Test (0.01B)	\$4,296
Contingencies (0.03B)	\$12,888

**Total indirect cost: \$133,176**

**Total Capital investment (TCI): \$661,584**



Old Town Fuel & Fiber  
A-180-70-B-A  
OXIDATION CATALYST - CO CONTROL

**Direct Annual Cost**

Operating Labor (duct burner)	---	
Natural Gas (duct burner)	\$1,097,103	based on \$7.31/MMBtu for natural gas (OTFF 2011 ytd average cost)
Supervisory Labor	---	
Maint. Labor and Materials	\$24,638	Labor rate estimated at \$45 per hour, including benefits and insurance. Maintenance, labor and materials: $2 \times 0.25 \text{ hr/shift} \times 3 \text{ shifts/day} \times 365 \text{ days/year} \times \$45/\text{hour} = \$24,638$ .
Catalyst replacement (3 year life, 7% interest)	\$41,153	In accordance with equation 2.11 of the Control Cost Manual, the annual cost of the catalyst is calculated by annualizing a \$108,000 replacement cost over 3 years at 7% ( $0.38105 \times 108,000 = \$41,153$ ). As a conservative measure the labor cost for catalyst replacement is not factored in.
Spent catalyst handling	----	Spent catalyst removal/disposal cost was not estimated as a conservative measure. The spent catalyst is returned to the vendor for metal recovery and the cost for removal/disposal is indirectly factored in the cost of a new
performance loss	----	

**Total direct annual cost: \$1,162,894**

**Indirect Annual Costs**

Overhead (60% total labor and materials)	\$14,783	Page 2-34 Control Cost Manual
Administrative charges (0.02 TCI)	\$13,232	Page 2-34 Control Cost Manual
Insurance (0.01 TCI)	\$6,616	Page 2-34 Control Cost Manual
Property tax (0.01 TCI)	\$6,616	Page 2-34 Control Cost Manual
Capital recovery (10 year at 7% interest)	\$78,830	
(TCI - replacement cost of catalyst) * 0.1424		

**Total indirect annual cost: \$120,077**

**Total Annual Costs \$1,282,971**

**Average Cost Effectiveness**

CO emissions removed (tons/year)	993.13
Cost effectiveness (dollars/ton CO removed)	1,292

## Appendix C

Old Town Fuel & Fiber  
A-180-70-B-A

YEAR	POLLUTANT	AVGPERIOD	RANK	IMPACT	EASTING	NORTHING	ELEVATION	HILL_HEIGHT
1991	CO	1-HR	2ND	399.14	529094	4973680	23.19	23.19
1992	CO	1-HR	2ND	296.95	529114	4973700	23.32	23.32
1993	CO	1-HR	2ND	341.08	528494	4973540	29.2	29.2
1994	CO	1-HR	2ND	354.45	528774	4973260	32.94	32.94
1995	CO	1-HR	2ND	535.74	528474	4973560	29.75	29.75
				<b>535.74</b>				
1991	CO	8-HR	2ND	206.59	529134	4973660	23.89	23.89
1992	CO	8-HR	2ND	157.95	528474	4973060	19.12	50
1993	CO	8-HR	2ND	161.48	528574	4973060	19.44	19.44
1994	CO	8-HR	2ND	226.99	528774	4973160	30.68	30.68
1995	CO	8-HR	2ND	205.17	528874	4974260	24.49	24.49
				<b>226.99</b>				

## Appendix D

**Old Town Fuel & Fiber  
A-180-70-B-A**

<b>Supporting Calculations for Proposed Increase in NCG Incineration time in Biomass Boiler</b>		
<b>Current Actual Emissions</b>		
	<b>Lime Kiln</b>	<b>Biomass Boiler</b>
% Incineration	87.8%	12.2%
NCG incineration hours	7,691	1,069
hours of operation w/o NCGs	1,069	7,691
TRS lb/yr	19,716	2,740
Emission Rate w/NCGs (lb/hr)	7.1	85.0
Emission Rate w/o NCGs (lb/hr)	7.1	6.6
SO2 emissions (tons) - NCGs	27.3	45.4
SO2 emissions (tons) - no NCGs	3.8	25.4
Total Actual SO2 emissions (tons)	31.1	70.8
<b>Future Potential Emissions</b>		
Current license limit when incinerating NCGs	85	lb/hr
Current actual SO2 emissions	70.8	tons
Significant emission level for SO2	40.0	tons
Proposed emissions increase	39.9	tons
Future potential	110.7	tons
Equivalent future potential	221,400	pounds
Equivalent hours based on 85 lb/hr emission rate	2,605	hours
Proposed percentage of total NCG incineration time based on 8,760 hr/yr	29.7%	
Current allowable percentage of total NCG incineration time	20.0%	
Proposed increase in percentage of total allowable NCG incineration time in biomass boiler	9.7%	

Appendix D  
Proposed Increase in LVHC NCG Incineration

## Appendix E

## Legal Notices

NOTICE OF PUBLIC FORECLOSURE SALE  
Pursuant to 14 M.R.S.A. § 6323

By virtue of and in execution of a Judgment of Foreclosure and Sale dated June 9, 2011 entered in the Dover-Foxcroft District Court, Piscataquis County, Civil Action Docket No. RE-10-21 on June 13, 2011, in an action brought by SunTrust Mortgage, Inc., Plaintiff, against Louise E. Merrill, Defendant for the foreclosure of a mortgage dated January 13, 2005 and recorded in the Piscataquis County Registry of Deeds in Book 1628, Page 289 the statutory ninety (90) day redemption period having elapsed without redemption, notice is hereby given that there will be sold at a public sale the property located at 38 East Road, Greenville, Piscataquis County, Maine, on November 2, 2011 at 9:30 am, at 482 Congress Street, Suite 303, Portland, Maine, all and singular the premises described in said mortgage.

Information regarding this property may be directed to: Jonathan M. Flagg, Esquire, Flagg Law, PLLC, 83 Middle Street, Portsmouth, New Hampshire, 03801, telephone (603) 766-6300.

**TERMS OF SALE:** Any and all persons wishing to bid for the real estate must, prior to the time of the auction, make a deposit. The amount of the deposit required in order to make any bid shall be \$5,000.00. All deposits shall be made in cash or certified or bank cashier's check in U.S. Funds, made payable to SunTrust Mortgage, Inc. (deposited with Attorney Flagg as a qualification to bid), with the balance due and payable within thirty (30) days upon presentation of a conveyance deed.

Bidders shall, prior to the start of the auction, register and sign a bidding contract available at the auction. Absentee bids will not be accepted. Bidding and acknowledgment of bids will be by number only. SunTrust Mortgage, Inc. reserves the right to bid without making the required deposit and may pay for the real estate in the event that it is the successful bidder with a credit against indebtedness owed by the borrowers. Unsuccessful bidders shall receive a refund of their deposit. As to a successful bidder, the deposit shall be non-refundable and it will be credited to the purchase price. The successful bidder for the real estate will be required to sign a Purchase and Sale Agreement at the conclusion of the auction. The balance of the purchase price shall be due and payable thirty (30) days after the date of the auction, upon presentation of the Deed. Real estate shall be conveyed by Quitclaim Deed Without Covenant.

The property shall be sold on an AS IS and WHERE IS basis without any warranties whatsoever as to the condition of the property and shall be sold subject to and without limitation to any and all provisions of the municipal zoning ordinance, state and federal land use regulations, local taxes, and the mortgagee makes no warranties, express or implied whatsoever, as to the condition of title or any other matters affecting the property.

SunTrust Mortgage, Inc. expressly reserves the right, in its sole discretion, to modify and/or add terms and conditions pertaining to the sale of the real estate. Final terms and conditions pertaining to the sale of the real estate including additions to and modifications of the above terms and conditions will be announced at the time of the sale.

Respectfully submitted,  
SunTrust Mortgage, Inc.,  
By its Attorneys,  
FLAGG LAW, PLLC

By: Neil S. Higgins, Esquire  
93 Middle Street  
Portsmouth, NH 03801  
(603) 766-6300

Dated: September 28, 2011

Sept. 30, Oct. 7, 14, 2011

## Legal Notices

## Public Notice of Intent to File

Please take notice that Old Town Fuel and Fiber, 24 Portland Street, Old Town, Maine, 04468, telephone number (207) 872-0600, intends to file an Air Emission License application with the Maine Department of Environmental Protection (DEP) pursuant to the provisions of 38 M.R.S.A., Section 590 on or about October 17, 2011. The application is for a major modification of the air emission license to increase the carbon monoxide limit for the biomass boiler. According to Department regulations, interested parties must be publicly notified, written comments invited, and if justified, an opportunity for public hearing given. A request for a public hearing or for the Board of Environmental Protection to assume jurisdiction must be received by the Department, in writing, no later than 20 days after the application is accepted by the Department as complete for processing.

The application and supporting documentation will be available for review at the Bureau of Air Quality (BAQ) DEP offices in Augusta, (207) 287-2437, during normal working hours. A copy of the application and supporting documentation will also be available at the municipal office in Old Town, Maine.

Written public comments may be sent to Marc Coss at the Bureau of Air Quality, State House Station #17, Augusta, Maine, 04333.  
October 7, 14, 21, 2011

## Legal Notices

STATE OF MAINE  
PENOBSCOT, ss.

DOCKET NO. RE-11-49

NATIONSTAR MORTGAGE, LLC  
PLAINTIFF

v.  
SCOTT R. RICE AND CASSANDRA K. RICE  
DEFENDANTS

ORDER FOR SERVICE BY PUBLICATION AND  
FOR ALTERNATE SERVICE

This is an action for the foreclosure of a mortgage on real property and may affect real property of the Defendants located at 43 Hampden Road, Carmel, Maine, and described in such Mortgage Deed as recorded in Book 11090 at Page 264 in the Penobscot Registry of Deeds, Penobscot, Maine.

This Court has reviewed the motion of the Plaintiff for service by publication pursuant to Rule 4(g) of the Maine Rules of Civil Procedure, and upon the handwritten ruling of the court on September 15, 2011, which is incorporated herein.

It is ORDERED that service be made upon the Defendants, Scott R. Rice and Cassandra K. Rice, by publishing a copy of this Order once a week for three (3) successive weeks in the Bangor Daily News, a newspaper of general circulation in the Town and County in which the subject real property is located and in which this action is pending.

It is FURTHER ORDERED that the Defendants being served by publication appear and serve an answer to the motion or complaint on counsel for Plaintiff, Carrie Folson, Esq., at 270 Farmington Avenue, Ste. 151, Farmington, CT 06032. The answer must be filed with the Court within forty-one (41) days after the first publication of this Order.

It is FURTHER ORDERED that in addition to service upon the Defendants by publication, the Plaintiff shall have a Penobscot County Sheriff Deputy leave a copy of Summons and Complaint for each of the Defendants at the address where the Sheriff has seen vehicles and persons, to wit: 43 Hampden Road, Carmel, Maine. Plaintiff shall file proof of service by this alternate means with the court with the filing of the proof of service by publication herein.

It is FURTHER ORDERED that the Plaintiff mail a copy of the Order as published to the Defendants at their last known addresses.

Failing to serve an answer will cause judgment by default to be entered, granting relief sought in the motion or complaint.

The clerk may incorporate this order by reference on the docket.

DATE: September 28, 2011 Susan Sparaco  
Judge/Justice

Oct. 7, 14, 21, 2011

## Legal Notices

## NOTICE OF PUBLIC SALE

Notice is hereby given that in accordance with the Judgment of Foreclosure and Sale entered October 7, 2010, and by Order of this Court granting additional time to commence publication dated June 28, 2011 in the action entitled Wells Fargo Bank, NA v. Jon D. Nass, et al, by the Bangor District Court, Docket No. RE-10-033, wherein the Court adjudged the foreclosure of a mortgage granted by Jon D. Nass and Julia Constantine Nass to Mortgage Electronic Registration Systems, Inc. as nominee for Quicken Loans Inc. dated February 16, 2007 and recorded in the Penobscot County Registry of Deeds in Book 10869, Page 343, the period of redemption having expired, a public sale of the property described in the mortgage will be conducted on

October 28, 2011, commencing at 11:00 am  
at 41 Bates Street, Portland, Maine

The property is located at 16 Locksley Lane, Brewer, Maine, as described in said mortgage. The sale will be by public auction. All bidders for the property will be required to make a deposit of \$5,000.00 in cash, certified or bank check at the time of the public sale made payable to Bendett & McHugh, P.C., which deposit is non-refundable as to the highest bidder. The balance of the purchase price shall be paid within thirty (30) days of the public sale. In the event a representative of the mortgagee is not present at the time and place stated in this notice, no sale shall be deemed to have occurred and all rights to reschedule a subsequent sale are reserved.

This property will be sold as is. Additional terms will be announced at the public sale.

Wells Fargo Bank, NA  
by its attorneys,  
Bendett & McHugh, P.C.  
270 Farmington Avenue, Ste. 151  
Farmington, CT 06032  
(860) 677-2858

Sept. 23, 30, Oct. 7, 2011

Houses For Sale 530

Houses For Sale 530

## Legal Notices

STATE OF MAINE  
PENOBSCOT, SS:

Midfirst bank,

Plaintiff

v.

KAREN A. RSH,

Defendant

SUPERIOR  
CIVIL ACTION  
DOCKET  
BANSC-1

ORDER FOR  
BY PUBLIC

40 Nash Street,

Mortgage R  
Book 10544

Upon Motion by Plaintiff with suppo brought pursuant to Rule 4(g) of the M.R.Civ ORDERED as follows:

1. This is an action brought by Plaintiff pursuant to M.R.S.A. § 6321 et seq. for foreclosure of a mortgage given by Defendant to Plaintiff in Book 10544, Page 196, and assigned to Assignment recorded in the Penobscot County Registry of Deeds which real estate is located at 40 Nash Street, Bangor, County of Penobscot.
2. Defendant is directed to appear and date by serving an Answer to the Complaint in Penobscot County Superior Court, 78 Exchange Street, Bangor, Maine, upon Plaintiff: David E. Stearns, Esquire, whose address is: 2412, South Portland, Maine 04116-2412.

Said Answer must be filed within twenty days after service by publication is complete and do so will result in judgment by default against Defendants for the relief demanded in the Complaint.

3. Plaintiff is hereby ordered to cause publication of this Order once a week for three (3) successive weeks in the Bangor Daily News. The first such publication shall be made within twenty (20) days of this order and service shall be complete twenty-first day after the first publication of this Order. Plaintiff, shall file with the Court that publication has been made. Plaintiff ordered to mail to Defendants, at Defendant known address of P.O. Box 74, Huls Cove 04644-0074, a copy of the order as published.

DATED: September 29, 2011 /s/ Kevin Justice, Maine St.

Oct. 7, 14, 21, 2011

## Legal Notices

Notice to Contractors and Subcontractors  
Request for Bids

The Maine Department of Corrections is competitive bid process for the new boilers tanks at Downeast Correctional Facility in Maine. Bids will be opened and read Department of Corrections at Downeast Facility, 64 Base Road, Machiasport, ME 10 p.m. on October, 26, 2011.

The work involves the removal of steam heat for building heating and hot water and install boilers (3.0gph) and two indirect heated hot and associated piping and controls.

The detailed Notice to Contractors and Sub on the BGS website:  
<http://www.maine.gov/hqs/construction/contract>

Bureau of General Services, 77 State H. Augusta, Maine 04333, 207-624-7360.  
October 7, 14, 2011

## Houses For Sale 530

BANGOR - 585 Main, 3 BR, 2 BA, needs TLC, hardwood floors, \$79,000, owner finance w/\$6,600 down; 944-9988



BANGOR - 72 Catell St. 4BR, 2.5BA, sun porch, HW flrs, garage, in town lot \$135,000. Assist-2-Sell 1st Choice Realty 989-6999, MLS#884455



Bangor - Historic home on 1.2 ac.

## Houses For



Brewer - 30472 porch, new vinyl to shipping/pub. EFA Dawson 401 Tricia Quirk.com



CAR

4 bedroom, 1' with 2-car det on 4 acre \$168,000 (\$9 appraiser

## Appendix F





**MacMillan & Donnelly**  
ENVIRONMENTAL ENGINEERING & CONSULTING

October 11, 2011

Frank & Susan Blake  
P.O. Box 104  
Holden, ME 04429

Dear Frank & Susan Blake:

On behalf of Old Town Fuel and Fiber (OTFF) located in Old Town, Maine, MacMillan and Donnelly, Inc. is providing the enclosed copy of a public notice for an amendment to OTFF's air emission license A-180-70-A-I. The Maine Department of Environmental Protection regulations require that a copy of the public notice for a major modification application be submitted to the abutting land owners.

Sincerely,

Amy Austin

cc: Alan, Boynton, Old Town Fuel and Fiber  
Maine Department of Environmental Protection

## Appendix G

## Legal Notices

CITY OF BREWER  
PUBLIC NOTICE

Notice is hereby given that the Planning Board of the City of Brewer will hold public hearings on Monday, the 3<sup>rd</sup> day of October, 2011 at 6:00 p.m. in the Council Chambers at Brewer City Hall to consider the following project applications:

1. Project 2011.10.03-01: Site Plan Review for Home Day Care Facility for Miranda M. Jones at 139 Chamberlain Street (Tax Map 32, Lot 67).
2. Project 2011.10.03-02: Site Plan Amendment for Lawrence Springer to use 12,200 square feet of existing building space for indoor recreation along with associated site improvements at 2 Rudman Road (Tax Map 14, Lot 42).
3. Project 2011.10.03-03: Site Plan for Bangor Area Recovery Network (B.A.R.N.) to use approximately 2,700 square feet of existing building space for their membership to hold meetings and activities for persons in recovery at 401 No. Main Street, Suite C (Tax Map 34, Lot 24).

These applications, together with pertinent plans and other data, are available for public inspection at the office of the Brewer City Planner (989-8431) and this notice is posted on the bulletin board at Brewer City Hall.

Any person may attend this public hearing and speak on this application. Written comments may also be submitted. The deadline for submission of written comments is 4:00 p.m. on the date of the hearing. Written comments should be addressed to Brewer Planning Board, c/o City Planner, 221 Green Point Road, Brewer, Maine 04412.

Howard F. Kroll  
City Clerk

Sept. 26, 2011

## Legal Notices

United Technologies Center  
Region #4  
200 Hogan Road  
Bangor, ME 04401

Bid for Snow Removal  
UTC is requesting bids for  
our campus snow removal  
needs.

2011-2012 Period and/or  
2011-2014 Period  
For Full Specifications  
Sheet please contact Ron  
Kathan at 942-5296

Bid deadline on 10/14/11 at  
2:00 p.m.

Sept. 24, 26, 27, 2011

## Legal Notices

NOTICE OF  
PUBLIC HEARING

Notice is hereby given that the Municipal Officers of the Town of Kenduskeag will hold a public hearing on October 4, 2011 at 6:30 p.m. at the Town Office in Kenduskeag to hear public comment on the renewal of the Kenduskeag Golf and Country Club's existing liquor license.

Sept. 23, 24, 26, 2011

## Legal Notices

Red Shield Acquisition LLC (RSA), 24 Portland Street, Old Town, ME 04468, 207-877-7711, has scheduled a public informational meeting on Tuesday, October 4, 2011 at 1:00 pm at the Black Bear Inn & Conference Center located at 3 Godfrey Drive in Orono, ME. RSA intends to file with the Maine Dept. of Environmental Protection an application for a major modification of the company's air license. RSA is requesting an increase in biomass boiler carbon monoxide emission limits when burning primarily green wood and the percent of time low volume high concentration non-condensable gases may be burnt in the biomass boiler. The application will be processed under DEP chapter 115 and chapter 140 rules. The purpose of the meeting is to inform the public of the project and its anticipated environmental impacts, and to educate the public about the opportunities for public comment to the Department during the application process. September 26, 2011

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## Legal Notices

Notice of Public Sale  
Pursuant to 14 M.R.S.A. § 6203-A(1) Seq.

Oak Hill Estates, Oak Hill Road, Swanville, Maine  
Wednesday, October 19, 2011 at 11:00 A.M.

By virtue of and in execution of the Power of Sale contained in those certain Mortgages given by Oak Hill Estates, Inc., a Maine corporation, to Union Trust Company n/k/a Camden National Bank (the "Bank"), dated September 10, 2007, and recorded in the Waldo County Registry of Deeds in Book 3133, Page 272 and in Book 3133, Page 281 collectively, the "Mortgages", of which mortgages the undersigned is the present holder, for breach of the conditions of the Mortgages, and for the purpose of foreclosing the same, notice is hereby given that there will be sold at public sale at 11:00 A.M. on the 19th day of October, 2011, at Oak Hill Estates, Oak Hill Road, Swanville, Maine, all and singular the premises described in the Mortgages as follows, all of the Bank's right, title and interest, if any, in and to the following property (the "Property"):

To wit: A certain lot or parcel of land, situated in the Town of Swanville, County of Waldo and State of Maine, described as follows:

Being Unit 16, as noted on the Condominium Plat and Subdivision Plan of Oak Hill Estates, prepared by Kiser and Kiser Co., dated October 1, 2004 and recorded in the Waldo County Registry of Deeds in Plan Drawer 19, Pages 242, 243, 244 and 245.

Certain lots or parcels of land, situated in the Town of Swanville, County of Waldo and State of Maine, more particularly described as follows, to wit:

## PARCEL ONE:

Beginning at a stake, by a stone wall, at the northwest corner of a twenty (20) acre parcel of land reserved by Edwin Mollison in his conveyance to Oak Hill Quarries, Inc., said deed being recorded in the Waldo County Registry of Deeds in Book 595, Page 520, thence N 60° W two thousand seventy-five (2,075.00) feet, more or less, to a stake; thence N 30° 40' E, passing through an iron pipe, following a line of spotted trees, and following approximately the course of an old stone wall, three thousand three hundred thirty-six (3,336.00) feet, more or less, to the northerly line of lot # 17, at a stone wall intersection; thence northwesterly along the northerly line of lot # 13 seventy-six and one-half rods (76 1/2), more or less, to the northwest corner of said lot; thence southwesterly, along the westerly line of lot #17, Lot #16, lot #15, lot #14, Lot #13 and a portion of lot #12 (being also the Waldo town line) to the southwest corner of the third parcel of land described in the aforementioned deed to Oak Hill Quarries, Inc.; thence southeasterly, along the southerly line of said third parcel, two hundred three (203) rods, more or less, to a point forty (40) rods westerly of the Oak Hill Road, so-called, said point being located at the southwest corner of the aforementioned twenty (20) acre parcel of land reserved by Edwin Mollison, eighty (80) rods, more or less, to the point of beginning, containing one hundred eighty-five (185) acres, more or less.

Together with a right of way in common with others over an existing road and across another certain lot or parcel of land as is more particularly described in a deed of Theodore R. Colson to Oak Hill Quarries, Inc., dated April 18, 1966 and recorded in the Waldo County Registry of Deeds in Book 646, Page 153.

Subject to all exceptions and reservations, if any

## PARCEL TWO:

Also another certain lot or parcel of land, situated in the Town of Swanville, County of Waldo and State of Maine, bounded and described as follows:

Beginning at an iron rod set in the ground on the generally northwesterly bound of Oak Hill Road, said stake marking northeasterly or eastern most corner of the premises now or formerly of Duayne Harvey, et al., by deed recorded in the Waldo County Registry of Deeds in Book 970, Page 325, thence NORTH 60° 58' 50" WEST along stone marking northeasterly line of land now or formerly of said Harvey, six hundred sixty (660.0) feet to a point on the southeasterly line of land of Oak Hill Estates, Inc., as described in a deed recorded in said Registry on Book 2439, Page 26; thence NORTH 24° 12' 09" EAST along southeasterly line of land of Oak Hill Estates, Inc., seven hundred five (705.0) feet, to a 5/8" capped steel rod set in the ground; thence SOUTH 55° 54' 43" EAST along line of land being retained by Brent Clark and Deborah Clark six hundred eighty-one and sixty-nine hundredths (681.69) feet to a 5/8" capped steel rod set in the ground on the northwesterly bound of Oak Hill Road; thence SOUTH 28° 23' 50" WEST along northwesterly line to land of Oak Hill Road, two hundred twenty-five and eighty hundredths (225.80) feet to an angle point; thence SOUTH 23° 50' 36" WEST along northwesterly line of land of Oak Hill Road, four hundred eighteen and twenty hundredths (418.20) feet to the point of beginning. Containing 10.21 acres, more or less.

EXCEPTING AND RESERVING, however, Unit #1, Unit #2, Unit #3, Unit #16, Unit #40, Unit #41, Unit #43, Unit #45, Unit #47, Unit #48, Unit #49, Unit #51, Unit #52, Unit #53, Unit #61, Unit #110, Unit #111 as depicted on Condominium Plat and Subdivision Plan of Oak Hill Estates, prepared by Kiser and Kiser Co., of Hampden, Maine, dated October 1, 2004, recorded in the Waldo County Registry of Deeds in Plan Drawer 19, Pages 242, 243, 244 and 245.

Further information regarding the Property can be obtained by contacting the

Houses For Sale 530

Mobile/Manufactured

Homes 535



## Appendix H

## Notice of Public Informational Meeting

### To Whom It May Concern

Red Shield Acquisition LLC (RSA), 24 Portland Street, Old Town, ME 04468, 207-827-7711, has scheduled a public informational meeting on Tuesday, October 4, 2011 starting at 1:00 pm at the Black Bear Inn & Conference Center located at 3 Godfrey Drive in Orono, ME.


RSA intends to file with the Maine Dept. of Environmental Protection an application for a major modification of the companies air license. RSA is requesting an increase in biomass boiler carbon monoxide emission limits when burning primarily green wood and in the percent of time low volume high concentration non-condensable gases may be burnt in the biomass boiler. The application will be processed under DEP chapter 115 and chapter 140 rules.

The purpose of the meeting is to inform the public of the project and its anticipated environmental impacts, and to educate the public about the opportunities for public comment to the Department during the application process.

## Appendix I

## **Biomass Boiler License Modification Application Public Meeting**

I certify that a public informational meeting was held on October 4, 2011 at 1:00 pm at the Black Bear Inn & Conference Center in Orono, Maine. The public notice in the Bangor Daily News is attached to the application. There were ten to fifteen attendees. Questions asked and comments made are summarized in a document following this certification. The DEP public participation fact sheet was provided to the participants.

A handwritten signature in black ink, appearing to read "Alan S. Boynton", is written over a horizontal line. The signature is stylized and cursive.

Alan S. Boynton  
Environmental Manager

**Biomass Boiler Public Hearing  
Black Bear Inn - October 4, 2011**

Questions received at the public attending:

**Gifford Stevens** – Long term Elm St. Bradley resident who has endured: arsenic emissions that killed dogs; chemical snow; H<sub>2</sub>S odors; and no more salmon fishing.

Q: What is OTFF burning in the boiler

Wood (green wood chips, bark and some wood pallets)

**John Banks** – Penobscot Indian Nation (PIN) Environmental Resources Manager

Q: Governor LePage had promised to consult with the Indian tribes on environmental issues. Given the increased emissions will affect the tribe due to the close proximity, is DEP going to reach out to the PIN on this issue?

Should address your question to DEP.

**Paul Schroeder** – Orono resident with interest in Juniper Ridge Landfill issues and associated biomass boiler.

Q: What type of public notice was given?

Certified mail notice to property abutters and legal notice in Bangor Daily News on September 26, 2011.

Q: Will the revised limits apply to CDW (construction demolition wood)?

No

Q: On the EPA internet WEB site, it was reported that OTFF was fined \$267,000 – what specifically was that for?

Opacity, HVLC NCG's,

Q: Are the rules being changed just because it costs too much to fix the problem?

No

**Melissa Doane** – Bradley Town Manger



Q: What specifically is biomass?

Mostly green wood chips and bark.

Q: When will the application be submitted?

Around October 17, 2011

**Mary Dolan** – Old Town resident

Q: Can other boilers meet the existing limit?

Q: I hear there are trade-offs when meeting CO limits?

When reducing carbon monoxide emissions, nitrogen oxides can increase.

**John Banks**

Q: Where is the clear and concise written description of the environmental impacts of the limit change? Table in handout inadequate (comment).

**Mary Dolan**

Q: How far out of compliance is OTFF?

**Gifford Stevens**

Q: How many letters were sent out to Bradley?

Offhand, I don't know.

Q: What kind of construction is going on? Lots of activity and heavy equipment (comment).

New water intake for the mill being constructed by the Penobscot River Restoration Trust.

**Paul Schroeder**

Q: What is the current relationship between UMaine and OTFF?

UMO is involved with OTFF in the areas of biorefinery research and with a research area to be located within the mill.

**Mary Dolan**

Q: The EPA also shows OTFF to be in continuous non-compliance with water regulations – explain?

**Bill Thompson – PIN Air Quality Director**

Q: Why is the SO<sub>2</sub> emission going to increase?

Has the potential to increase. Calculations are based on potential (worst case) emissions. Does not take into account any treatment.

**John Banks**

Q: How does one request a stack test?

Stack testing frequency is listed in air license or is done as requested by DEP.

**Long Haired Young Male**

Q: The 30 day average emissions range from 0.35 to 1 (lbs/MMBTU) – why the variability?

Fuel type, fuel moisture, steam load, other operating conditions, etc.

**Mary Dolan**

Q: How are the existing limits derived? What about the health effects of increasing the emissions (asthma, etc.)?

Believe limits were derived from air license when boiler was located in Athens, ME.

**Gifford Stevens**

Q: Will ambient air monitors be installed as part of this?

No