LRAPA
Lane Regional Air Protection Agency

Lane Regional Air Protection Agency
Standard Air Contaminant Discharge Permit

Review Report

Weyerhaeuser NR Company – Cottage Grove Lumber **Permit No. 208853**
77629 South Pacific Highway
Cottage Grove, Oregon 97424
Website: http://www.weyerhaeuser.com

Source Information:

Primary SIC	2421 - Sawmill/Planing Mill
Secondary SIC	--
Primary NAICS	321113 - Sawmills
Secondary NAICS	--

Source Categories (LRAPA title 37, Table 1)	B:62. – Sawmills and/or planing mills 25,000 or more board feet/maximum 8 hour finished product
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned Emissions	Y
Emission Credits	N
Compliance Schedule	N
Source Test [date(s)]	N

COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements

Annual Report (due date)	February 15
Semi-Annual Report (due date)	N
GHG Report (due date)	N
Monthly Report (due date)	N

Quarterly Report (due date)	N
Excess Emissions Report	Y
Other Reports (due date)	N

Air Programs

NSPS (list subparts)	N
NESHAP (list subparts)	N
CAM	N
Regional Haze (RH)	N
Synthetic Minor (SM)	N
SM-80	N
Title V	N
Part 68 Risk Management	N
ACDP (SIP)	N
Major FHAP Source	N
Federal Major Source	N
NA New Source Review (NSR)	N
Prevention of Significant Deterioration (PSD)	N
Acid Rain	N
Clean Air Mercury Rule (CAMR)	N
TACT	N
>20 Megawatts	N

Permittee Identification

1. Weyerhaeuser NR Company – Cottage Grove Lumber ("the facility") operates a sawmill at 77629 South Pacific Highway, Cottage Grove, Oregon.

General Background

2. Weyerhaeuser NR Company – Cottage Grove Lumber is proposing to expand the capacity of the facility. Currently the facility has an annual capacity of 500 million board feet of lumber. The facility is proposing to increase capacity to 700 million board feet of lumber. Their modernization project includes changes to the residual handling system and replacement of existing cyclones (C-21 and C-26) with new, higher efficiency cyclones (C-1 and C-2). The facility also proposes to add new sawmill equipment, including new chip screening operations, a new trimmer, a new merchandiser, and a new gang saw within the Sawmill Operations emission unit (EU-1). This expansion is considered a Type 3 change under LRAPA 34-035.

3. The facility was initially constructed in 1975. The plywood plant closed in August 1985, the laminating plant ceased operation in September 1992, and the hog fuel-fired boilers were permanently shut down in February 1994. The sawmill operations have continued since the initial air permit was issued.

Reasons for Permit Action and Fee Basis

4. The facility operates a process listed in LRAPA title 37, Table 1, Part B (B.62, Sawmills and/or planing mills 25,000 or more board feet/maximum 8 hour finished product) and is, therefore, required to obtain an air contaminant discharge permit. The current Standard ACDP for the facility expired on July 5, 2021. The facility submitted a renewal application on February 3, 2021. Because the facility submitted a renewal application prior to the expiration of the Standard ACDP, they are authorized to continue operating until the Standard ACDP is renewed. The renewal application deadline was changed in an LRAPA rulemaking during the previous permit term for Standard ACDPs from 60 days prior to expiration to 180 days prior to expiration; even though the facility submitted their application less than 180 days prior to the July 5, 2021 expiration date, LRAPA deemed the application timely since the facility's existing permit contained the 60 day deadline in General Condition G22.

5. The Standard ACDP renewal also includes a Type 3 change under LRAPA 34-035 as discussed in this review report.

Attainment Status

6. The facility is located outside of the Eugene-Springfield Air Quality Management Area and in an area that has been designated attainment/unclassified for PM_{10}, $PM_{2.5}$, ozone (VOC), CO, NO_2, SO_2, and Pb. The facility is located within 100 kilometers of two (2) Class I air quality protection areas: Diamond Peak Wilderness and Three Sisters Wilderness area.

Permitting History

7. LRAPA has reviewed and issued the following permitting actions to this facility:

Date Approved/Valid	Permit Action Type	Description
01/01/1978 – 12/31/1982	ACDP	Initial air permit issued to Weyerhaeuser Company for plywood manufacturing, sawmill, fuel burning equipment, planing mill, and laminating plant.
01/01/1983 – 12/31/1992	ACDP	Renewal (10-year permit term)
04/22/1992	ACDP Modification	Removed plywood manufacturing
01/01/1993 – 12/31/1997	ACDP	Renewal

Date Approved/Valid	Permit Action Type	Description
08/27/1998 – 12/31/2002	ACDP	Renewal
01/01/2003 – 12/31/2007	ACDP	Renewal
06/23/2004	ACDP Addendum No. 1	PSEL increase and baseline revision
06/29/2010 – 06/29/2015	ACDP	Renewal
12/27/2010	ACDP Addendum No. 1	Add two (2) automated anti-sap stain applicators
05/20/2014	ACDP Addendum No. 2	Replace and relocate the two (2) automated cut end anti-sap stain applicators, replace the packaging saw, and add a new package saw.
07/05/2016 – 07/05/2021	ACDP	Renewal
01/31/2017	ACDP Addendum No. 1	Add existing diesel-fired fire pond engine
12/19/2019	ACDP Addendum No. 2	Add two (2) existing diesel-fired emergency generators

Emission Unit Descriptions

8. The emission units regulated by the permit are the following:

Emission Unit ID	Emission Unit Description	PCD ID	Pollution Control Device (PCD) Description
EU-1	Sawmill Operations: Mill B/Planer Trimmer, Edger Gang Saw, Canter Planer Package Saws	C-1 C-2 C-25 C-27	Cyclone-1: High efficiency cyclone controlling Mill B/Planer Trimmer, Edger and Cyclone-27 Cyclone-2: High efficiency cyclone controlling Gang Saw, Canter Cyclone 25: Medium efficiency cyclone controlling Planer Cyclone-27: Medium efficiency cyclone controlling Package Saw
EU-2	Truck Bins (8)	None	None
EU-3	Spray-applied coatings (including Anti-Sap Stain Spray Booth and 2 Automated Cut End Anti-Sap Stain Applicators)	None	One (1) spray booth with high efficiency internal scrubber: None for 2 Automated Cut End Anti-Sap Stain Applicators (fugitives)
EU-4	Unpaved Roads	None	None
EU-CIA	Categorically Insignificant Activities: Three (3) Diesel-fired emergency pumps/generators and Paved Roads	None	None

9. Sawmill/Planing Mill Activities (Mills)

The board cutting and planing activities generate particulate matter in the form of wood dust and shavings. The particulate matter emissions from these processes are ultimately controlled by four cyclones. The criteria pollutant emissions from these sources are based on emission factors from Table 13.2 of the DEQ General ACDP for sawmills, planning mills, millwork, plywood manufacturing, and/or veneer drying (AQGP-010 expiring 10/01/2027). These sources are not expected to have any significant FHAP or CAO TAC emissions. There are five (5) cyclones in this

emission unit with four (4) emission points: C-1, C-2, C-25, and C-27. Cyclones 1 and 2 are high efficiency cyclones. Cyclones 25 and 27 are medium efficiency cyclones.

10. Truck Bins
There are a total of eight (8) truck bins: two (2) for planer shavings, two (2) for chips, two (2) for sawdust and two (2) for bark. Truck bin throughput is green wood with a moisture content of approximately 50%.

11. Unpaved Roads
This emissions unit consists of unpaved roads at the facility.

12. Paved Roads
This former emissions unit is now in EU-CIA. LRAPA's Section 12-005 defines categorically insignificant activity (CIA) to include paved roads and paved parking lots within an urban growth boundary. The facility is now within the Cottage Grove Urban Growth Boundary.

13. Categorically Insignificant Activities (CIA)
The facility has one (1) 208 brake horsepower diesel-fired fire pond engine (installed 4/7/1994) and two (2) 50 kW diesel-fired emergency generators (installed in 2019). These devices are considered CIA under LRAPA's title 12 and are also subject to 40 CFR part 63 subpart ZZZZ. The emissions from paved roads are now considered CIA.

General Emission Limitations

14. The facility is subject to the general requirements for fugitive emissions under LRAPA 48-015. The facility must not have visible emissions that leave the property of a source for a period or periods totaling more than 18 seconds in a six (6) minute period. The facility must follow, but is not limited to, the list of reasonable precautions under LRAPA 48-015(1)(a)-(g). When fugitive particulate emissions escape from an air contaminant source, LRAPA may order the facility to abate the emissions. If requested by LRAPA, the facility must develop a Fugitive Emission Control Plan. Compliance will be demonstrated through quarterly monitoring of fugitive emissions.

15. The cyclones in EU-1 are subject to the visible emission limitations under LRAPA 32-010(3). For sources, other than wood-fired boilers, no person may emit or allow to be emitted any visible emissions that equal or exceed an average of 20 percent opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance will be demonstrated through quarterly monitoring of fugitive emissions.

16. Cyclones 25 and 27 in Emission Unit EU-1 are subject to the particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed, or modified on or after April 16, 2015 for which there are not representative compliance source test results, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance will be demonstrated through monthly monitoring of visible emissions.

17. Cyclones 1 and 2 in Emission Unit EU-1 are subject to the particulate matter emission limitations under LRAPA 32-015(2)(c). For sources installed, constructed, or modified on or after April 16, 2015, the particulate matter emission limit is 0.10 grains per dry standard cubic foot. Compliance will be demonstrated through monthly monitoring of visible emissions.

18. Sawmill/Planing Mill Activities in EU-1 are subject to the process weight rate emission limitations under LRAPA 32-045(1). No person may cause, suffer, allow, or permit the emissions of particulate matter in any one (1) hour from any process in excess of the amount shown in LRAPA 32-8010, for the process weight rate allocated to such process. Process weight is the total weight of all materials introduced into a piece of process equipment. Liquid and gaseous fuels and combustion

air are not included in the total weight of all materials. Compliance will be demonstrated through quarterly monitoring of visible emissions.

Typically Achievable Control Technology (TACT)

19. LRAPA 32-008(1) requires an existing unit a facility to meet TACT if the emission unit meets the following criteria: The emission unit is not already subject to emission standards for the regulated pollutant under LRAPA title 30, title 32, title 33, title 38, title 39 or title 46 at the time TACT is required; the source is required to have a permit; the emission unit has emissions of criteria pollutants equal to or greater than five (5) tons per year of particulate or ten (10) tons per year of any gaseous pollutant; and LRAPA determines that air pollution control devices and emission reduction processes in use for the emissions do not represent TACT and that further emission control is necessary to address documented nuisance conditions, address an increase in emissions, ensure that the source is in compliance with other applicable requirements, or to protect public health or welfare or the environment.

20. LRAPA 32-008(2) requires new or modified emission units to meet TACT if the emission unit meets the following criteria: The emission unit is not subject to Major NSR or Type A State NSR in LRAPA title 38, and applicable NSPS in LRAPA title 46, or any other standard applicable to only new or modified sources in LRAPA title 32, title 33, or title 39 for the regulated pollutant; the source is required to have a permit; if new, the emission unit has emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; if modified, the emission unit would have an increase in emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; and LRAPA determines that the proposed air pollution control devices and emission reduction processes do not represent TACT.

21. The Sawmill/Planing Mill Activities in EU-1 exhaust to four (4) cyclones. These control devices are considered TACT for these processes.

Plant Site Emission Limits (PSELs)

22. Provided below is a summary of the baseline emissions rate, netting basis, plant site emission limit, and potential-to-emit:

Pollutant	Baseline Emission Rate (TPY)	Netting Basis		Plant Site Emission Limit (PSEL)		PTE (TPY)
		Previous (TPY)	Proposed (TPY)	Previous PSEL (TPY)	Proposed PSEL (TPY)	
PM	96	81	81	56	28	28
PM_{10}	75	31	31	16	18	18
$PM_{2.5}$	NA	17	17	9	10	10
VOC	180	79	79	39	39	27

22a. Baseline emission rates are from 1978 actual emissions as summarized in the June 23, 2004 Review Report (see emission details to this Review Report).

22b. The netting basis was established in the previous renewal and remains unchanged with this renewal.

22c. Paved Roads (EU-5) was removed from the permit and the PSELs because the facility is now located within the Cottage Grove urban growth boundary (UGB) and the emissions from paved roads are therefore a categorically insignificant activity (CIA) under the definition in LRAPA's title 12.

Significant Emission Rate

23. The PSEL increase over the netting basis is less than the Significant Emission Rate (SER) as defined in LRAPA title 12 for all pollutants as shown below.

Pollutant	Proposed PSEL (TPY)	PSEL Increase Over Netting Basis (TPY)	PSEL Increase Due to Utilizing Existing Baseline Period Capacity (TPY)	PSEL Increase Due to Modification (TPY)	SER (TPY)
PM	28	0	0	0	25
PM_{10}	18	0	0	0	15
$PM_{2.5}$	10	0	0	0	10
VOC	39	0	0	0	40

Unassigned Emissions and Emission Reduction Credits

24. The facility has unassigned emissions as shown in the table below. Unassigned emissions are equal to the netting basis minus the source's current PTE, minus any banked emission reduction credits. The facility has zero (0) tons of emission reduction credits. The unassigned emissions were reduced to no more than the SER for each pollutant in the previous renewal. In accordance with LRAPA 42-0055(5) the unassigned emissions were established again with this renewal and will be reduced to be no more than the SER at the next renewal.

Pollutant	Proposed Netting Basis (TPY)	PTE (TPY)	Unassigned Emissions (TPY)	Emission Reduction Credits (TPY)	SER (TPY)
PM	81	28	53	0	25
PM_{10}	31	18	13	0	15
$PM_{2.5}$	17	10	7	0	10
VOC	79	27	52	0	40

New Source Review (NSR) and Prevention of Significant Deterioration (PSD)

25. This source is located in an area that is designated attainment or unclassified for all regulated pollutants. For all pollutants, the proposed PSELs are less than the federal major source threshold for non-listed sources of 250 TPY per regulated pollutant and are not subject to Major NSR.

Federal Hazardous Air Pollutants/Toxic Air Contaminants

26. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All FHAPs are on the list of approximately 600 toxic air contaminants. The FHAPs and toxic air contaminants listed below are based upon source testing and standard emission factors for the types of emission units at this facility. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

27. The table below represents the potential emissions of FHAPs/TACs from SSC assuming operation at full capacity, excluding emergency generator operation. The potential emissions are calculated based on standard emission factors for the types of emission units at this facility.

CAS Number	Pollutant	PTE (TPY)	FHAP	CAO TAC
7647-01-0	HCl	0.2	Yes	Yes
67-56-1	Methanol	0.5	Yes	Yes
100-41-4	Ethyl Benzene	0.02	Yes	Yes
78-93-3	Methyl Ethyl Ketone	0.05	No	Yes
108-88-3	Toluene	0.22	Yes	Yes
110-54-3	Hexane	0.09	Yes	Yes
1330-20-7	Xylenes	0.14	Yes	Yes
	Total (TPY) =	1.2		

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

28. RICE NESHAP (40 CFR 63 Subpart ZZZZ) is applicable to this facility and all requirements have been incorporated into the permit. The facility has one (1) 208 brake horsepower diesel-fired fire pond engine (installed 4/7/1994) and two (2) 50 kW diesel-fired emergency generators (installed in 2019) that are subject to the requirements under this subpart. Based upon the definition of Categorically Insignificant Activity in LRAPA title 12, an emergency generator in this emission unit is not allowed to operate for non-emergency situations. Non-emergency situations do not include maintenance and testing.

Toxic Release Inventory

29. The Toxics Release Inventory (TRI) is federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, chemicals covered by the TRI Program are those that cause:

    - Cancer or other chronic human health effects;
    - Significant adverse acute human health effects; or
    - Significant adverse environmental effects.

    There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

    In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical. This facility has not reported any emissions to the TRI program because they do not manufacture, process, or otherwise use chemicals in excess of the applicable reporting thresholds.

Compliance History

30. This facility is regularly inspected by LRAPA. The following table indicates the inspection history of this facility since 1994:

Type of Inspection	Date	Results
LRAPA - Full Compliance Evaluation	01/12/1994	In compliance
LRAPA - Full Compliance Evaluation	02/16/1995	In compliance
LRAPA - Full Compliance Evaluation	01/25/1996	In compliance
LRAPA - Full Compliance Evaluation	04/22/1997	In compliance
LRAPA - Full Compliance Evaluation	11/24/1999	In compliance
LRAPA - Full Compliance Evaluation	01/03/2001	In compliance
LRAPA - Full Compliance Evaluation	12/17/2001	In compliance
LRAPA - Full Compliance Evaluation	11/19/2002	In compliance
LRAPA - Full Compliance Evaluation	02/07/2003	On schedule: Fugitive emissions
LRAPA - Full Compliance Evaluation	02/05/2004	In compliance
LRAPA - Full Compliance Evaluation	08/26/2005	In compliance
LRAPA - Full Compliance Evaluation	07/12/2006	In compliance
LRAPA - Full Compliance Evaluation	11/28/2007	In compliance
LRAPA - Full Compliance Evaluation	08/06/2010	In compliance
LRAPA - Full Compliance Evaluation	11/06/2010	In compliance
LRAPA - Full Compliance Evaluation	11/21/2013	In compliance
LRAPA - Full Compliance Evaluation	04/19/2017	In compliance
LRAPA - Full Compliance Evaluation	01/22/2018	In compliance
LRAPA - Full Compliance Evaluation	07/15/2019	On schedule: monitoring and reporting
LRAPA - Full Compliance Evaluation	08/02/2019	In compliance

31. LRAPA has issued the following violation notices and/or taken the following enforcement actions against this facility:

    31a. The facility was issued Notice of Non-Compliance (NON) Number 3415 on February 21, 2013 for failure to take reasonable precautions to prevent particulate matter from becoming airborne while processing and handling (grinding) dry material on August 12, 2012. The facility implemented a program to eliminate such occurrences and the file was closed.

Performance Test Results

32. The facility is not required to conduct performance testing at this time as the basis for the facility's emission estimates, industry-specific emission factors, appears to be reasonable. The only source testing done at this facility was done on the hog fueled boilers which were removed in 1994. No source tests are required at this time.

Recordkeeping Requirements

33. The facility is required to keep and maintain a record of the following information for a period of five (5) years:

Parameter	Units	Minimum Recording Frequency
(a) Dates of inspection and maintenance of paint booth and cyclones	NA	As performed

Parameter	Units	Minimum Recording Frequency
(b) Sawmill Production Rate	MBF	Daily
(c) Planing Mill Production Rate	MBF	Daily
(d) Sawmill and Planing Mill hours of operation	Hours	Daily
(e) Coating and Solvent Use including stains, etc., on a daily and monthly basis	Gallons	Daily and Monthly
(f) VOC and HAP content of coatings and solvents, including stains, etc. (SDS or lab analyses)	%	NA
(g) Records required by RICE NESHAP specified in Condition 11.f	NA	Monthly
(h) Fugitive emissions survey	Log	Monthly
(i) Visible emissions survey	Log	Monthly
(j) Upset log of all planned and unplanned excess emissions as required by Condition G15	NA	Per occurrence

Reporting Requirements

34. The facility must submit to LRAPA the annual reports by February 15th each year.

Public Notice

35. The draft permit was on public notice from August 4, 2022 to September 7, 2022. No comments were submitted during the 35-day comment period.

MKH/rr
09/07/2022

Emission Detail Sheets:

Emission Summary

Emission Unit (EU)	EU ID	PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	VOC (tpy)	HAPs (tpy)
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27)	EU-1	0.2	0.2	0.1	--	--
Sawmill Operations: C-25 (Planer)	EU-1	16	14	8	--	--
Sawmill Operations: C-2 (Gang, Canter)	EU-1	1.4	1.3	1.1	--	--
Sawmill Operations: C-27 (Package Saw)	EU-1	0.05	0.05	0.03	--	--
Truck Bins-Shavings #1 & #2	EU-2	0.45	0.21	0.03	--	--
One Spray Booth including Sap stain, grade stamping, etc	EU-3	--	--	--	25.3	1.2
Unpaved Roads	EU-4	9.9	3.1	0.3		
	TOTAL	**28**	**18**	**10**	**25**	**1.2**

Note: Paved Road emissions are now categorically insignificant and have been removed (see previous permit for Paved Roads details)

Netting Basis and Unassigned Emissions

	Baseline Emission Rate (tpy)	Previous Netting Basis (tpy)	Previous PSEL (tpy)	Proposed PSEL (tpy)	Increase over Netting Basis (tpy)	PTE (tpy)	SER (tpy)	Unassigned Emissions (tpy)
PM	96	81	56	28	-53	28	25	53
PM_{10}	75	31	16	18	-13	18	15	13
$PM_{2.5}$	NA	17	9	10	-7	10	10	7.0
CO	0.0	NA	NA	0	NA		100	0
NOx	0.0	NA	NA	0	NA		40	0
SO_2	0.0	NA	NA	0	NA		40	0
VOC	180	79	39	39	-40	25	40	54

The PM2.5 Netting Basis was set in the previous permit as equal to the PM10 Netting basis multiplied by the PM2.5 to PM10 PSEL fraction at the time (0.562
The unassigned emissions are established with this permit renewal and will be established again and reduced upon the following permit renewal to no more th
SER

Emission Factor Summary

Emission Unit	EU ID	Pollutant	Emission Factor (EF)	EF units	EF Refrerence
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27) and C-2 (Gang, Canter)	EU-1	PM	0.2	lb/BDT	EQ AQ-EF02
		PM10	0.19	lb/BDT	DEQ AQ-EF03, 8/1/11
		PM2.5	0.16	lb/BDT	DEQ AQ-EF03, 8/1/11
Sawmill Operations: C-25 (Planer) and C-27 (Package Saw)	EU-1	PM	0.5	lb/BDT	EQ AQ-EF02
		PM10	0.425	lb/BDT	DEQ AQ-EF03, 8/1/11
		PM2.5	0.25	lb/BDT	DEQ AQ-EF03, 8/1/11
Truck Bins-Shavings #1 & #2	EU-2	PM	0.0012	lb/GT	See Truck Bin Sheet
		PM10	0.00057	lb/GT	See Truck Bin Sheet
		PM2.5	0.000086	lb/GT	See Truck Bin Sheet
One Spray Booth including Sap stain, grade stamping, etc: *Sap Stain Inhibitor* - P50/Emulse XT; IC20; and End Treatment	EU-3	VOC	2.66	lb/gallon	P50/Emulse XT, per vendor
			6.56	lb/gallon	IC20, per vendor
			1.31	lb/gallon	End Treatment, per vendor
One Spray Booth including Sap stain, grade stamping, etc: *Grade Stamp Ink*			2.97	lb/MMBF	See Misc. Chem Sheet
One Spray Booth including Sap stain, grade stamping, etc: *Misc. chemicals, paints, etc.*			5.75	lb/MMBF	See Misc. Chem Sheet
Unpaved Roads	EU-4	PM	28.2	lb/MMBF	See Unpaved Roads Sheet
		PM10	8.8	lb/MMBF	See Unpaved Roads Sheet
		PM2.5	0.88	lb/MMBF	DEQ AQ-EF08 (PM2.5 = 10% of PM10)

PM Emissions

Emission Unit	EU ID	Annual Production	Units	EF	Units	Annual Emissions (tpy)
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27	EU-1	1,748	BDT	0.2	lb/BDT	0.2
Sawmill Operations: C-25 (Planer)	EU-1	64,000	BDT	0.5	lb/BDT	16.0
Sawmill Operations: C-2 (Gang, Canter)	EU-1	13,593	BDT	0.2	lb/BDT	1.4
Sawmill Operations: C-27 (Package Saw)	EU-1	213	BDT	0.5	lb/BDT	0.1
Truck Bins-Shavings #1 & #2	EU-2	743,850	GT	0.001198	lb/GT	0.45
Unpaved Roads	EU-4	700	MMBF	28.17857	lb/MMBF	9.862501
					TOTAL =	**27.9 tpy**

Notes:
Truck Bin throughput units are in green tons (GT) with a moisture content of 50%
Paved road emissions are now categorically insignificant and have been removed since the facility is now included in the Cottage Grove

PM10 Emissions

Emission Unit	EU ID	Annual Production	Units	EF	Units	Annual Emissions (tpy)
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27)	EU-1	1,748	BDT	0.19	lb/BDT	0.2
Sawmill Operations: C-25 (Planer)	EU-1	64,000	BDT	0.425	lb/BDT	13.6
Sawmill Operations: C-2 (Gang, Canter)	EU-1	13,593	BDT	0.19	lb/BDT	1.3
Sawmill Operations: C-27 (Package Saw)	EU-1	213	BDT	0.425	lb/BDT	0.05
Truck Bins-Shavings #1 & #2	EU-2	743,850	GT	0.000567	lb/GT	0.2
Unpaved Roads	EU-4	700	MMBF	8.754785	lb/MMBF	3.1
					TOTAL =	**18.4 tpy**

Notes:
Truck Bin throughput units are in green tons (GT) with a moisture content of 50%; calculated as GT x BDT x (1 + moisture decimal)
Paved road emissions are now categorically insignificant and have been removed since the facility is now included in the Cottage Grove UGB

PM2.5 Emissions

Emission Unit	EU ID	Annual Production	Units	EF	Units	Annual Emissions (tpy)
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27)	EU-1	1,748	BDT	0.16	lb/BDT	0.1
Sawmill Operations: C-25 (Planer)	EU-1	64,000	BDT	0.25	lb/BDT	8.0
Sawmill Operations: C-2 (Gang, Canter)	EU-1	13,593	BDT	0.16	lb/BDT	1.1
Sawmill Operations: C-27 (Package Saw)	EU-1	213	BDT	0.25	lb/BDT	0.03
Truck Bins-Shavings #1 & #2	EU-2	743,850	GT	0.000086	lb/GT	0.03
Unpaved Roads	EU-4	700	MMBF	0.9	lb/MMBF	0.3
					TOTAL =	**9.6 tpy**

Notes:
Truck Bin throughput units are in green tons (GT) with a moisture content of 50%; calculated as GT x BDT x (1 + moisture decimal)
Paved road emissions are now categorically insignificant and have been removed since the facility is now included in the Cottage Grove UGB

VOC Emissions

Emission Unit/Activity	EU ID	Annual Production	Units	EF	Units	Annual Emissions (tpy)
Sap Stain Inhibitor (One Spray Booth)	EU-3	35,000	gallons	1.3125	lb/gal	23.0
Grade Stamp Ink	EU-3	700	MMBF	2.97	lb/MMBF	0.4
Miscellaneous Chemical Usage (see Misc Chem worksheet)	EU-3	700	MMBF	5.75	lb/MMBF	2.0
					TOTAL =	**25.3**

New Cyclone C-2: Emission Factors and Emissions

Gang Saw Canter residuals will be handled by a new high efficiency cyclone C-2. Residuals are handled mechanically and pneumaitically. The residual handling rate is based on the proposed 700 MBF/year of facility production. PM/PM10/PM2.5 emission calculations for Cyclone C-2 are for a high efficiency cyclone as shown below.

Emission Factors (EFs): High Efficiency Cyclones

Pollutant	EF (lb/BDT)	Ref.
PM	0.2	DEQ AQ-EF02
PM10	0.19	DEQ AQ-EF03, 8/1/11
PM2.5	0.16	DEQ AQ-EF03, 8/1/11

Annual Project Emissions from New Cyclone C-2:

Cyclone	Annual Production	Units	PM EF	Units	Emissions (tpy)
C-2	13,593	BDT	0.2	lb/BDT	1.4

Cyclone	Annual Production	Units	PM10 EF	Units	Emissions (tpy)
C-2	13,593	BDT	0.19	lb/BDT	1.3

Cyclone	Annual Production	Units	PM2.5 EF	Units	Emissions (tpy)
C-2	13,593	BDT	0.16	lb/BDT	1.1

Miscellaneous Chemical VOC Emissions

Emission Unit/Activity	EU ID	Annual Production	Units	EF	Units	Reference	Annual Emissions (tpy)
Miscellaneous Chemical Usage - ***Paint***	EU-3	3500	cans	0.75	lb/can	SDS	1.31
Miscellaneous Chemical Usage - ***Maintenance Chemicals***	EU-3	1400	lbs	100%	--	Engineering Estimate	0.7
						TOTAL =	**2.0**

Production Based Emission Factor: TOTAL VOC (lbs) divided by 700 MMBF = 5.75 lbs/MMBF

Miscellanous Chemical Usage - ***Grade Stamp Ink*** EU-3

Products	2016	2017	2018	2019	2020	2021	5 yr AVE	Conversion to L
IC-234BK Reg. Printing Ink - each	168	162	336	90	98	82	156	128.7
MC-234BK Regular Make up - each	870	780	876	222	384	366	583	480.975
WL-200 Ink Wash- each	49	83	108	45	99	51	72.5	72.5
		0	0	0	0			
		0	0	0	0			
		0	0	0	0			
		0	0	0	0			
		0	0	0	0			
IR-234BK Reg Ink Reservoir	38	26	22	3	9	7	17.5	
	lb	lb	lb	lb	lb			
IC-234BK Reg. Printing Ink - each (	259.6	250.3	519.1	139	151.4	126.7		
MC-234BK Regular Make up - each	1265.1	1134.2	1273.8	322.8	558.4	565.5		
Total of ink and makeup, lb	1524.6	1384.5	1792.9	461.9	709.8	692.2		
Lumber production, MMBF	414.375	294.92	371.868	393.455	403.274	409.895		
lb Ink/MMBF	3.68	4.69	4.82	1.17	1.76	1.69		**2.97 lb/MMBF**

Sizes purchased:

IC-234 BK Printing Ink	0.825 L
MC-234 BK Makeup	0.825 L
WL-200 Ink Wash	1 L

Production:

	Sawmill	Finish Dept
2016	414561	414375
2017	295859	294920
2018	379193	371868
2019	393534	393455
2020	398307	403274
2021	415483	409895

Sap Stain VOC Content

NOVATECH

July 19, 2022

Yvonne,

Per your request, please find the following information below.

VOC content for our products:

2.66 lbs/gal for Novastat P50/Emulse XT

6.56 lbs/gal for Novastat IC20

0.65 lbs/gal for End Treatment

Novatech VOC data reported on SDSs are based on laboratory determinations performed in accordance with ASTM D2369 and corrected for known exempt compound content (including water and ammonia if present).

This approach is consistent with California EPA Air Resource Board Method 310 Section 4.2 (calculation for non-aerosol products).

Exception: Defoamers C and D values are determined by Dow Chemical.

Steve Nielsen
NW US Sales Manager
503-679-5359

FHAP/TAC Emissions

Emission Unit	EU ID	Annual Production	Units	HAP	EF	Units	Reference	Annual Emissions (tpy)	
Sap Stain Inhibitor (One Spray Booth)	EU-3	700	MMBF	HCl	0.56	lb/MMBF	Facility Est.	0.196	
Paint (Misc. Chemical Usage)	EU-3	3500	cans	Methanol	38.0%	--	SDS	0.50	
				Ethyl Benzene	1.8%	--	SDS	0.02	
				Methyl Ethyl Ketone	3.5%	--	SDS	0.05	TAC not HAP
				Toluene	17.0%	--	SDS	0.22	
				Hexane	6.5%	--	SDS	0.09	
				Xylene	10.3%	--	SDS	0.14	
TOTAL HAP Emissions =								1.21	

Notes:

1. The sapstain system applied at the sawmill is a blend of chemicals. The only HAP-containing component is HCl in the "Ferrobrite AQ". The estimated EF is 0.56 lbs/MMBF.
2. Grade stamp ink contains MEK, which is no longer a regulatory HAP.
3. HAPs in paint is estimated from SDS data (average content in a sample of different products.) Each can contains about 0.75 lbs.

Residuals Handling

Emission Unit	Material Handled	Material Generated	% Through cyclone	Volume Through Cyclone (BDT/yr)	Comments
Sawmill Operations: C-1 (Mill B/Planer Trimmer, Edger + C-27)	Sawdust	4,263	41%	1,748	Facility engineering estimate of material flows
Sawmill Operations: C-25 (Planer)	Shavings	64,000	100%	64,000	Facility engineering estimate of material flows
Sawmill Operations: C-2 (Gang, Canter)	Sawdust	56,637	24%	13,593	Facility engineering estimate of material flows
Sawmill Operations: C-27 (Package Saw)	Sawdust	213	100%	213	Facility engineering estimate of material flows

Total Sawdust Production = 60,900 BDT/yr

Sawdust Source	Percent Handled	Material Volume Handled	Units
Mill B Trimmer	0.90%	548	BDT/yr
Planer Trimmer	0.75%	457	BDT/yr
Package Saw	0.35%	213	BDT/yr
Cantertwin	40.00%	24360	BDT/yr
Mill B Gang	53.00%	32277	BDT/yr
Mill B Edger	5.00%	3045	BDT/yr
Total	100%	60900	BDT/yr

Notes: Estimated total sawdust production @ 700 MMBF/year is 60,900 BDT. Sawdust generating sources are listed below. Most sawdust is handled mechanically, however percentages handled by cyclones are listed above. The sawdust from the Package saw is double handled (through C-27 and also through C-21).

Residual Trucks
ROAD DUST - Unpaved
PM/PM10 Emissions Analysis

Unloaded trips per day:	46	Based on 0.0652 trips per MMBF, as scaled from 2006 data
Loaded trips per day:	46	
Days per year of operation:	350	
Mean haul distance unloaded (mi):	0.2	
Mean haul distance loaded (mi):	0.2	
Average weight unloaded (tons), W:	15	Engineering estimate
Average weight loaded (tons), W:	45	Engineering estimate
S, silt content (%)	8.4	AP 42 Table 12.2.2-1
Number of days/year with rainfall > 0.01inch	150	AP 42
Road cleaning/watering efficiency (%):	50%	Sweeping/watering

AP-42 Parameters (12/03 version) E, lb/VMT = C + k(s/12)^a(W/3)^b

		PM	PM10
C		0.00047	0.00047
k		4.9	1.5
a		0.7	0.9
b		0.45	0.45
s	Silt content, %		
W	Vehicle Weight, tons		

		PM	PM10
Unloaded, lbs/VMT (uncorrected)		7.8764	2.7779
Loaded, lbs/VMT (uncorrected)		12.9128	3.6811
Uncorrented Annual Tons	Unloaded	12.681	4.4724
	Loaded	20.790	5.92655
		PM	**PM10**
Corrected* Annual Emissions, tpy		**9.9** tpy	**3.1** tpy
(*account for rainfall and watering control)			
Emission Factor, lbs/MMBF		28.2 lb/MMBF	8.8 lb/MMBF
tons/month		0.8	0.3

Truck Bins

PM, PM10, and PM2.5 Emission Factors (EFs)

AP-42 13.2.4 Equation 1 (11/06) **E, lb/ton = k*(0.0032)*[(U/5)^a/(M/2)^b]**

	PM		PM10		PM2.5
k	0.74		0.35		0.053
U (mph)	7.6		7.6		7.6
a	1.3		1.3		1.3
M (%)	4.80		4.8		4.8
b	1.4		1.4		1.4
Truck dump emission factor (lb/green ton) =	**0.0012**		**0.000567**		**0.000086**

Notes:

Wind Speed (U): Historical average wind speed at Eugene airport

Re-examined by LRAPA on 6/10/22 and verified the average wind speed is approximately 7/6 m

Moisture content typically 50%. However, EPA emprically derived drop equation only had moisture contents up to 4.8%.

There are a total of eight (8) truck bins: 2 planer shavings, 2 chips, 2 sawdust and 2 bark

1978 Baseline Emission Rates - Summary

Page 1 of 1

Baseline Emissions Summary

Permit Number: 208853

Facility Name/Site Identifier: Weyerhaeuser Company--Cottage Grove Mill

Summary of 1978 Emissions

Device/process	PM (tons/yr)		PM10 (tons/yr)		VOC (tons/yr)
Sawmill	35.2		35.2		64.6
Kilns	2.9		2.9		3.8
Lam Plant	1.2		.6		4.6
Veneer Dryer	23.6		23.6		67.5
Plywood Plant	10.8		8.0		39.4
Roads-U	14.3		3.1		.0
Roads-P	8.5		1.7		.0
TOTALS	**96.4**		**75.1**		**180**

From 2011 Review Report Detail Sheets

1978 Baseline Emission Rates - Throughputs

Weyerhaeuser Company--Cottage Grove Mill
Permit Number: 208853
Baseline Throughput Summary

Sawmill	163,169	MBF (finished)	1978 production data
	4,000	hours	1978 production data
	203	MCCF	1978 production data
Kilns	163,169	MBF	1978 production data
	4,000	hours	1978 production data
Lam Plant	32,825	MBF	1978 production data
	4,160	hours	1978 production data
	139	MMCF	1978 production data
Plywood	75,025	MSF (3/8" basis)	1978 production data
	80	MCCF	1978 production data
	4,455	BDT wood residual	Based on waste rate of 10%

From 2011 Review Report Detail Sheets

1978 Baseline Emission Rates -Emission Factors

Weyerhaeuser Company--Cottage Grove Mill
Permit Number: 208853
Baseline Emission Factor Summary

Sawmill		PM	17.6 lb/hr
		PM10	17.6 lb/hr
		VOC	32.3 lb/hr
Kilns		PM/PM10	0.035 lb/MBF
		VOC	0.047 lb/MBF
Lam Plant		PM	0.072 lb/MBF
		PM10	0.036 lb/MBF
		VOC	0.282 lb/MBF
Veneer Dryer		PM	0.63 lb/MSF(3/8" basis)
		PM10	0.63 lb/MSF(3/8" basis)
		VOC	1.8 lb/MSF(3/8" basis)
Plywood Plant	Presses	PM	0.2 lb/MSF(3/8" basis)
	Presses	PM10	0.17 lb/MSF(3/8" basis)
	Cyclones	PM	1.5 lb/BDT
	Cyclones	PM10	0.75 lb/BDT
	Presses	VOC	0.869 lb/MSF(3/8" basis)
	Sanding	VOC	0.18 lb/MSF(3/8" basis)
Roads-U		PM	67.6 lb/MCCF
		PM10	14.6 lb/MCCF
Roads-P		PM	40.1 lb/MCCF
		PM10	7.8 lb/MCCF

From 2011 Review Report Detail Sheets