

Lane Regional Air Protection Agency

**TITLE V OPERATING PERMIT
REVIEW REPORT**

SierraPine, Springfield Division
800 48th Street
Springfield, Oregon 97478

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PERMITTEE IDENTIFICATION

1. Sierra Pine, Springfield Division (the facility or Sierra Pine) operates a particleboard manufacturing facility at 800 48th Street in Springfield, Oregon.

PROPOSED PERMIT ACTION

2. The facility submitted application number 52316 on September 24, 2007 for a Significant Modification and application number 54478 on November 15, 2007 for a Minor Modification to their Oregon Title V Operating Permit. The principal purposes of the modifications are to incorporate the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for the Plywood and Composite Wood Products (PCWP) Maximum Achievable Control Technology (MACT) standard of 40 CFR 63 Subpart DDDD.

FACILITY DESCRIPTION

3. Sierra Pine is a particleboard manufacturing plant. Particleboard is manufactured from residual wood fibers that are typically generated by other wood products facilities. The raw material (wood fiber) is purchased from the generator of the residuals, or from the agent of the generator, in an array of physical states that may range from an extremely wet, heavy fiber to a dry, light material. In addition to wood-fiber particles, recycled or low-value solid woods may be purchased and refined to the quality of fiber required for the manufacturing processes. These raw materials are unloaded and stored in an enclosed structure or an outside storage facility prior to being processed in the Raw Materials Preparation Area and ultimately transported to the particleboard production facility.

During the production of particleboard, the furnish (raw material) is refined, mixed with a glue based on, but limited to, urea-formaldehyde or phenol-formaldehyde resin, pressed, and finished by sanding and cutting it to size. The Particleboard Plant consists of the Outside Storage, the Raw Material Storage Building, the Production Building, the Finishing Building and the Warehouse.

The Sierra Pine facility was formerly operated and owned by Weyerhaeuser Company. Weyerhaeuser sold the facility to Sierra Pine in May of 1999. Weyerhaeuser and Sierra Pine are not under common ownership and, therefore, there is not an aggregation issue related to air permitting.

Prior to October 15, 2004 Sierra Pine operated a Ply veneer Manufacturing Facility on the plant site. The equipment, now owned and operated by Ply-Veneer Products,

continues to operate on the plant site under a property lease agreement with Sierra Pine. Sierra Pine and Ply-Veneer Products are not under common ownership and, therefore, as there is not an aggregate issue related to air permitting, all conditions associated with operating the Ply Veneer Plant have been removed from this permit

Sierra Pine installed and is operating a natural gas-fired boiler at the facility. Because the facility is a major source of HAPs, the 40 CFR Part 63 Subpart DDDDD – NESHAPs for Industrial, Commercial and Institutional Boilers and Process Heaters (Boiler MACT) had applied to the new boiler at the facility. However, on June 8, 2007 the U.S. Court of Appeals vacated and remanded the Boiler MACT. As a result, the initial compliance dates are no longer in force. Because a permit modification was used to establish a federally-enforceable limit on the potential to emit for the new boiler at the time, the change was classified as a “Type 3” change according to OAR 340-210-0225(3)(c) and a Construction Air Contaminant Discharge Permit (C-ACDP) was required and issued February 15, 2005. The facility's current Title V permit includes the permit conditions that are part of that C-ACDP.

For the purposes of the permit, the “24-hour block average” is defined as the period from 12:00 midnight to 12:00 midnight and “Production Day” is defined as the period from 6:30 AM to 6:30 AM.

MODIFICATIONS TO THE PERMIT

4. The following table includes the changes made to the permit for this modification.

Permit Condition	Change
Permit Title Page	Deleted name of Responsible Official.
List of Abbreviations Page	Added the abbreviations: “MACT”, “NESHAP” and “PCWP”.
3	Added the biofiltration system to the pollution control device name and identification table. Also added language to clarify which Press-2 vents are controlled by the biofilter (PB 45.2 and PB 45.3).
Emission Units – Specific Emission Limits and Standards Table	Added PCWP MACT work practice standards for MEC-1 and MEC-2. Added general reference to PCWP MACT requirements and the biofiltration device for emission units MEC-3, MEC-4 and Press-2.
New Condition 22	Inserted the PCWP work practice standards applicable to MEC-1 and MEC-2.
New Condition 23	Inserted the PCWP requirements applicable to MEC-3, MEC-4 and Press-2 vents PB 45.2 and PB 45.3
New Condition 24	Inserted the PCWP requirement for the facility to use only “non-HAP coatings” for all “group 1

	miscellaneous coating operations”.
Old Condition 25/New Condition 28	Reduced VOC daily PSEL from 5801.3 lb/day to 5,561.3 lb/day
Old Condition 26/New Condition 29	Reduced VOC annual PSEL from 331.3 tons/year to 315.2.
Old Condition 33.b/New Condition 36.b	Added MEC-3 and MEC-4 as emission units for which EPA Reference Method 22 can be used in lieu of EPA Reference Method 9.
Old Condition 33.c.i.A/New Condition 36.c.i.A	Added Press-2 vents PB-45.2 and 45.3 to the requirement to perform daily visible emissions monitoring.
Old Condition 33.c.i.A/New Condition 36c.i.A	Added Press-2 vents PB-45.5 and 45.6 to the requirement to perform monthly visible emissions monitoring.
Old Condition 36/New Condition 39	Changed the upper pressure drop range for baghouse AIR-3, K-1 from 2.5 to 5.0 inches of water.
Old Condition 54/New Condition 57	Changed MEC-3 and MEC-4 VOC daily and annual emission factors from 1.5 and 0.750 lb/BDT furnish to 1.3 and 0.67 lb/BDT furnish, respectively. Also changed the Press-2 VOC daily and annual emission factors from 3.39 and 1.69 to 3.08 and 1.54 lb/MSF $\frac{3}{4}$ finished, respectively. Added footnote for Press-2 VOC emission factor verification testing to clarify the location of the testing for Press-2 and tie it into the testing required by the PCWP MACT.
New Conditions 63, 64, and 65	Added a section titled “General Monitoring Conditions” applicable to all Title V facilities.
New Conditions 67 and 68	Added new general recordkeeping requirements applicable to all Title V facilities.
Old Condition 69 to New Condition 75	Moved this condition from the “Semi-annual and Annual Reports” section to the “General Reporting Requirements” section.
New Condition 74.g	Included the requirement for the facility to submit a compliance report as required by the PCWP MACT.
New Condition 79	Added a new general reporting requirement applicable to all Title V facilities.

DISCUSSION

5. On July 30, 2004, EPA published the PCWP MACT. The Sierra Pine particleboard plant is a major source of HAPs and operates affected units and activities as listed below. As an existing facility, the particleboard plant was required to be in compliance with the applicable requirements of this rule by *October 1, 2007*, with the exception of an LRAPA-approved extension to complete controls to meet a standard, not to exceed one (1) year. On October 17, 2007 the facility received an LRAPA-approved one-year extension (not to exceed October 1, 2008) for the installation of controls to meet the PCWP MACT.
6. Applicable PCWP MACT requirements have been placed into the permit. Permit Conditions 22 through 24 contain the specific emission limits, operating requirements and work practice standards. Permit Condition 74.g contains the applicable reporting requirements required under the PCWP MACT.
7. The facility has requested the inclusion of the three following different Table 1B compliance options from the PCWP MACT. The facility is required by the permit to concurrently conduct all necessary testing associated with the compliance with the selected options.
 - a. **Add-on Control Systems Compliance Option 2 from Table 1B:** Limit emissions of total HAP, measured as THC (as carbon), to 20 ppmvd; or
 - b. **Add-on Control Systems Compliance Option 5 from Table 1B:** Reduce formaldehyde emissions by 90 percent; or
 - c. **Add-on Control Systems Compliance Option 6 from Table 1B:** Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.
8. The affected emission units and activities are subject to the PCWP MACT (see the PCWP MACT for definitions of terms quoted in 8.a through 8.h below. A more detailed discussion of these affected emission units and activities as they relate to the PCWP MACT is included in subsequent review report items.
 - a. MEC-1 "dry rotary dryer".
 - b. MEC-2 "dry rotary dryer".
 - c. MEC-3 and MEC-4 "green rotary dryers".
 - d. Line #1 "reconstituted wood product press" vents PB-44.2 & 44.3.
 - e. Line #2 "reconstituted wood product press" vents PB-45.2 and 45.3.
 - f. Line #1 "reconstituted wood product board cooler" vent PB-44.4.
 - g. Line #2 "reconstituted wood product board cooler" vents PB 45.5 and PB 45.6.
 - h. "Group 1 miscellaneous coating operations".

9. MEC-1 and MEC-2 are subject to the PCWP MACT moisture and temperature work practice standards under 40 CFR 63.2263. Because MEC-1 and MEC-2 are “dry rotary dryers” only the PCWP MACT operating and work practice requirements of Section 63.2263 apply and add-on control is not required for “dry rotary dryers”. Wood entering the MEC-1 dryer may range from 15 to 35% moisture (by weight, dry basis) and exit with 3 to 8% moisture (by weight, dry basis) and the wood entering the MEC-2 dryer may range from 15 to 35% moisture (by weight, dry basis) and exit with 3 to 8% moisture (by weight, dry basis). Both MEC-1 and MEC-2 dryers were installed in 1970.
10. The exhaust from WESP-3 and WESP-4 is controlled by a biofiltration system (BF-1). MEC-3 and MEC-4 are considered “green rotary dryers” and affected process units under the PCWP MACT and subject to the control requirements of Table 1B and 2 of 40 CFR 63 Subpart DDDD. The hybrid biofiltration system (BF-1) consists of a pretreatment bioscrubber and a biofilter operating in series. The system is designed to provide two independent systems. Each system has a bioscrubber, biofilter and independent fan. Each bioscrubber (2 independent) provides 3.8 seconds residence time and 2,200 g.p.m. (4,400 g.p.m. total) of recirculation water to contact the process gas and scrub the water-soluble compounds (primarily methanol and formaldehyde) from the gas phase into the water phase. Each bioscrubber includes 1,200 cubic feet of biomass substrate material in a non-fouling design to promote biological removal of the methanol and formaldehyde. Partial biological degradation of the water soluble compounds occurs before entering the biofilter. The MEC-3, MEC-4 and Line 2 Press Vents (PB-45.2 and 45.3) combined exhaust gas enters the bioscrubber where evaporative cooling lowers the gas stream temperature and reduces the volumetric air flow.
11. Line #1 press vents PB-44.2 & 44.3 are subject to the requirements of the PCWP MACT. Press-1, which is currently inactive, must meet the control requirements of Table 1B and 2 of 40 CFR 63 Subpart DDDD upon start-up. Before the facility changes the operating status of the Line #1 press from its current inactive status to active, the facility must designate the operation will comply with all PCWP MACT applicable requirements including the time schedule for performance testing.
12. Line #2 press vents PB-45.2 and 45.3 are subject to the requirements of the PCWP MACT and are controlled by a biofiltration system (BF-1). Press-2 is an affected process unit under the PCWP MACT and subject to the control requirements of Table 1B and 2 of 40 CFR 63 Subpart DDDD.
13. The board cooler exhaust vents PB-44.4, PB 45.5, and PB 45.6 are considered “reconstituted wood product board cooler” vents but are not considered applicable process units at the facility under the PCWP MACT because the units are not located at a “new affected source” as per Table 1B in 40 CFR 63 Subpart DDDD. The facility is considered an “existing affected source” since it is not “new or reconstructed”. “Reconstituted wood product board cooler” is defined in the PCWP MACT as a: “piece

of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at medium density fiberboard and particleboard plants. Board coolers do not include cooling section of dryers (e.g. veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers.” The facility identified the vents PB-44.4, 45.5 and 45.6 as “reconstituted wood product board cooler” vents as suggested review report draft language in April of 2008.

14. The facility performs “Group 1 miscellaneous coating operations” as defined under the PCWP MACT and must use non-HAP coatings as defined in 40 CFR 63.2292.
15. PCWP MACT initial compliance demonstrations include the following:
 - a. The facility recorded the MEC-1 and MEC-2 inlet furnish moisture content (dry basis) and inlet operating temp for a minimum of 30 days as required by 40 CFR 63.2263. LRAPA received the notification of compliance status on November 22, 2007 (Log No. 52511) - resubmitted/corrected as dry basis on March 24, 2008 (Log No. 52841).
 - b. The facility is electing to use three initial compliance demonstration operating scenarios from Table 1B of the PCWP MACT and is required to conduct its initial compliance demonstration by concurrent testing for all three of the scenarios. Upon obtaining the results of the concurrent testing for all three of the compliance scenarios, the facility will designate (elect) the operating scenario(s) that will be used to determine continued compliance. After the initial compliance demonstration, continued compliance will be determined by conducting a performance test for the operating scenario(s) that the facility designated at the time of the most recent source test.

PLANT SITE EMISSION LIMIT (PSEL) INFORAMTION

16. The **Short-Term PSELs** (pounds per day) for the facility are as follows. However, the VOC baseline and PSEL will be updated based on the results of the performance test(s) performed to demonstrate compliance with the PCWP MACT.

Emissions Unit	PM (lbs/day)	PM ₁₀ (lbs/day)	SO ₂ (lbs/day)	NO _x (lbs/day)	VOC (lbs/day)	CO (lbs/day)	Pb (lbs/day)
MEC-1	230.4	216.0	0.6	1440.0	691.2	1430.4	0.0245
MEC-2	70.2	54.0	0.3	115.2	331.8	480.0	0.0000

Emissions Unit	PM (lbs/day)	PM ₁₀ (lbs/day)	SO ₂ (lbs/day)	NO _x (lbs/day)	VOC (lbs/day)	CO (lbs/day)	Pb (lbs/day)
MEC-3	471.6	468.0	0.9	2160.0	484.9	792.0	0.0392
MEC-4	471.6	468.0	0.9	2160.0	484.9	489.6	0.0392
Press-1	194.8	194.8	NA	NA	551.9	20.2	NA
Press-2	286.1	286.1	NA	NA	1378.1	15.2	NA
RHA-1	NA	NA	NA	NA	179.1	NA	NA
AIR-1	31.1	29.6	NA	NA	NA	NA	NA
AIR-2	0.7	0.7	NA	NA	NA	NA	NA
AIR-3	54.9	54.9	NA	NA	NA	NA	NA
AIR-4	50.7	50.7	NA	NA	NA	NA	NA
MH-1	37.2	13.0	NA	NA	1446.2	NA	NA
RD-1	37.2	13.0	NA	NA	NA	NA	NA
BLR-1	9.2	9.2	0.9	342.0	13.2	384.0	NA
Permit	1945.7	1858.1	3.8	6217.2	5,561.3	611.5	0.12

17. The **Annual PSEL** (tons per each consecutive 12-month rolling period) for the facility are as follows. However, the VOC baseline and PSEL will be updated based on the results of the performance test(s) performed to demonstrate compliance with the PCWP MACT.

Emissions Unit	PM (tons/yr)	PM ₁₀ (tons/yr)	SO _x (tons/yr)	NO _x (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Pb (tons/yr)
MEC-1	21.4	20.0	0.1	58.7	32.0	73.3	0.0009
MEC-2	10.5	8.1	0.0	10.0	24.9	41.5	0.0000
MEC-3	49.8	49.4	0.1	135.0	25.6	87.3	0.0029
MEC-4	49.8	49.4	0.1	135.0	25.6	53.9	0.0029
Press-1	27.5	27.5	NA	NA	39.0	1.4	NA
Press-2	40.3	40.3	NA	NA	97.1	1.1	NA
RHA-1	NA	NA	NA	NA	12.6	NA	NA

AIR-1	3.2	3.2	NA	NA	NA	NA	NA
AIR-2	0.1	0.1	NA	NA	NA	NA	NA
AIR-3	5.6	5.6	NA	NA	NA	NA	NA
AIR-4	4.6	4.6	NA	NA	NA	NA	NA
MH-1	2.5	0.9	NA	NA	57.1	NA	NA
RD-1	2.5	0.9	NA	NA	NA	NA	NA
BLR-1	1.2	1.2	0.1	22.7	1.2	25.5	NA
Aggregate Insignificant Activities	1.0	--	0.1	--	1.0	--	--
Total	220.1	211.6	0.6	361.3	316.2	284.1	0.0074

18. Provided below is a summary of the baseline emissions rate, netting basis, plant site emission limits, and emissions capacity. The netting basis is reduced proportional to the HAP reductions required by the PCWP MACT. The reduction level will be updated based on the results of the performance test to demonstrate compliance with the PCWP MACT.

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)			Capacity (tons/yr)
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)	
PM	246.4	246.3	246.3	220.1	220.1	0	220.1
PM ₁₀	210.5	210.4	210.4	211.6	211.6	0	211.6
CO	112.0	284.3	284.3	284.1	284.1	0	284.1
NO _x	162.2	361.6	361.6	361.3	361.3	0	361.3
SO ₂	0.2	0.2	0.2	0.6	0.6	0	0.6
VOC	292.0	346.0	330.9	331.3	316.2	-15.1	316.2
Lead	0.0035	0.0035	0.0035	0.0066	0.0066	0	0.0066

19. In addition to the PSEL, the permit includes the following:

Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)
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Pollutant	Unassigned Emissions (tons/yr)	Emission Reduction Credits (tons/yr)
PM	21.5	0
PM ₁₀	0.7	0
CO	0	0
NO _x	1.3	0
SO ₂	0.2	0
VOC	1.9	0
Other	0	0

20. The requested increase over previous netting basis for all pollutants are not greater than the Significant Emission Rates as shown below:

Pollutant	SER	Requested Increase Over Previous Netting Basis	Increase Due To Utilizing Capacity That Existed In Baseline Period	Increase Due To Physical Changes Or Changes In Method Of Operation
PM	25	0	0	0
PM ₁₀	15	1.2	0	1.2
CO	100	0	0	0
NO _x	40	0	0	0
SO ₂	40	0.4	0	0.4
VOC	40	0	0	0
Lead	0.6	0	0	0

CONSTRUCTION

21. 2007- NC208866-B07 was given as approval to construct for the installation of a biofiltration system (BF-1) to control emissions from Wet ESP vents WESP-3 and WESP-4, and baghouse vents PB 45.2 and 45.3 as required by the PCWP MACT.

PCWP MACT COMPLIANCE

22. It was discovered on April 16, 2008 that in February of 2008 the facility operated the

MEC-1 dry dryer at greater than 600 deg. F from 1006 hours on 2/22/08 through 1345 hours on 2/23/08. At that particular time there was not a system in place to alarm of the temperature excursion/ limits and the excursion terminated on the basis of maintenance shutdown. At the time of the excursion the applicable PCWP requirements had not been incorporated into the permit but an application was submitted by Sierra Pine to include them as a Significant Modification on September 24, 2007. The facility has received a one-year compliance extension for the installation of controls however, this extension does not apply to the work practice requirements of 63.2263 and hence the compliance date for the dry rotary dryer work practices began October 1, 2007.

It was reported that the dryers switched from sanderdust to natural gas on February 22nd. There is an automatic shutdown process that occurs if the dryers exceed 600F while on sanderdust but not natural gas. Subsequent to the temperature excursion the facility created a temperature alarm/flag for the natural gas-fired scenario.

Possible enforcement for the work practice excursion is currently being evaluated as of this permit action date.

HAZARDOUS AIR POLLUTANTS (HAPs)

23. The particleboard plant is a major source of hazardous air pollutants (HAPs); it is estimated that there are 66 tons of formaldehyde, 138 tons of methanol and a total of 222 tons of combined HAP emissions per year (a summary of potential HAP emissions is provided below and is based on a maximum potential of 213 MMSF 3/4" basis particleboard production). Most of these HAP emissions are included in the Volatile Organic Compounds (VOC) Plant Site Emissions Limit (PSEL) because the HAPs are also VOCs. As such, the total emissions are currently regulated through the PSEL regulations. HAP emissions for the maximum permitted production throughput of 180 MMSF 3/4" basis will be proportionally less than those summarized in the table below. The HAP table below does not reflect reductions required by the PCWP MACT. The HAP emission inventory will be updated based on the results from performance tests performed to demonstrate compliance with the PCWP MACT.

The following HAPs are estimated by the permittee to be emitted:

HAZARDOUS AIR POLLUTANT	EMISSIONS (tons/year)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.16E-09
Acetaldehyde	14.335
Acetophenone	0.001
Arsenic	0.003
Benzene	0.232

HAZARDOUS AIR POLLUTANT	EMISSIONS (tons/year)
Beryllium	0.005
Cadmium	0.001
Carbon Disulfide	0.038
Chloroform	0.014
Chromium	0.006
Cobalt	0.043
Cumene	0.005
Ethyl Benzene	0.001
Formaldehyde	65.594
n-Hexane	0.159
Hydrogen Chloride	0.136
Lead	0.020
Manganese	0.286
Mercury	0.005
Methanol	138.414
Methyl Ethyl Ketone	0.522
Methyl Iso-Butyl Ketone	0.191
Methylene Chloride	0.269
Naphthalene	0.170
Nickel	0.035
Phenol	1.903
Selenium	0.001
Styrene	0.004
Toluene	0.016
Trichloroethylene	0.001
Xylenes,m,p	0.002
Xylenes,o	0.001
TOTAL (tons per year)	222.41

PUBLIC NOTICE

24. The draft permit significant modification for incorporation of the PCWP MACT

requirements was on public notice from **July 21, 2008**, to **August 20, 2008**. A public hearing was requested by one individual and one was held on September 11, 2008, in the LRAPA Meeting Room at 1010 Main Street, Springfield, Oregon. The hearing was not required to be held under the rules but was scheduled to provide additional assurance of permit issuance by the October 1, 2008 PCWP MACT compliance date. Zero (0) members of the public attended the public hearing but the comments of the one individual who provided written comments are attached.

EPA REVIEW

25. The proposed significant permit modification was sent to EPA on September 24, 2008, for a 45-day review period. LRAPA requested and EPA agreed to an expedited review because no comments requiring change to the permit were received from the public and no substantive changes were made. The public has 105 days (45- days EPA review period plus 60 days) from the date the proposed permit was sent to EPA to appeal the permit with EPA.

Max/cmw
9/30/08

RE SFPP, LP.

July 29, 2008

Title V Operating Permit
(Number 207506)

Because Eugene already has an air quality
problem, I suggest we institute a NO TRADE
policy on industrial emissions.
Give us a public hearing.

Aldene D. Hill

Aldene Rubinstein
2555 Jackson Street
Eugene, Oregon 97405

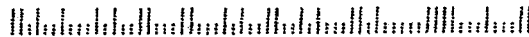
EUGENE OR 974

30 JUL 2008 PM 2 L



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JUL 31 2008
53150
LANE REGIONAL AIR
PROTECTION AGENCY

L RAPA Permits Coordinator
1000 Main ST
SPRINGFIELD OR 97477



PSEL Assignment

SUMMARY

Source	VOC	
	lb/day	tons/yr
PARTICLEBOARD		
MEC-1 Dryer	691.2	32.0
MEC-2 Dryer	331.8	24.9
MEC-3 Pre-Dryer	484.9	25.6
MEC-4 Pre-Dryer	484.9	25.6
Line No. 1 Press	551.9	39.0
Line No. 2 Press	1378.1	97.1
Resin Handling & Application	179.1	12.6
AIR-1	---	---
AIR-2	---	---
AIR-3	---	---
AIR-4	---	---
MH-1	1446.2	57.1
RD-1	---	---
Boiler-1	13.2	1.2
PARTICLEBOARD TOTAL	5561.3	316.2
Agg Insignificant Activities	---	1.0
Insignificant Total	0.0	1.0
TOTAL Assigned PSEL	5561.3	316.2

Pollutant: **VOLATILE ORGANIC COMPOUNDS (VOC)**

SierraPine Ltd., Springfield Division (Permit No. 208866)

PSEL Assignment

Permit No. 208866
Attachment to Review Report
Expiration Date: March 6, 2013
Modified: September 30, 2008
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Device/Process	Operating Parameters	Emission Factor	Reference	SHORT lb/Day	LONG Tons/yr
MEC 1 DRYER w/WESP	8760 HRS/YR	0.48 LB/BDT - LONG	2001 ST MAX*1.2 (VOC as C + MeOH + HCHO)	691.2	32.0
	13621 BDT/YR	0.96 LB/BDT - SHORT	2001 ST MAX (Above) *2		
MEC 1 Total				691.2	32.0
MEC 2 DRYER w/baghouse	8760 HRS/YR	0.3072 LB/BDT - LONG	2001 ST MAX*1.2 (VOC as C + MeOH + HCHO)	331.8	24.9
	162254 BDT/YR	0.61 LB/BDT - SHORT	2001 ST MAX (Above) *2		
MEC 2 Total				331.8	24.9
MEC 3 DRYER w/WESP	8760 HRS/YR	0.6735 LB/BDT - LONG	2000 ST MAX*1.2 (VOC as C + MeOH + HCHO)	484.9	25.6
	76056 BDT/YR	1.347 LB/BDT - SHORT	2000 ST MAX (Above) *2		
MEC 3 Total				484.9	25.6
MEC 4 DRYER w/WESP	8760 HRS/YR	0.6735 LB/BDT - LONG	2001 ST MAX*1.2 (VOC as C + MeOH + HCHO)	484.9	25.6
	76056 BDT/YR	1.347 LB/BDT - SHORT	2001 ST MAX (Above) *2		
MEC 4 Total				484.9	25.6
VOC TOTAL FOR PARTICLEBOARD DRYERS				1992.8	106.2
LINE 1 PRESS	8760 HRS/YR	1.44 lb/MSF 3/4" - LONG	00/02 ST MAX*1.2 (VOC as C + MeOH + HCHO)	551.9	39.0
	54000 MSF/YR 3/4"	2.89 lb/MSF 3/4" - SHORT	00/02 ST MAX (Above) *2		
Line 1 Press Total				551.9	39.0
LINE 2 PRESS	8760 HRS/YR	1.54 lb/MSF 3/4" - LONG	00/01 ST MAX*1.2 (VOC as C + MeOH + HCHO)	1378.1	97.1
	126000 MSF/YR 3/4"	3.08 lb/MSF 3/4" - SHORT	00/01 ST MAX (Above) *2		
Line 2 Press Total				1378.1	97.1
Resin Handling & Application	8760 HRS/YR	0.14 lb/MSF 3/4" - LONG	CH2M 2/96 Ref # 3	179.1	12.6
	180000 MSF/YR 3/4"	0.28 lb/MSF 3/4" - SHORT	CH2M 2/96 Ref #3*2		
RH 2 A Total				179.1	12.6
BOILER-1	8760 HRS/YR	0.005 lb/MMBTU NG ↑ LONG	Manufacturer's Guarantee		1.2
	480048 MMBTU NG/YR				

SierraPine Ltd., Springfield Division (Permit No. 208866)
 PSEL Assignment

VOLATILE ORGANIC COMPOUNDS (VOC)

Pollutant:	Device/Process	Operating Parameters	Emission Factor	Reference	SHORT lb/Day	LONG Tons/yr
		1315.2 MMBTU NG/DA	0.01 lb/MMBTU NG - SHORT	MG * 2	13.2	
				Boiler #1 Total	13.2	1.2
Raw Material		8760 HRS/YR				
Handling & Storage		253521 BDT/YR	0.35 LB/BDT - LONG	LPG		44.4
		1550 BDT/DAY	0.70 LB/BDT - SHORT	LPG#2	1085.0	
				RM H&S	1085.0	44.4
Green Sawdust		8760 HRS/YR				
Handling		152113 BDT/YR	0.14 LB/BDT - LONG	NCASI Ref #4		10.6
		1080 BDT/DAY	0.28 LB/BDT - SHORT	NCASI Ref #4*2	302.4	
				Green Sawdust Handling	302.4	10.6
Green Shavings		8760 HRS/YR				
Handling		59156 BDT/YR	0.07 LB/BDT - LONG	NCASI Ref #4		2.1
		420 BDT/DAY	0.14 LB/BDT - SHORT	NCASI Ref #4*2	58.8	
				Green Shavings Handling	58.8	2.1
VOC PARTICLEBOARD TOTAL					5561.3	315.2

Formaldehyde Contribution to VOC PSEL - PCWP MACT Emissions Unit Analysis

Permit No. 208866
 Attachment to Review Report
 Expiration Date: March 6, 2013
 Modified: September 30, 2008
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PCWP MACT Emission Unit	Draft Permit Emission Factor (Total VOC as Propane, plus HCHO, plus MeOH)	Units	"Old" HCHO Contribution to Total VOC*	"New" HCHO Contribution to Total VOC due to biofilter (90% DE)	Delta in HCHO Contribution due to Biofilter	Proposed VOC EF (includes reduction in HCHO due to Biofilter)	Units
MEC-3	0.75	(lb/BDT)	0.085	0.0085	0.0765	0.6735	(lb/BDT)
MEC-4	0.75	(lb/BDT)	0.085	0.0085	0.0765	0.6735	(lb/BDT)
Press-2	1.69	(lb/M/SF 3/4")	0.174	0.0255	0.1485	1.5415	(lb/M/SF 3/4")

*Based on 2006 HAP testing by ETS