

VERMONT AGENCY OF NATURAL RESOURCES  
Department of Environmental Conservation  
Air Pollution Control Division

**TECHNICAL SUPPORT DOCUMENT FOR PERMIT TO  
CONSTRUCT AND OPERATE**

#AOP-03-024

January 18, 2005

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APPLICANT: Cersosimo Lumber Company, Inc.  
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SOURCE: Cersosimo Lumber Company, Inc.  
Sawmill and Kiln Drying of Lumber  
1103 Vernon Street  
Brattleboro, Vermont 05301-8615

## 1.0 INTRODUCTION

Cersosimo Lumber Company, Inc. (also referred to herein as “Permittee” and also as “Owner/Operator”) owns and operates the sawmill referred to as the Main Yard (also referred to herein as “Facility”) at 1103 Vernon Street in Brattleboro, Vermont. This is also Cersosimo Lumber’s main corporate office location. The Facility saws hardwood and softwood logs into boards which are then kiln dried on site. The kiln dried boards are then planed, graded and stored for shipment. The Permittee has proposed to increase the annual fuel limit at the Facility from 18,000 to 20,000 tons of wood fuel. In addition the Permittee has proposed to burn green wood waste exclusively and separate the dry wood waste from the wood fuel for sale. The dry wood waste particulate emissions will be controlled with a new fabric filter. The existing pneumatic wood conveying system will be used as backup for the proposed dry wood waste line with the associated fabric filter.

This Technical Support Document details the Agency of Natural Resources, Department of Environmental Conservation, Air Pollution Control Division (hereinafter “Agency”) review for the combined Air Pollution Control Permit to Construct and Operate the Facility. The Agency has combined the applications for the Permit to Construct the current modifications and the Permit to Operate for the Facility (#AOP-03-024).

The allowable emissions for the Facility are summarized below:

Allowable Air Contaminant Emissions (tons/year) <sup>1</sup>						
PM/PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOCs	Total Criteria	HAPs <sup>2</sup>
150.8	2.2	19.4	52.8	35.4	>10	<10/25

<sup>1</sup> PM/PM<sub>10</sub> - particulate matter and particulate matter of 10 micrometers in size or smaller; SO<sub>2</sub> - sulfur dioxide; NO<sub>x</sub> - oxides of nitrogen measured as NO<sub>2</sub> equivalent; CO - carbon monoxide; VOCs - volatile organic compounds; HAPs - hazardous air pollutants as defined in §112 of the federal Clean Air Act.

<sup>2</sup> Emissions of individual HAPs each < 10 tpy and emissions of total HAPs combined <25 tpy. Combined allowable HAP emissions equals 3.43 tpy.

## 2.0 FACILITY DESCRIPTION AND LOCATION

### 2.1 Facility Locations and Surrounding Area

The Permittee owns and operates the sawmill located at 1103 Vernon Street (Route 142) in Brattleboro, Vermont. The area surrounding the Facility is primarily undeveloped or industrial. The Facility is located less than 100 kilometers from the Lye Brook Wilderness area in Manchester, Vermont and greater than 100 kilometers from the Great Gulf and Dry River Wilderness areas in New Hampshire.

### 2.2 Facility Description

The Facility is a sawmill listed under the Standard Industrial Classification (“SIC”) Code #2421, Sawmills and Planing Mills. The sources of air contaminant emissions at the Facility are the wood waste handling operations, the dry kilns, and the wood fired boilers.

The debarking operation removes 90% to 95% of the bark from the logs and is considered to have negligible emissions since the material is conveyed by auger rather than pneumatically. The bark is then sold to landscapers and is not burned in the boilers. Dried sawdust, planer shavings, and chipped wastes are pneumatically conveyed to the Torit fabric filter. The dried wood waste is then pneumatically conveyed to the feed box of a trailer. Air from the trailers is ducted back to the fabric filter. Dried wood waste is no longer burned in the boilers and is sold instead. A backup planer system has the ability to work with green or dried wood. Wood waste is collected in one of two cyclones (6,144 cfm and 13,771 cfm) and is sent to one of two locations. If dried wood is planed, an airlock will be used to duct the wood waste to the trailers. If green wood is planed, the airlock will be disengaged, and the waste will be pneumatically fed into the indoor wood waste storage bin. Additional green wood fuel will be delivered to the outdoor fuel storage bin. The outdoor bin cyclone is used to transfer green woodchips delivered by truck into the large indoor bin. This cyclone is used regularly since the facility does not generate enough of wood wastes on its own and therefore must purchase green woodchips for fuel. Since this is green wood waste with a high moisture content, particulate matter emissions from this cyclone are considered negligible.

The two 600 HP wood-fired boilers, each rated at 32 MMBTU/hr (input), are used for supplying steam heat to the kilns. The primary boiler is a 1985 Industrial Boiler Company Model #3-3900-200 fire tube 32 MMBTU/hr input (600 HP, 3,900 sq.ft.) wood waste boiler. The boiler is equipped with a spreader stoker and a single multiclone. Fly ash from the multiclone is automatically reinjected. The second boiler is a 1975 Dillon (manufactured by the Bigelow Company) fire tube 32 MMBTU/hr input (600 HP, 4,000 sq.ft.) wood waste boiler. The boiler also uses a spreader stoker and has a single multiclone. Both boilers also have primary fly ash reinjection, which collects large fly ash that impacts the back of the boiler and reinjects that into the fuel bed. The boilers are now proposed to operate only on wet wood wastes with an assumed heating value of 4,400 BTU/lb. By using only wet wood waste, the boilers should receive a consistent fuel source. Slugs of wet and dry wood fuel being burned in the boilers makes controlling combustion efficiency, opacity, and particulate emissions more challenging. A consistent fuel source should reduce the variability in emissions from the boilers. The maximum firing rate is estimated at 7,270 lbs/hour for each boiler. Cersosimo Lumber has proposed to limit operation of the wood boilers to a combined 20,000 tons per year of wet as-fired wood waste.

### **2.2.1 Description of Existing Equipment**

<b>Table 2-1: Existing Facility Equipment</b>	
<b>Equipment:</b>	<b>Description</b>
Dillon Boiler	32 MMBtu/hr, wood fuel, multiclone, installed 1975
IBC Boiler	32 MMBtu/hr, wood fuel, multiclone, installed 1985
Dry Kilns	26 kilns, 30 million board feet annual capacity, 3 kilns installed after 1979
Cyclones	Two cyclones handle dry wood waste (6,144 cfm and 13,771 cfm).

**2.2.2 Description of Compliance Monitoring Devices**

The stack used for the boilers is equipped with a Cleveland series 8000 opacity monitor. The opacity monitor is used to give the boiler operators feedback of how efficiently the boilers are operating and whether the oxygen trim meters are operating correctly.

The Dillon boiler is equipped with an oxygen trim system and variable speed fan. A computer system uses the data from the oxygen trim system to automatically control variable speed fan to maintain the proper range of oxygen values in the exhaust gas. By maintaining the proper oxygen range, the combustion efficiency and opacity are maintained to acceptable levels. This permit requires that the IBC boiler be equipped with an automatic excess air system that operates like the one on the Dillon boiler.

**2.2.3 Proposed Modifications to Facility**

The Permittee has proposed to install a separate dry wood waste handling system that will be controlled by a fabric filter. This wood waste handling system will allow the Permittee to separate dry wood waste from green wood waste. The boilers will only burn the green wood waste, and the dry wood waste will be sold. Previously the Permittee burned a combination of wet and dry wood in the boilers with a heating value assumed to be 4900 Btu/lb. The green wood waste has an approximate heating value of 4400 Btu/lb. Due to this decrease in the heating value of the fuel, the Permittee has requested an increased fuel limit. A new annual wood fuel limit of 20,000 tons is an increase from 18,000 tons, but the heating value of these limits (taking into account the differences in moisture content of the fuel) is very similar.

Table 2-2: Proposed Facility Equipment	
Fabric Filter	Torit 156 RAW10-AW baghouse, 11,587 cfm, air to cloth ratio of 5.7:1, manufactured 2004

**2.2.4 Proposed Limitations**

The Permittee has proposed to limit the annual fuel usage to 20,000 tons of wood fuel. This limit keeps the emissions of particulate matter below the significance levels as defined in §5-101 of the *Regulations*. This eliminates the requirement to do MSER for this permit.

**3.0 QUANTIFICATION OF POLLUTANTS**

The quantification of emissions from a stationary source is necessary in order to establish the regulatory review process necessary for the operating permit application and to determine applicability with various air pollution control requirements. These determinations are normally based upon allowable emissions. Allowable emission is defined as the emission rate calculated using the maximum rated capacity of the source and, if applicable, either: (a) the applicable emission standard contained in the *Regulations*, if any, or (b) the emission rate or design, operational or equipment standard specified in any order or agreement issued under the *Regulations* that is state and federally enforceable. An applicant may impose in its application an emission rate or design, or an operational or equipment limitation which may be incorporated in the Permit to restrict operation to a lower level. Such limitations may include fuel restrictions or production limits.

**3.1 Designation of Proposed Modification for the Permit to Construct**

The designation of the proposed modification is determined by the designation of the existing Facility and the allowable emissions associated with the proposed modification. The existing Facility, before construction or installation of the proposed modification, is designated as a major stationary source of air contaminants, as defined in §5-101 of the *Regulations*. The modification’s allowable emissions are calculated according to the following procedure.

**Step a:** Calculate the allowable emissions for each new piece of equipment or process being added.

Table 3-1: Dry Wood Waste Handling System (Torit 156 RAW10-AW)

Planer and wood grindings 11,587 cfm	Emission Factor			Allowable Emissions tons per year
	Factor	Units	Source	
PM	0.02	gr/dscf	Conservative emission rate determined by the Agency from the manufacturer’s specifications	8.7

**Step b:** Calculate the allowable emissions for all existing processes that are affected by the modification.

Pneumatic Conveying of Wood Waste

- Side Planer (#32) – 6,144 cfm
- Hog-Planer cyclone (#38) – 13,771 cfm
- Combined air flow rate – 19,915 cfm
- Each cyclone is limited to 0.06 gr/dscf from §5-231(1)(b) of the *Regulations*.

Allowable PM emissions = 44.9 ton/year assuming maximum operations 8760 hours per year.

**Total waste handling allowable PM emissions after modification** = 44.9 + 8.7 tons per year  
= 53.6 tons per year

Pneumatic Conveying of Wood Waste

- Indoor bin cyclone (#8) – 1,059 cfm
- Outdoor bin cyclone (#18) – 5,339 cfm
- Side Planer (#32) – 6,144 cfm
- Hog-Planer cyclone (#38) – 13,771 cfm
- Combined air flow rate – 26,313 cfm
- Each cyclone is limited to 0.06 gr/dscf from §5-231(1)(b) of the *Regulations*.

Allowable PM emissions = 59.3 ton/year assuming maximum operations 8760 hours per year.

**Total waste handling allowable PM emissions before modification** = 59.3 tons per year

Since there is a net drop in PM emissions as a result of the installation of the dry wood waste handling system and associated fabric filter, this is not considered a modification. These emissions are not included in any of the further calculations to determine if the modification to the Facility will exceed a significance level.

Table 3-2: Dillon Wood Boiler<sup>1</sup>

32 MMBtu/hr, 20,000 tons/yr wood, 4400 Btu/lb, 550,000 dscf/hr, 5500 hr/year at max capacity	Emission Factor			Allowable Emissions
	Factor	Units	Source	tons per year
NOx	0.22	Lb/MMBtu	AP-42 Wood Residue Combustion in Boilers, Table 1.6-2 (9/03)	19.4
SO <sub>2</sub>	0.025			2.2
CO	0.60			52.8
PM	0.45	gr/dscf	§5-231(3)(b)(i) of the <i>Regulations</i>	97.2
PM <sub>10</sub>	0.20	Lb/MMBtu	AP-42 Wood Residue Combustion in Boilers, Table 1.6-1 (9/03)	17.6
VOC	0.017		AP-42 Wood Residue Combustion in Boilers, Table 1.6-3 (9/03)	1.5
HAP	0.039		AP-42 Wood Residue Combustion in Boilers, Table 1.6-3 and 1.6-4 (9/03)	3.4

<sup>1</sup> calculations are based on burning the entire fuel limit in the Dillon Wood Boiler. Emission estimates from the Dillon boiler of each pollutant are equal to or greater than emission estimates from the IBC Wood Boiler.

Table 3-3: IBC Wood Boiler

32 MMBtu/hr, 20,000 tons/yr wood, 4400 Btu/lb, 550,000 dscf/hr, 5500 hr/year at max capacity	Emission Factor			Allowable Emissions
	Factor	Units	Source	tons per year
NOx	0.22	Lb/MMBtu	AP-42 Wood Residue Combustion in Boilers, Table 1.6-2 (9/03)	19.4
SO <sub>2</sub>	0.025			2.2
CO	0.60			52.8
PM	0.20	gr/dscf	§5-231(3)(b)(ii) of the <i>Regulations</i>	43.2
PM <sub>10</sub>	0.20	Lb/MMBtu	AP-42 Wood Residue Combustion in Boilers, Table 1.6-1 (9/03)	17.6
VOC	0.017		AP-42 Wood Residue Combustion in Boilers, Table 1.6-3 (9/03)	1.5
HAP	0.039		AP-42 Wood Residue Combustion in Boilers, Table 1.6-3 and 1.6-4 (9/03)	3.4

**Step c:** Calculate the actual emissions from all existing processes that are affected by the modification (i.e., that were included in Step b) that were installed prior to 1979 or have already been reviewed as being major under §5-502 of the *Regulations*.

Table 3-4: Boiler Emissions

Column	1	2	3	3-1	3-2
Fuel Use (tpy)	14,400	18,000	20,000	-	-
Heating Value (Btu/lb)	4900	4900	4400	-	-
Source	Actual fuel use during previous MSER review	Previous Permit Limit #AOP-95-056	Proposed Permit Limit	-	-
PM/PM10	78.0/14.1	97.5/17.6	97.2/17.6	19.2/3.5	-0.3/0.0
SO2	1.8	2.2	2.2	0.4	0.0
NOx	15.5	19.4	19.4	3.9	0.0
CO	42.3	52.9	52.8	10.5	-0.1
VOC	1.2	1.5	1.5	0.3	0.0
HAP	2.8	3.4	3.4	0.6	0.0

The actual emissions are summarized in Column 1. The increase in emission of pollutants from the boilers since the MSER review is summarized in Column 3-1. This column contains the emissions entire allowable emissions from the boilers minus the emissions that have been a part of a MSER review.

**Step d:** Calculate the allowable emissions from all other equipment or processes at the facility modified since 1979 that have not been reviewed as being major in the past.

Table 3-5: Total Wood Kiln Emissions

26 dry kilns, 30 MM board feet	Emission Factor			Allowable Emissions
	Factor	Units	Source	tons per year
VOC	2.26	Lb/1000 BF	NCASI Emissions From Lumber Drying: Technical Bulletin 718 (7/1996)	33.9

Table 3-6: Emissions from 3 dry kilns installed after 1979

3 dry kilns, 3.5 MM board feet	Emission Factor			Allowable Emissions
	Factor	Units	Source	tons per year
VOC	2.26	Lb/1000 BF	NCASI Emissions From Lumber Drying: Technical Bulletin 718 (7/1996)	3.9

**Step e:** Calculate the size of the modification on a pollutant-by-pollutant basis using the following formula:

Results of[step a + step b – step c + step d] = size of modification

Table 3-7: Emissions increases (tpy) from 1979 and since prior MSER determination

Source	PM/PM10	SO2	NOx	CO	VOCs
Kilns	0	0	0	0	3.9
Boilers	19.2/3.5	0.4	3.9	10.5	0.3
Wood Waste	0	0	0	0	0
Total	19.2/3.5	0.4	3.9	10.5	4.2
Significance Level	25/15	40	40	50	40
Exceed Significance Level?	No	No	No	No	No

The proposed modification's allowable emissions plus all other modifications that have occurred since 1979 and not undergone MSER review are summarized in Table 3-7. The proposed modification's allowable emissions are estimated to result in an emissions increase less than significant levels for each air contaminant. Therefore, the proposed modification is designated as a non-major modification.

In the past the wood kilns had not been considered a source of emissions. Emission factors from NCASI for lumber drying were found and are now being applied to the Facility. Only three of the lumber kilns were constructed prior to 1979, and therefore these are the only kilns considered for determining if the modification exceeds the significance level.

#### 4.0 APPLICABLE REQUIREMENTS

The compliance analyses and determinations in this technical analysis rely on data and representations provided by the Owner/Operator. Any statements and conclusions regarding the compliance status contained herein are not binding against the state of Vermont in any future legal or administrative proceedings.

##### 4.1 Vermont Air Pollution Control Regulations and Statutes

###### ***§5-201 - Open Burning Prohibited and Permissible Opening Burning***

Open burning of materials is prohibited except in conformance with the requirements of this section. Based on the application submittal and information available to the Agency, the Facility is in compliance with this requirement. The Agency will verify compliance with this standard in the future during any inspections of the Facility.

###### ***§5-211(2) - Prohibition of Visible Air Contaminants - Installations constructed subsequent to April 30, 1970***

This emission standard applies to all installations at the Facility including the two wood fired boilers and the wood waste handling operations. The Agency will assess compliance with these emission standards in the future during any inspections of the Facility. The inspections will include confirmation of the proper operation and maintenance of equipment and visual observations of emission points.

**§5-221(1) - Prohibition of Potentially Polluting Materials in Fuel; Sulfur Limitation in Fuel**

This prohibition applies to all stationary fuel burning equipment used on-site, which is limited to the two wood fired boilers. Based on the application submittal, the applicant is expected to comply with this regulation based on the use of wood fuel, which is inherently low in sulfur.

The Agency will assess compliance with this regulation in the future during any inspections of the Facility. The inspections will include confirmation of the use of the proper fuels and review of fuel delivery certifications.

**§5-231(1)(b) - Prohibition of Particulate Matter; Industrial Process Emissions**

This emission standard applies to the pneumatically conveyed dry wood waste handling operations. Green wood wastes, such as sawdust, are not considered a source of emissions even when pneumatically conveyed. This regulation applies to the two cyclone used on the backup planer system and the fabric filter used in the primary dry wood waste handling system. The applicant is expected to comply with the particulate matter emission limit of this section based on the large particle size of the material and the use of cyclone collectors and the fabric filter, which are considered adequate for control of this size particle.

The Agency will assess compliance with this standard in the future during any inspections of the Facility. The inspections will include confirmation of the proper operation and maintenance of the required air pollution control devices and visual observations of the stack exhaust.

**§5-231(3)(b) - Prohibition of Particulate Matter; Combustion Contaminants**

Based on the application submitted and information available to the Agency, this Facility currently has applicable fuel burning equipment subject to this regulation. The allowable particulate emissions from the subject equipment is shown in Table 4-1.

<b>Table 4-1: Equipment Subject to §5-231(3)(b)</b>			
<b>Equipment ID</b>	<b>Size/Capacity</b>	<b>Emission Standard</b>	<b>Allowable Emissions</b>
Dillon Boiler	32 MMBtu/hr	0.45 gr/dscf	78.0 tpy
IBC Boiler	32 MMBtu/hr	0.20 gr/dscf	34.7 tpy

These boilers were tested in 1995. Emissions from the Dillon boiler were 0.17 gr/dscf and emissions from the IBC boiler were 0.10 gr/dscf. This permit requires additional periodic particulate matter testing to verify that the boilers remain in compliance with this regulation. Based on these emission test results, the boilers are considered to be in compliance at this time.

The Agency will assess compliance with this standard in the future during any inspections of the Facility. The inspections will include confirmation of the proper operation and maintenance of the fuel burning equipment and the required multiclone control devices and visual observations of the stack exhaust.

**§5-231(4) - Prohibition of Particulate Matter; Fugitive Particulate Matter**

This section requires the use of fugitive PM control equipment on all process operations and the application of reasonable precautions to prevent PM from becoming airborne during the handling, transportation, and storage of materials, or use of roads. This requirement applies to the entire Facility, and the Facility is therefore expected to comply with the fugitive emission limitations of this section.

Based on the application submittal and information available to the Agency, the Facility currently is considered a source of fugitive particulate matter subject to this regulation. The Facility is required to take reasonable precautions at all times to control and minimize emissions of fugitive particulate matter from the operations at the Facility. This includes taking precautions to prevent the release of fugitive particulate matter during the handling and disposal of the wood waste material collected from the wood processing operations.

The Agency will verify compliance with this standard in the future during any inspections of the Facility. The inspections will include confirmation of the proper operation of any fugitive particulate matter control measures and visual observations of any emission points.

**§5-241(1) & (2) - Prohibition of Nuisance and Odor**

This requirement applies to the entire Facility and prohibits the discharge of air contaminants that would be a nuisance to the public or the discharge of objectionable odors beyond the property-line of the Facility.

Based on the application submittal and information available to the Agency, the Facility currently is in compliance with this regulation. The Agency will verify compliance with this requirement in the future during any inspections of the Facility. Additionally, the Agency investigates all complaints that it receives in order to determine whether or not there is a violation of this requirement.

**§5-251 - Control of Nitrogen Oxide Emissions**

Based on the application submittal and information available to the Agency, this Facility currently has no applicable fuel burning equipment subject to this regulation, nor does the Facility have allowable emissions of NO<sub>x</sub> in excess of 100 tons per year.

**§5-252 - Control of Sulfur Dioxide Emissions**

Based on the application submittal and information available to the Agency, this Facility currently has no applicable fuel burning equipment subject to this regulation.

**§5-253.1 – 5-253.20 - Control of Volatile Organic Compounds**

Based on the application submittal and information available to the Agency, this Facility currently has no applicable operations subject to this regulation.

**§5-261 - Control of Hazardous Air Contaminants**

See Section 7.0 below.

**§5-402 - Written Reports When Required**

This section gives the Agency authority to require the Facility to submit reports summarizing records required to be maintained by the Agency.

**§5-403 – Circumvention**

This section prohibits the dilution or concealment of an air discharge in order to avoid air pollution control requirements. The Agency will assess compliance with this regulation in the future during any inspections of the Facility.

**4.2 Federal Air Pollution Control Regulations and the Clean Air Act****40 C.F.R. Part 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units**

“The affected facility to which this Subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 20 megawatts (MW) (100 million BTU per hour (BTU/hr)) or less, but greater than or equal to 2.9 MW (10 million BTU/hr).” The regulation limits fuel oil sulfur content to a maximum of 0.5 weight percent.

The Facility does not have any steam generating unit that has been constructed, modified, or reconstructed after 1989. No equipment at the Facility is subject to this regulation.

**Clean Air Act §§114(a)(3), 502(b), and 504(a)-(c); 40 CFR Part 70 §§70.6(a)(3)(i)(B) and 70.6(c)(1); and 40 CFR Part 64 - Compliance Assurance Monitoring**

Upon renewal of a Title V Permit to Operate, a facility must comply with enhanced monitoring and compliance assurance monitoring requirements for any emission controlled unit subject to an emission standard with uncontrolled emissions from the unit in excess of the Title V major source thresholds. The uncontrolled emissions of PM from the boilers and the uncontrolled (cyclone instead of a fabric filter) emissions from the dry wood waste handling system are each less than the Title V major source threshold for PM. Uncontrolled emissions from a boiler were calculated assuming the entire fuel limit was burned in one boiler, a 4400 Btu/lb heating value of the wood fuel, and an emission factor of 0.33 lb/MMBtu according to AP-42 Table 1.6-1 (9/03) wet wood fuel combustion with no control device. The uncontrolled emissions equal 29.0 tons per year under these assumptions, which is significantly below the 100 ton per year CAM applicability threshold. Therefore there is no equipment at the Facility that is subject to this regulation.

**Section 112 of the Clean Air Act - National Emission Standards for Hazardous Air Pollutants (NESHAPs).**

NESHAPs are promulgated under 40 C.F.R. Part 61 and 63. No promulgated NESHAPs in 40 CFR Part 61 or 63 currently are applicable to the Facility

#### **4.3 Non-Applicable Requirements for Which a Permit Shield Provision Has Been Requested**

Pursuant to §5-1015(a)(14) of the *Regulations*, an owner/operator may request to be shielded from potentially applicable state or federal requirements. The Facility has not requested a permit shield from any specific, potentially applicable requirement. Accordingly, the Agency has not granted any permit shields for the Facility.

#### **5.0 CONTROL TECHNOLOGY REVIEW FOR MAJOR SOURCES AND MAJOR MODIFICATIONS**

Pursuant to §5-261 of the *Regulations* each new major source and major modification must apply control technology adequate to achieve the Most Stringent Emission Rate ("MSER") with respect to those air contaminants for which there would be a major or significant emission increase, respectively. The proposed project is designated as a non-major modification of a stationary source and therefore is not subject to MSER review under §5-502 of the *Regulations*.

#### **6.0 AMBIENT AIR QUALITY IMPACT EVALUATION**

An ambient air quality impact evaluation is performed to demonstrate whether or not a proposed project will cause or contribute to violations of the ambient air quality standards and/or significantly deteriorate existing air quality. The Agency's implementation procedures concerning the need for an ambient air quality impact evaluation under §5-406(1) of the *Regulations*, specifies that such analyses may be required when a project results in an allowable emissions increase of ten (10) tons per year or more of any air contaminant, excluding VOCs. Additionally, the Agency may require an air quality impact evaluation where the short-term allowable emission rates will significantly increase as a result of a project. The emissions resulting from the increase in fuel cap and change to heating value of the fuel is summarized in Table 3-4 above. Column 3-2 of the table shows that the increase in allowable emissions resulting from this project will not be large enough to require the Permittee to perform an ambient air quality impact evaluation.

#### **7.0 HAZARDOUS AIR CONTAMINANTS**

The emissions of hazardous air contaminants ("HACs") are regulated under to §5-261 of the *Regulations*. The Owner/Operator of a source must quantify its emissions of HACs regulated by this rule. Any Facility whose emission rate of a HAC exceeds its respective Action Level ("AL") is subject to the rule for the HAC, and the Owner/Operator must then demonstrate that the emissions of the HAC are minimized to the greatest extent practicable by achieving the Hazardous Most Stringent Emission Rate ("HMSE") for that HAC. If the emission rate of any HAC after achieving HMSE is still estimated to exceed its action level after achieving HMSE, an air quality impact evaluation may be required to further assess the ambient impacts for compliance with the Hazardous Ambient Air Standard ("HAAS") or Stationary Source Hazardous Air Impact Standard ("SSHAIS"). The emission of hazardous air pollutants ("HAPs") may also be regulated separately under to §112 of the Federal Clean Air Act. Any applicable HAP regulations are discussed under Section 4 above.

##### **7.1 Applicability of HAC Emissions**

The sources of HAC emissions at the Facility are limited to the combustion related emissions associated with the wood fired boilers and the dry lumber kilns. The wood waste handling operations are not considered to be a source of HAC emissions. Pursuant to §5-261(1)(b)(ii) of the *Regulations*, fuel burning equipment that combusts virgin liquid or gaseous fuels as well as wood fuel burning equipment installed prior to

January 1, 1993 are exempt from the requirements of §5-261. Table 3-5 has the total allowable VOC emissions from the dry lumber kilns. To be conservative the VOC emissions from the lumber kilns uses the highest emission factor of a species of wood that is processed at the Facility: white pine. Turpentine comprises some of the VOC emissions, but an emission factor for turpentine is not given. A conservative estimate is shown below assuming the entire allowable emission of VOCs from the lumber kilns is in the form of turpentine.

Turpentine emissions = (2.26 lb/1000 board feet) x (30,000,000 board feet/year) x (1 year/ 8760 hr) \* 8hr = 61.9 lb/8 hr

The action level for turpentine is 69 lb/8 hr, and therefore the emissions of turpentine do not exceed the action level of §5-261 of the *Regulations*.

## **8.0 REASONABLY AVAILABLE CONTROL TECHNOLOGY**

Pursuant to 10 VSA §556a(d) and §5-1010 of the *Regulations* the Agency may establish and include within any Permit to Operate emission control requirements based on Reasonably Available Control Technology ("RACT"). RACT for the wood fired boilers has been determined to be periodic combustion efficiency tests, annual boiler tune-up, and the development and implementation of an operation and maintenance plan (O&M plan). These RACT requirements were determined by the Agency to be reasonable procedures to ensure that the boilers are maintained to minimize emissions. Additional RACT requirements may be imposed in the future upon the renewal of this or any future operating permit for the Facility.