5/5/20 TRACS
App 32207

LMI Environmental, LLC

April 22, 2020

Ms. Suzy Luttrell
Western Region Permit Coordinator
Oregon Department of Environmental Quality
4026 Fairview Industrial Drive SE
Salem, OR 97032

Air Operating Permits
US Environmental Protection Agency
Mail Stop OAQ-108Quality
1200 Sixth Avenue
Seattle, WA 98101

Re: Title V Renewal Application
Timber Products Company–Medford Facility
Title V Operating Permit No. 15-0025-TV-01

Dear Ms. Luttrell:

Enclosed is the Title V Operating Permit renewal application for the Timber Products Company facility located at 25 E McAndrews Road, Medford, Oregon 97501 (the facility). The facility produces particleboard and hardwood plywood products and operates under Title V Operating Permit No. 15-0025-TV-01, issued May 12, 2016, by the Oregon Department of Environmental Quality (DEQ). This permit application is being submitted in accordance with existing permit general condition G26(b) which requires a completed permit renewal application submittal at least 12 months prior to permit expiration.

Timber Products is requesting several updates with this renewal application based on a review of the current operating parameters at the facility. Specifically, this application seeks to:

- Incorporate emission factor changes that have occurred since the last permit renewal based on recently completed source testing. In addition, we are proposing to incorporate other emission factor updates to remain consistent with the latest versions of published emissions information.

- Remove alternative operating scenarios as described in the current permit and associated emission units that are no longer operating. Scenario 4 identified in the current permit has not yet been completed but is anticipated to be prior to the end of the next permit term, but the separate scenario has been removed from this application. Accordingly, Form AP103 is enclosed and contains a description of the proposed facility operating scenario, and no alternative operating scenarios are being requested at this time.

- Identify the particleboard dryers and particleboard press as individual emission sources since these units have independent control devices and separate release points.

RECEIVED
MAY 04 2020
DEQ-SALEM OFFICE

- Remove paved roads as emission units. The facility is located within the Medford urban growth boundary, and therefore the paved roads are categorically insignificant.

- Incorporate several existing sources that were not previously identified as emission units in the facility permit, including miscellaneous plywood and particleboard sources (sanders, saws, board cooler, etc.). These processes were previously identified as HAP emission units but were not identified as sources of VOC emissions. We are requesting that these sources be included as emission units. Details on the sources and VOC emission estimates are presented in Attachment A. We are also requesting that the baseline emission rates and netting basis be adjusted accordingly since these sources existed in the baseline year but were not previously accounted for.

The emissions inventory presenting emission estimate methodologies and emission factor references is presented in Attachment A. DEQ-required permit renewal application forms are presented in Attachment B. A copy of the existing permit with redline-strikeout edits identifying proposed changes is presented in Attachment C. A copy of the most recent facility Toxic Release Inventory (TRI) report is included in Attachment D.

Timber Products Company looks forward to working with DEQ through this permit renewal application process. If you have questions about the information in this submittal, please contact me at (541) 643-1748.

Sincerely,

Ellen Porter
LMI Environmental

Attachments: Attachment A—Emissions Inventory
Attachment B—Application Forms
Attachment C—Requested Revisions to Title V Operating Permit
Attachment D—Toxics Release Inventory (TRI) Report

cc: Byron Peterson, DEQ Medford Office
Chad Darby, Maul Foster & Alongi, Inc.

ATTACHMENT A

EMISSIONS INVENTORY

Table 1
Proposed Emission Unit Input Process Rates and Parameters
Timber Products Company - Medford, Oregon

Process	Proposed Process Rates					
	Daily Throughput (Units)			Annual Throughput (Units)		
Facility Operations						
Hours of Operation	24.0	(hrs/day)	(1)	8,760	(hrs/yr)	(1)
Boilers						
Total Boiler Natural Gas Fuel Usage	1.20	(MMscf/day)	(2)	420	(MMscf/yr)	(2)
PB Package Boiler Natural Gas Fuel Usage	0.60	(MMscf/day)	(3)	210	(MMscf/yr)	(3)
Plywood Package Boiler Natural Gas Fuel Usage	0.60	(MMscf/day)	(3)	210	(MMscf/yr)	(3)
Plywood Production						
HW Plywood Press Production	720	(Msf-3/8"/day)	(2)	262,800	(Msf-3/8"/yr)	(2)
Veneer Dryer and RTO						
Veneer Dryer SW Veneer Production	800	(Msf-3/8"/day)	(2)	262,800	(Msf-3/8"/yr)	(2)
Dryer and RTO Heat Input	1,248	(MMBtu/day)	(a)		--	
Dryer and RTO Natural Gas Fuel Usage	1.22	(MMscf/day)	(b)	354	(MMscf/yr)	(2)
Plywood Miscellaneous Operations						
Plywood Sander Throughput	720	(Msf-3/8"/hr)	(6)	262,800	(Msf-3/8"/day)	(6)
Plywood Saw and Hog Throughput	720	(Msf-3/8"/hr)	(6)	262,800	(Msf-3/8"/day)	(6)
PB Press						
PB Press Production	700	(Msf-3/4"/day)	(2)	167,535	(Msf-3/4"/yr)	(2)
PB Furnish and PB Dryers						
Total PB Furnish Usage	770	(BDT/day)	(c)	184,289	(BDT/yr)	(c)
Total PB Dryer Throughput	539	(BDT/day)	(d)	129,002	(BDT/yr)	(d)
PB Burners Wood Fuel Heat Input	1,680	(MMBtu/day)	(e)	349,600	(MMBtu/yr)	(f)
PB Burners Wood Fuel Usage	96.1	(BDT/day)	(g)	20,000	(BDT/yr)	(2)
Particleboard Miscellaneous Operations						
PB Board Cooler Throughput	700	(Msf-3/4"/hr)	(6)	167,535	(Msf-3/4"/day)	(6)
PB Sander Production	977	(Msf/day)	(h)	167,535	(Msf/yr)	(6)
PB Blender Throughput	770	(BDT/day)	(6)	184,289	(BDT/yr)	(6)
PB Former Throughput	770	(BDT/day)	(6)	184,289	(BDT/yr)	(6)
PB Refiner Throughput	770	(BDT/day)	(6)	184,289	(BDT/yr)	(6)
PB Saw and Hog Throughput	70.0	(Msf-3/4"/day)	(i)	16,754	(Msf-3/4"/yr)	(i)

NOTES:

BDT = bone dry tons.

MMBtu = million British thermal units.

MMscf = million standard cubic feet.

Msf-3/8" = thousand square feet on 3/8 inch basis.

Msf-3/4" = thousand square feet on 3/4 inch basis.

(a) Daily dryer and RTO heat input (MMBtu/day) = (hourly dryer and RTO heat input [MMBtu/hr]) x (facility hours of operation [hrs/day])

Hourly dryer and RTO heat input (MMBtu/hr) = 52.0 (4)

(b) Dryer and RTO natural gas fuel usage (MMscf/day) = (dryer and RTO heat input [MMBtu/day]) / (natural gas fuel heat content [MMBtu/MMscf])

Natural gas fuel heat content (MMBtu/MMscf) = 1,026 (5)

(c) Total PB furnish usage (BDT/"period") = (PB press production [Msf-3/4"/"period"]) x (furnish conversion rate [BDT/Msf-3/4"])

Furnish conversion rate (BDT/Msf-3/4") = 1.10 (6)

(d) Total PB dryer throughput (BDT/"period") = (total PB furnish usage [BDT/"period"]) x (percent of furnish dried for core material [%] / 100)

Percent of furnish dried for core material (%) = 70.0 (6)

(e) PB burners wood fuel heat input (MMBtu/day) = (burner maximum hourly heat input (MMBtu/hr) x (number of burners) x (daily hours of operation [hrs/day])

Burner maximum hourly heat input (MMBtu/hr) = 35.0 (7)

Number of burners = 2.00 (7)

(f) PB burners wood fuel heat input (MMBtu/day) = (PB burners wood fuel usage [BDT/day]) x (wood fuel heat content [MMBtu/BDT])

Wood fuel heat content (MMBtu/BDT) = 17.48 (5)

(g) PB burners wood fuel usage (BDT/day) = (PB burners wood fuel heat input [MMBtu/day]) / (wood fuel heat content [MMBtu/BDT])

Wood fuel heat content (MMBtu/BDT) = 17.48 (5)

(h) Daily PB sander production (Msf/day) = (hourly sander production [Msf/hr]) x (facility hours of operation [hrs/day])

Hourly dryer and RTO heat input (MMBtu/hr) = 40.7 (6)

(i) PB saws throughput (Msf-3/4"/"period") = (PB press production [Msf-3/4"/"period"]) x (saw trim percentage [%] / 100)

Saw trim percentage (%) = 10.00 (8)

REFERENCES:

(1) Assumes continuous operation.

(2) See Review Report for Title V Operating Permit No. 15-0025-TV-01.

(3) Assumes that total boiler natural gas usage is evenly distributed between the PB and Plywood package boilers.

(4) Based on combined RTO and Dryer M1 direct-fired natural gas burners heat input capacities.

(5) Wood fuel and natural gas fuel heat content from 40 CFR Part 98, Table C-1 High Heat Values for Various Types of Fuel.

(6) Information provided by LMI Environmental and Timber Products Company.

(7) Based on maximum heat input capacity of each burner and one burner per dryer.

(8) Estimated percentage of total production footage that is reclaimed through the saw trim system.

Table 2
Proposed Material Handling Unit Process Throughputs
Timber Products Company - Medford, Oregon

Material Handling Source	Process Rates [1]			
	Daily Throughput (Units)		Annual Throughput (Units)	
Mat 1				
Cyclone C-4	480,000	(lb/day)	40,000	(tons/yr)
Cyclone C-5a	888,000	(lb/day)	74,000	(tons/yr)
Cyclone C-7	210,000	(lb/day)	25,000	(tons/yr)
Cyclone C-8	490,000	(lb/day)	59,000	(tons/yr)
Cyclone C-12	236,000	(lb/day)	20,000	(tons/yr)
Mat 1A				
Cyclone C-6	490,000	(lb/day)	59,000	(tons/yr)
Cyclone C-9	600,000	(lb/day)	106,000	(tons/yr)
Cyclone C-10	14,000	(lb/day)	2,400	(tons/yr)
Mat 2				
Silo 1	119,000	(lb/day)	20,000	(tons/yr)
Silo 2	95,520	(lb/day)	8,000	(tons/yr)
Silo 3	143,256	(lb/day)	12,000	(tons/yr)
Silo 4	119,000	(lb/day)	20,000	(tons/yr)
Silo 5	143,256	(lb/day)	20,000	(tons/yr)
Mat 3				
A5	607,000	(lb/day)	97,436	(tons/yr)
A6	49,800	(lb/day)	97,436	(tons/yr)
A7	49,800	(lb/day)	97,436	(tons/yr)
A8	67,800	(lb/day)	10,900	(tons/yr)
A9	68,600	(lb/day)	11,000	(tons/yr)
A10	165,800	(lb/day)	26,636	(tons/yr)
A11	198,440	(lb/day)	47,900	(tons/yr)
A12	90,960	(lb/day)	14,600	(tons/yr)
A13	132,080	(lb/day)	21,200	(tons/yr)
A14	75,380	(lb/day)	12,100	(tons/yr)
A15	78,920	(lb/day)	12,666	(tons/yr)
A16	105,640	(lb/day)	16,954	(tons/yr)
A17	105,640	(lb/day)	16,954	(tons/yr)
A18	105,640	(lb/day)	16,954	(tons/yr)
A19	105,640	(lb/day)	16,954	(tons/yr)
A20	105,640	(lb/day)	16,954	(tons/yr)
A21	78,920	(lb/day)	12,666	(tons/yr)
A22	78,920	(lb/day)	12,666	(tons/yr)
A23	78,920	(lb/day)	12,666	(tons/yr)
A25	211,720	(lb/day)	33,980	(tons/yr)
A26	98,700	(lb/day)	15,840	(tons/yr)
A28	211,720	(lb/day)	33,980	(tons/yr)
A29	211,720	(lb/day)	33,980	(tons/yr)
A38	78,920	(lb/day)	12,666	(tons/yr)
A42	27.3	(lb/day)	5.00	(tons/yr)
A43	27.3	(lb/day)	5.00	(tons/yr)
A44	27.3	(lb/day)	5.00	(tons/yr)
A45	11.0	(lb/day)	2.00	(tons/yr)
A46	55.0	(lb/day)	10.00	(tons/yr)
A47	46,575	(lb/day)	8,500	(tons/yr)
A48	822	(lb/day)	150	(tons/yr)
B3	620	(lb/day)	100.0	(tons/yr)
B4	15,580	(lb/day)	2,500	(tons/yr)
B5	15,580	(lb/day)	2,500	(tons/yr)
B7	700,000	(lb/day)	84,000	(tons/yr)
C1	320	(lb/day)	50.0	(tons/yr)
Mat 4				
A1	607,000	(lb/day)	97,436	(tons/yr)
Mat 6				
Cyclone C-22	21,000	(lb/day)	3,700	(tons/yr)
Mat 7				
Cyclone C-23	59,000	(lb/day)	10,750	(tons/yr)
Mat 8				
Silo 6	21,000	(lb/day)	3,700	(tons/yr)
Mat 9				
D1	59,000	(lb/day)	10,750	(tons/yr)
D2	59,000	(lb/day)	10,750	(tons/yr)
D3	820	(lb/day)	100.0	(tons/yr)

REFERENCES:

(1) See Review Report for Title V Operating Permit No. 15-0025-TV-01.

Table 3
Proposed Roads Process Parameters
Timber Products Company - Medford, Oregon

Process Parameter	Vehicle Weight [1]	Vehicle Miles Traveled [1]		Mean Vehicle Weight [a] (tons)
		Monthly (VMT/month)	Annual (VMT/yr)	
Particleboard Plant Vehicle Traffic				
Shipping forklifts	7.50	248	2,561	--
Other forklifts	7.50	410	4,228	--
Maintenance	7.50	784	8,094	--
Employee autos	1.50	207	2,133	--
Incoming material	40.0	103	1,067	--
Finished product	40.0	103	1,067	--
Earth moving equipment	40.0	72.4	747	--
Particleboard Plant Fleet Total/Average		**1,927**	**19,897**	**11.6**
Plywood Plant Vehicle Traffic				
Shipping forklifts	7.50	201	2,075	--
Other forklifts	7.50	626	6,462	--
Maintenance	7.50	900	9,292	--
Employee autos	1.50	207	2,133	--
Incoming material	40.0	103	1,067	--
Finished product	40.0	103	1,067	--
Skins truck	8.00	62.0	540	--
Earth moving equipment	40.0	800	8,257	--
Plywood Plant Fleet Total/Average		**3,002**	**30,893**	**18.0**

NOTES:

VMT = vehicle miles traveled.

(a) Mean vehicle weight = Σ{[average vehicle type weight (tons)] x [annual vehicle type miles traveled (VMT/yr)]} / (total annual vehicle miles traveled (VMT/yr))

REFERENCES:

(1) See Detail Sheets in Review Report for Title V Operating Permit No. 15-0025-TV-01. Represents outdoor vehicle traffic only.

Table 4
Particleboard Package Boiler Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	2.50	(lb/MMscf)	[2]	1.50	0.26
PM_{10}	2.50	(lb/MMscf)	[2]	1.50	0.26
$PM_{2.5}$	2.50	(lb/MMscf)	[2]	1.50	0.26
CO	84.0	(lb/MMscf)	[2]	50.4	8.82
NOx	100.0	(lb/MMscf)	[2]	60.0	10.5
SO_2	1.70	(lb/MMscf)	[2]	1.02	0.18
VOC	5.50	(lb/MMscf)	[2]	3.30	0.58
Pb	5.0E-04	(lb/MMscf)	[3]	3.0E-04	5.3E-05
GHG	120,163	(lb CO_2e/MMscf)	[c]	72,098	12,617

NOTES:

CO_2e = carbon dioxide equivalents.

MMBtu = million British thermal units.

MMscf = million standard cubic feet.

(a) Daily emissions estimate (lb/day) = (daily natural gas usage [MMscf/day]) x (emission factor [lb/MMscf])

Daily natural gas usage (MMscf/day) = 0.60 (1)

(b) Annual emissions estimate (tons/yr) = (annual natural gas usage [MMscf/yr]) x (emission factor [lb/MMscf]) / (2,000 lb/ton)

Annual natural gas usage (MMscf/yr) = 210 (1)

(c) GHG emission factor (lb CO_2e/MMscf) = (default natural gas high heat content [MMBtu/scf]) x (1,000,000 [scf/MMscf]) x (2.205 [lb/kg]) x ([CO_2 emission factor {kg/MMBtu}] + [CH_4 emission factor {kg/MMBtu} x CH_4 global warming potential] + [N_2O emission factor {kg/MMBtu} x [N_2O global warming potential])

Default natural gas high heat content (MMBtu/scf) =	1.026E-03	(4)
CO_2 emission factor (kg/MMBtu) =	53.1	(4)
CH_4 emission factor (kg/MMBtu) =	1.0E-03	(5)
CH_4 global warming potential =	25.0	(6)
N_2O emission factor (kg/MMBtu) =	1.0E-04	(5)
N_2O global warming potential =	298	(6)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) DEQ Form AQ-EF05 for uncontrolled medium boiler (August 2011).

(3) AP-42, Chapter 1.4, Table 1.4-2 "Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion" (July 1998).

(4) 40 CFR Part 98 Subpart C, Table C-1, "Default CO2 Emission Factors and High Heat Values for Various Types of Fuel."

(5) 40 CFR Part 98 Subpart C, Table C-2, "Default CH4 and N2O Emission Factors for Various Types of Fuel."

(6) 40 CFR Part 98 Subpart A, Table A-1, "Global Warming Potentials."

Table 5
Plywood Package Boiler Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	2.50	(lb/MMscf)	[2]	1.50	0.26
PM_{10}	2.50	(lb/MMscf)	[2]	1.50	0.26
$PM_{2.5}$	2.50	(lb/MMscf)	[2]	1.50	0.26
CO	84.0	(lb/MMscf)	[2]	50.4	8.82
NOx	100.0	(lb/MMscf)	[2]	60.0	10.5
SO_2	1.70	(lb/MMscf)	[2]	1.02	0.18
VOC	5.50	(lb/MMscf)	[2]	3.30	0.58
Pb	5.0E-04	(lb/MMscf)	[3]	3.0E-04	5.3E-05
GHG	120,163	(lb CO_2e/MMscf)	[c]	72,098	12,617

NOTES:

CO_2e = carbon dioxide equivalents.

MMBtu = million British thermal units.

MMscf = million standard cubic feet.

(a) Daily emissions estimate (lb/day) = (daily natural gas usage [MMscf/day]) x (emission factor [lb/MMscf])

Daily natural gas usage (MMscf/day) = 0.60 (1)

(b) Annual emissions estimate (tons/yr) = (annual natural gas usage [MMscf/yr]) x (emission factor [lb/MMscf]) / (2,000 lb/ton)

Annual natural gas usage (MMscf/yr) = 210 (1)

(c) GHG emission factor (lb CO_2e/MMscf) = (default natural gas high heat content [MMBtu/scf]) x (1,000,000 [scf/MMscf]) x (2.205 [lb/kg]) x ([CO_2 emission factor {kg/MMBtu}] + [CH_4 emission factor {kg/MMBtu} x CH_4 global warming potential] + [N_2O emission factor {kg/MMBtu} x [N_2O global warming potential])

Default natural gas high heat content (MMBtu/scf) =	1.026E-03	(4)
CO_2 emission factor (kg/MMBtu) =	53.1	(4)
CH_4 emission factor (kg/MMBtu) =	1.0E-03	(5)
CH_4 global warming potential =	25.0	(6)
N_2O emission factor (kg/MMBtu) =	1.0E-04	(5)
N_2O global warming potential =	298	(6)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) DEQ Form AQ-EF05 for uncontrolled medium boiler (August 2011).

(3) AP-42, Chapter 1.4, Table 1.4-2 "Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion" (July 1998).

(4) 40 CFR Part 98 Subpart C, Table C-1, "Default CO2 Emission Factors and High Heat Values for Various Types of Fuel."

(5) 40 CFR Part 98 Subpart C, Table C-2, "Default CH4 and N2O Emission Factors for Various Types of Fuel."

(6) 40 CFR Part 98 Subpart A, Table A-1, "Global Warming Potentials."

Table 6
Veneer Dryer/RTO Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate			
				Daily (lb/day)		Annual (tons/yr)	
PM	0.018	(lb/Msf-3/8")	(1)	14.4	(a)	2.37	(b)
PM_{10}	0.018	(lb/Msf-3/8")	(c)	14.4	(a)	2.37	(b)
$PM_{2.5}$	0.018	(lb/Msf-3/8")	(d)	14.4	(a)	2.37	(b)
CO	0.96	(lb/Msf-3/8")	(5)	770	(a)	126	(b)
NOx	0.12	(lb/Msf-3/8")	(6)	96.0	(a)	15.8	(b)
VOC	0.018	(lb/Msf-3/8")	(1)	14.4	(a)	2.37	(b)
GHG	120,163	(lb CO_2e/MMscf)	(e)	146,163	(f)	21,269	(g)

NOTES:

CO_2e = carbon dioxide equivalents.

MMBtu = million British thermal units.

MMscf = million standard cubic feet.

Msf-3/8" = million square feet on a 3/8-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily dryer production [Msf-3/8"/day])

Daily dryer production (Msf-3/8"/day) = 800 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual dryer production [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual dryer production (Msf-3/8"/yr) = 262,800 (2)

(c) PM_{10} emission factor (lb/Msf-3/8") = (PM emission factor [lb/Msf-3/8"]) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 100 (3)

(d) $PM_{2.5}$ emission factor (lb/Msf-3/8") = (PM_{10} emission factor [lb/Msf-3/8"]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

(e) GHG emission factor (lb CO_2e/MMscf) = (default natural gas high heat content [MMBtu/scf]) x (1,000,000 [scf/MMscf]) x (2.205 [lb/kg]) x ([CO_2 emission factor (kg/MMBtu)] + [CH_4 emission factor (kg/MMBtu) x CH_4 global warming potential] + [N_2O emission factor (kg/MMBtu) x N_2O global warming potential])

Default natural gas high heat content (MMBtu/scf) = 1.026E-03 (5)

CO_2 emission factor (kg/MMBtu) = 53.1 (5)

CH_4 emission factor (kg/MMBtu) = 1.0E-03 (7)

CH_4 global warming potential = 25.0 (8)

N_2O emission factor (kg/MMBtu) = 1.0E-04 (7)

N_2O global warming potential = 298 (8)

(f) Daily emission estimate (lb/day) = (emission factor [lb/MMscf]) x (daily natural gas usage [MMscf/day])

Daily natural gas usage (MMscf/day) = 1.22 (2)

(g) Annual emission estimate (tons/yr) = (emission factor [lb/MMscf]) x (annual natural gas usage [MMscf/yr]) / (2,000 [lb/ton])

Annual natural gas usage (MMscf/yr) = 354 (2)

REFERENCES:

(1) Emission factors from April 2017 source test performed on Veneer Dryer M1 at RTO exhaust. PM emission factor previously incorporated in Addendum 1 to permit 15-0025-TV-01, issued August 5, 2019.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(3) DEQ Form AQ-EF03 for uncontrolled veneer dryers (August 2011). Percentage for RTO control is not available.

(4) DEQ Form AQ-EF08 for any emission unit controlled by RTO (August 2011).

(5) See Title V Operating Permit No. 15-0025-TV-01. Emission factor from November 2008 source test performed on facility veneer dryers at RTO exhaust.

(6) DEQ Form AQ-EF02 for direct-fired natural gas veneer dryer (August 2011).

(7) 40 CFR Part 98 Subpart C, Table C-1, "Default CO2 Emission Factors and High Heat Values for Various Types of Fuel."

(8) 40 CFR Part 98 Subpart C, Table C-2, "Default CH4 and N2O Emission Factors for Various Types of Fuel."

(9) 40 CFR Part 98 Subpart A, Table A-1, "Global Warming Potentials."

Table 7
Veneer Dryer Fugitive Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	0.027	(lb/Msf-3/8")	[2]	21.8	3.59
PM_{10}	0.027	(lb/Msf-3/8")	[2]	21.8	3.59
$PM_{2.5}$	0.027	(lb/Msf-3/8")	[2]	21.8	3.59
VOC	0.030	(lb/Msf-3/8")	[3]	23.8	3.92

NOTES:

Msf-3/8" = thousand square feet on a 3/8-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily dryer production [Msf-3/8"/day])

Daily dryer production (Msf-3/8"/day) = 800 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual dryer production [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual dryer production (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) From ODEQ Title V Operating Permit No. 15-0025-TV-01 dated May 12, 2016. PM emission factor represents 10% of limit, and assumes that all PM is PM2.5.

(3) From ODEQ Title V Operating Permit No. 15-0025-TV-01 dated May 12, 2016. VOC emission factor based on plant estimate.

Table 8
Plywood Presses Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	0.203	(lb/Msf-3/8")	[2]	146	26.7
PM_{10}	0.173	(lb/Msf-3/8")	[c]	124	22.7
$PM_{2.5}$	0.086	(lb/Msf-3/8")	[d]	62.1	11.3
VOC	0.048	(lb/Msf-3/8")	[5]	34.6	6.31

NOTES:

Msf-3/8" = thousand square feet on a 3/8-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily press production [Msf-3/8"/day])

Daily press production (Msf-3/8"/day) = 720 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual press production [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual press production (Msf-3/8"/yr) = 262,800 (1)

(c) PM_{10} emission factor (lb/Msf-3/8") = (PM emission factor [lb/Msf-3/8"]) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 85.0 (3)

(d) $PM_{2.5}$ emission factor (lb/Msf-3/8") = (PM_{10} emission factor [lb/Msf-3/8"]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 50.0 (4)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) AP-42, Chapter 10.5, Table 10.5-4 "Emission Factors for Plywood Presses--Particulate Matter" (January 2002). Sum of emission factors for filterable and condensable PM.

(3) DEQ Form AQ-EF03 for press vents (August 2011).

(4) DEQ Form AQ-EF08 for plywood press (August 2011).

(5) NCASI Technical Bulletin 768, Table 5.4.3. Factor for Mill 155, which is the Timber Products Medford facility.

Table 9
Plywood Miscellaneous Source VOC Emission Estimates
Timber Products Company - Medford, Oregon

Process	VOC Emission Factors			VOC Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Plywood Sanders	3.0E-03	(lb/Msf-3/8")	[2]	2.14	0.39
Plywood Saws and Hog	0.010	(lb/Msf-3/8")	[3]	7.54	1.38
Total VOC Emissions Estimate				**9.68**	**1.77**

NOTES:

Msf-3/8" = thousand square feet on a 3/8-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily production [Msf-3/8"/day])

Daily production (Msf-3/8"/day) = 720 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual production [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual production (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) See Table 37, Plywood Sander HAP Emission Estimates. Factor is sum of all detected VOCs.

(3) See Table 38, Plywood Saws and Hog HAP Emission Estimates. Factor is sum of all detected VOCs.

Table 10
Particleboard Press Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	0.21	(lb/Msf-3/4")	[2]	147	17.6
PM_{10}	0.21	(lb/Msf-3/4")	[c]	146	17.5
$PM_{2.5}$	0.21	(lb/Msf-3/4")	[d]	146	17.5
CO	0.22	(lb/Msf-3/4")	[5]	154	18.4
NOx	0.017	(lb/Msf-3/4")	[5]	11.9	1.42
VOC	0.56	(lb/Msf-3/4")	[6]	394	47.2

NOTES:

Msf-3/4" = thousand square feet on a 3/4-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/4"]) x (daily press production [Msf-3/4"/day])

Daily press production (Msf-3/4"/day) = 700 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/4"]) x (annual dryer production [Msf-3/4"/yr]) / (2,000 lb/ton)

Annual press production (Msf-3/4"/yr) = 167,535 (1)

(c) PM_{10} emission factor (lb/Msf-3/8") = (PM emission factor [lb/Msf-3/4"]) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/Msf-3/8") = (PM_{10} emission factor [lb/Msf-3/4"]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) Emission factor from 2003 source test performed at the particleboard press baghouse exhaust.

(3) DEQ Form AQ-EF03 for process controlled by bag filter system (August 2011).

(4) DEQ Form AQ-EF08 for baghouse controlled equipment (August 2011).

(5) AP-42, Chapter 10.6, Table 10.6.2-5 "Emission Factors for Particleboard Presses and Board Coolers --NO_x, 'CO, and CO2" (June 2002).

(6) VOC emission factor presented on VOC as propane, based on the AP-42 Section 10.6.2 conversion method, where:
VOC as propane = 0.488 VOC as C x 1.22 - 0.032 acetone - 0.0143 methane + 0.015 formaldehyde
Formaldehyde emission factor is the average of 2010-2016 source tests performed while using MDI resin. Other emission factors from NCASI wood products database (February 2013) for uncontrolled particleboard presses, and VOC as C is specific to western softwood species.

Table 11
Particleboard Dryers Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate			
				Daily (lb/day)		Annual (tons/yr)	
PM	0.28	(lb/BDT)	(1)	151	(a)	18.1	(b)
PM_{10}	0.28	(lb/BDT)	(c)	150	(a)	18.0	(b)
$PM_{2.5}$	0.27	(lb/BDT)	(d)	143	(a)	17.2	(b)
CO	1.43	(lb/BDT)	(4)	771	(a)	92.2	(b)
NOx	1.79	(lb/BDT)	(4)	965	(a)	115	(b)
SO_2	0.025	(lb/MMBtu)	(5)	42.0	(f)	4.37	(g)
VOC	0.90	(lb/BDT)	(6)	485	(a)	58.1	(b)
GHG	210	(lb CO_2e/MMBtu)	(e)	352,114	(f)	36,637	(g)

NOTES:

BDT = bone dry tons.

CO_2e = carbon dioxide equivalents.

MMBtu = million British thermal units.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily dryer production [BDT/day])

Daily dryer production (BDT/day) = 539 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual dryer production [BDT/yr]) / (2,000 lb/ton)

Annual dryer production (BDT/yr) = 129,002 (2)

(c) PM_{10} emission factor (lb/BDT) = (PM emission factor [lb/BDT] x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/BDT) = (PM emission factor [lb/BDT]) x ($PM_{2.5}$ percentage of PM [%] / 100)

$PM_{2.5}$ percentage of PM (%) = 95.0 (3)

(e) GHG emission factor (lb CO_2e/MMBtu) = (2.205 [lb/kg]) x ([CO_2 emission factor {kg/MMBtu}]
+ [CH_4 emission factor {kg/MMBtu} x CH_4 global warming potential]
+ [N_2O emission factor {kg/MMBtu} x N_2O global warming potential])

CO_2 emission factor (kg/MMBtu) = 93.8 (7)

CH_4 emission factor (kg/MMBtu) = 7.2E-03 (8)

CH_4 global warming potential = 25.0 (9)

N_2O emission factor (kg/MMBtu) = 3.6E-03 (8)

N_2O global warming potential = 298 (9)

(f) Daily emissions estimate (lb/day) = (emission factor [lb/MMBtu]) x (daily burner heat input [MMBtu/day])

Daily burner heat input (MMBtu/day) = 1,680 (2)

(g) Annual emissions estimate (tons/yr) = (emission factor [lb/MMBtu]) x (annual burner heat input [MMBtu/yr]) / (2,000 lb/ton)

Annual burner heat input (MMBtu/yr) = 349,600 (2)

REFERENCES:

(1) AP-42, Chapter 10.6, Table 10.6.2-1 "Emission Factors for Particleboard Dryers--Particulate Matter"' (June 2002). Emission factor for direct wood-fired dry rotary dryer with EFB control is presented.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(3) DEQ Form AQ-EF03 for particle dryers with ESP control (August 2011).

(4) Emission factor from November 2008 source test performed at the biofilter exhaust. Conservatively assumes that measured emissions are generated by PB dryers and direct-fired burners. Reported hourly press production during source test converted to dryer throughput for emission factor development using the following conversion:
(23.119 Msf-3/4"/hr) x (1.1 BDT/Msf-3/4" total furnish usage) x (70% total furnish dried in PB Dryers) = 17.80 BDT/hr during test

(5) AP-42 Section 1.6 Wood Residue Combustion in Boilers (September 2003), Table 1.6-2. Emission factor for dry wood-fired boilers is presented.

(6) AP-42 Section 10.6.2 Particleboard Manufacturing (June 2002), Table 10.6.2-2. Emission factor for uncontrolled direct wood-fired dry rotary dryer for softwood species are presented on VOC as propane basis.

(7) 40 CFR Part 98 Subpart C, Table C-1, "Default CO2 Emission Factors and High Heat Values for Various Types of Fuel."

(8) 40 CFR Part 98 Subpart C, Table C-2, "Default CH4 and N2O Emission Factors for Various Types of Fuel."

(9) 40 CFR Part 98 Subpart A, Table A-1, "Global Warming Potentials."

Table 12
Particleboard Miscellaneous Source VOC Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]	
		Daily	Annual
PB Press Production	(Msf-3/4")	700	167,535
PB Sander Production	(Msf)	977	167,535
Total PB Furnish Usage	(BDT)	770	184,289
PB Saw and Hog Throughput	(Msf-3/4")	70	16,754

Process	VOC Emission Factors			VOC Emissions Estimate	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
PB Board Cooler	0.072	(lb/Msf-3/4")	[2]	50.3	6.02
PB Sanders	0.033	(lb/Msf)	[3]	32.4	2.78
PB Blenders	0.025	(lb/BDT)	[4]	19.0	2.27
PB Formers	0.036	(lb/BDT)	[5]	27.6	3.31
PB Refiners	0.024	(lb/BDT)	[6]	18.3	2.19
PB Saws and Hog	0.016	(lb/Msf-3/4")	[7]	1.15	0.14
Total VOC Emissions Estimate				**149**	**16.7**

NOTES:

BDT = bone dried tons.

Msf = thousand square feet.

Msf-3/4" = thousand square feet on a 3/4-inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/"unit"]) x (daily production ["unit"/day])

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/"unit"]) x (annual production ["unit"/yr]) / (2,000 lb/ton)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) See Table 42, Particleboard Board Cooler HAP Emission Estimates. Factor is sum of all detected VOCs.

(3) See Table 43, Particleboard Sander HAP Emission Estimates. Factor is sum of all detected VOCs.

(4) See Table 44, Particleboard Blender HAP Emission Estimates. Factor is sum of all detected VOCs.

(5) See Table 45, Particleboard Former HAP Emission Estimates. Factor is sum of all detected VOCs.

(6) See Table 46, Particleboard Refiners HAP Emission Estimates. Factor is sum of all detected VOCs.

(7) See Table 47, Particleboard Saws and Hog HAP Emission Estimates. Factor is sum of all detected VOCs.

Table 13
Material Handling Mat 1 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]				
		Cyclone C-4	Cyclone C-5a	Cyclone C-7	Cyclone C-8	Cyclone C-12
Daily Unit Throughput	(lb/day)	480,000	888,000	210,000	490,000	236,000
Annual Unit Throughput	(tons/yr)	40,000	74,000	25,000	59,000	20,000

Pollutant	Emission Factor (lb/BDT)	Emission Estimate										Total Emission Estimate	
		Cyclone C-4		Cyclone C-5a		Cyclone C-7		Cyclone C-8		Cyclone C-12			
		Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily (lb/day)	Annual (tons/yr)
PM	1.0E-03 [2]	0.24	0.020	0.44	0.037	0.11	0.013	0.25	0.030	0.12	0.010	1.15	0.11
PM_{10}	1.0E-03 [c]	0.24	0.020	0.44	0.037	0.10	0.012	0.24	0.029	0.12	1.0E-02	1.15	0.11
$PM_{2.5}$	1.0E-03 [d]	0.24	0.020	0.44	0.037	0.10	0.012	0.24	0.029	0.12	1.0E-02	1.15	0.11

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

(c) PM_{10} emission factor (lb/BDT) = (PM emission factor (lb/BDT) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/BDT) = (PM emission factor [lb/BDT]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for cyclone with baghouse control (August 2011).

(3) DEQ Form AQ-EF03 for cyclones with bag filter system (August 2011).

(4) DEQ Form AQ-EF08 for baghouse controlled systems (August 2011).

Table 14
Material Handling Mat 1A Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]		
		Cyclone C-6	Cyclone C-9	Cyclone C-10
Daily Unit Throughput	(lb/day)	490,000	600,000	14,000
Annual Unit Throughput	(tons/yr)	59,000	106,000	2,400

Pollutant	Emission Factor (lb/BDT)		Emission Estimate						Total Emission Estimate	
			Cyclone C-6		Cyclone C-9		Cyclone C-10			
			Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily (lb/day)	Annual (tons/yr)
PM	1.0E-03	[2]	0.25	0.030	0.30	0.053	7.0E-03	1.2E-03	0.55	0.084
PM_{10}	1.0E-03	[c]	0.24	0.029	0.30	0.053	7.0E-03	1.2E-03	0.55	0.083
$PM_{2.5}$	1.0E-03	[d]	0.24	0.029	0.30	0.053	7.0E-03	1.2E-03	0.55	0.083

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

(c) PM_{10} emission factor (lb/BDT) = (PM emission factor [lb/BDT] x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/BDT) = (PM emission factor [lb/BDT]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for cyclone with baghouse control (August 2011).

(3) DEQ Form AQ-EF03 for cyclones with bag filter system (August 2011).

(4) DEQ Form AQ-EF08 for baghouse controlled systems (August 2011).

Table 15
Material Handling Mat 2 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]				
		Silo 1	Silo 2	Silo 3	Silo 4	Silo 5
Daily Unit Throughput	(lb/day)	119,000	95,520	143,256	119,000	143,256
Annual Unit Throughput	(tons/yr)	20,000	8,000	12,000	20,000	20,000

Pollutant	Emission Factor (lb/BDT)	Emission Estimate										Total Emission Estimate	
		Silo 1		Silo 2		Silo 3		Silo 4		Silo 5			
		Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily [a] (lb/day)	Annual [b] (tons/yr)	Daily (lb/day)	Annual (tons/yr)
PM	0.100 [2]	5.95	1.00	4.78	0.40	7.16	0.60	5.95	1.00	7.16	1.00	31.0	4.00
PM_{10}	0.085 [3]	5.06	0.85	4.06	0.34	6.09	0.51	5.06	0.85	6.09	0.85	26.4	3.40
$PM_{2.5}$	0.050 [3]	2.98	0.50	2.39	0.20	3.58	0.30	2.98	0.50	3.58	0.50	15.5	2.00

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for target box (August 2011).

(3) DEQ Form AQGP-0101, Table 13.2 "Emission Factors for Cyclones and Target Boxes" (October 2017). Emission factors for target box.

Table 16
Material Handling Mat 3 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Device	Moisture Content [1]	Emission Factor [a] (lb/ton)			Throughput [3]		Control Efficiency [1] (%)	Emission Estimate					
								PM		PM_{10}		$PM_{2.5}$	
		PM	PM_{10}	$PM_{2.5}$	Daily (lb/day)	Annual (tons/yr)		Daily [b] (lb/day)	Annual [c] (tons/yr)	Daily [b] (lb/day)	Annual [c] (tons/yr)	Daily [b] (lb/day)	Annual [c] (tons/yr)
A5	19.5	1.7E-04	8.0E-05	1.2E-05	607,000	97,436	25.0	0.038	6.2E-03	0.018	2.9E-03	2.7E-03	4.4E-04
A6	19.5	1.7E-04	8.0E-05	1.2E-05	49,800	97,436	75.0	1.0E-03	2.1E-03	5.0E-04	9.7E-04	7.5E-05	1.5E-04
A7	50.0	4.5E-05	2.1E-05	3.2E-06	49,800	97,436	75.0	2.8E-04	5.5E-04	1.3E-04	2.6E-04	2.0E-05	3.9E-05
A8	50.0	4.5E-05	2.1E-05	3.2E-06	67,800	10,900	75.0	3.8E-04	6.1E-05	1.8E-04	2.9E-05	2.7E-05	4.4E-06
A9	8.50	5.4E-04	2.5E-04	3.9E-05	68,600	11,000	75.0	4.6E-03	7.4E-04	2.2E-03	3.5E-04	3.3E-04	5.3E-05
A10	19.5	1.7E-04	8.0E-05	1.2E-05	165,800	26,636	75.0	3.5E-03	5.6E-04	1.7E-03	2.7E-04	2.5E-04	4.0E-05
A11	13.5	2.8E-04	1.3E-04	2.0E-05	198,440	47,900	75.0	7.0E-03	1.7E-03	3.3E-03	8.0E-04	5.0E-04	1.2E-04
A12	15.0	2.4E-04	1.1E-04	1.7E-05	90,960	14,600	75.0	2.8E-03	4.4E-04	1.3E-03	2.1E-04	2.0E-04	3.2E-05
A13	5.50	9.9E-04	4.7E-04	7.1E-05	132,080	21,200	75.0	0.016	2.6E-03	7.7E-03	1.2E-03	1.2E-03	1.9E-04
A14	20.0	1.6E-04	7.7E-05	1.2E-05	75,380	12,100	75.0	1.5E-03	2.5E-04	7.2E-04	1.2E-04	1.1E-04	1.8E-05
A15	19.5	1.7E-04	8.0E-05	1.2E-05	78,920	12,666	75.0	1.7E-03	2.7E-04	7.9E-04	1.3E-04	1.2E-04	1.9E-05
A16	19.5	1.7E-04	8.0E-05	1.2E-05	105,640	16,954	75.0	2.2E-03	3.6E-04	1.1E-03	1.7E-04	1.6E-04	2.6E-05
A17	19.5	1.7E-04	8.0E-05	1.2E-05	105,640	16,954	75.0	2.2E-03	3.6E-04	1.1E-03	1.7E-04	1.6E-04	2.6E-05
A18	19.5	1.7E-04	8.0E-05	1.2E-05	105,640	16,954	75.0	2.2E-03	3.6E-04	1.1E-03	1.7E-04	1.6E-04	2.6E-05
A19	19.5	1.7E-04	8.0E-05	1.2E-05	105,640	16,954	75.0	2.2E-03	3.6E-04	1.1E-03	1.7E-04	1.6E-04	2.6E-05
A20	19.5	1.7E-04	8.0E-05	1.2E-05	105,640	16,954	75.0	2.2E-03	3.6E-04	1.1E-03	1.7E-04	1.6E-04	2.6E-05
A21	19.5	1.7E-04	8.0E-05	1.2E-05	78,920	12,666	0	6.6E-03	1.1E-03	3.1E-03	5.0E-04	4.8E-04	7.6E-05
A22	19.5	1.7E-04	8.0E-05	1.2E-05	78,920	12,666	0	6.6E-03	1.1E-03	3.1E-03	5.0E-04	4.8E-04	7.6E-05
A23	19.5	1.7E-04	8.0E-05	1.2E-05	78,920	12,666	0	6.6E-03	1.1E-03	3.1E-03	5.0E-04	4.8E-04	7.6E-05
A25	19.5	1.7E-04	8.0E-05	1.2E-05	211,720	33,980	75.0	4.5E-03	7.1E-04	2.1E-03	3.4E-04	3.2E-04	5.1E-05
A26	3.00	2.3E-03	1.1E-03	1.7E-04	98,700	15,840	75.0	0.029	4.6E-03	0.013	2.2E-03	2.0E-03	3.3E-04
A28	19.5	1.7E-04	8.0E-05	1.2E-05	211,720	33,980	75.0	4.5E-03	7.1E-04	2.1E-03	3.4E-04	3.2E-04	5.1E-05
A29	19.5	1.7E-04	8.0E-05	1.2E-05	211,720	33,980	75.0	4.5E-03	7.1E-04	2.1E-03	3.4E-04	3.2E-04	5.1E-05
A38	19.5	1.7E-04	8.0E-05	1.2E-05	78,920	12,666	0	6.6E-03	1.1E-03	3.1E-03	5.0E-04	4.8E-04	7.6E-05
A42	30.0	9.2E-05	4.4E-05	6.6E-06	27.3	5.00	0	1.3E-06	2.3E-07	5.9E-07	1.1E-07	9.0E-08	1.6E-08
A43	6.00	8.8E-04	4.1E-04	6.3E-05	27.3	5.00	0	1.2E-05	2.2E-06	5.7E-06	1.0E-06	8.6E-07	1.6E-07
A44	6.00	8.8E-04	4.1E-04	6.3E-05	27.3	5.00	0	1.2E-05	2.2E-06	5.7E-06	1.0E-06	8.6E-07	1.6E-07
A45	30.0	9.2E-05	4.4E-05	6.6E-06	11.0	2.00	0	5.1E-07	9.2E-08	2.4E-07	4.4E-08	3.6E-08	6.6E-09
A46	6.00	8.8E-04	4.1E-04	6.3E-05	55.0	10.00	0	2.4E-05	4.4E-06	1.1E-05	2.1E-06	1.7E-06	3.1E-07
A47	2.00	4.1E-03	1.9E-03	2.9E-04	46,575	8,500	99.0	9.5E-04	1.7E-04	4.5E-04	8.2E-05	6.8E-05	1.2E-05
A48	2.00	4.1E-03	1.9E-03	2.9E-04	822	150	100.0	0	0	0	0	0	0
B3	3.00	2.3E-03	1.1E-03	1.7E-04	620	100.0	0	7.2E-04	1.2E-04	3.4E-04	5.5E-05	5.1E-05	8.3E-06
B4	3.00	2.3E-03	1.1E-03	1.7E-04	15,580	2,500	75.0	4.5E-03	7.2E-04	2.1E-03	3.4E-04	3.2E-04	5.2E-05
B5	3.00	2.3E-03	1.1E-03	1.7E-04	15,580	2,500	75.0	4.5E-03	7.2E-04	2.1E-03	3.4E-04	3.2E-04	5.2E-05
B7	3.00	2.3E-03	1.1E-03	1.7E-04	700,000	84,000	0	0.81	0.097	0.38	0.046	0.058	7.0E-03
C1	3.00	2.3E-03	1.1E-03	1.7E-04	320	50.0	0	3.7E-04	5.8E-05	1.8E-04	2.7E-05	2.7E-05	4.1E-06
Total Emission Estimate								**0.98**	**0.13**	**0.46**	**0.060**	**0.070**	**9.1E-03**

NOTES:

(a) Emission Factor (lb/ton) = 0.0032 x (particulate size multiplier) x ((wind speed (mph))/5)$^{1.3}$/((material moisture content (%))/2)$^{1.4}$

Particulate size multiplier for PM =	0.74	(2)
Particulate size multiplier for PM_{10} =	0.35	(2)
Particulate size multiplier for $PM_{2.5}$ =	0.053	(2)
Wind speed (mph) =	7.60	(1)

(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton]) x (daily throughput [lb/day]) / (2,000 lb/ton) x (1 - [control efficiency(%)]/100)

(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) / (2,000 lb/ton) x (1 - [control efficiency(%)]/100)

REFERENCES:

(1) See Detail Sheets in Review Report for Title V Operating Permit No. 15-0025-TV-01.

(2) AP-42, Chapter 13.2.4 "Aggregate Handling and Storage Piles" (November 2006). Equation for quantity of particulate emissions generated by drop operations.

(3) See Table 2, Proposed Material Handling Unit Process Throughputs.

Table 17
Material Handling Mat 4 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor [a] (lb/ton)	Emission Estimate	
		A1	
		Daily [b] (lb/day)	Annual [c] (tons/yr)
PM	1.7E-04	0.051	8.2E-03
PM_{10}	8.0E-05	0.024	3.9E-03
$PM_{2.5}$	1.2E-05	3.7E-03	5.9E-04

NOTES:

(a) Emission Factor (lb/ton) = 0.0032 x (particulate size multiplier) x ([wind speed {mph}]/5)$^{1.3}$/ ([material moisture content {%}]/2)$^{1.4}$

Particulate size multiplier for PM =	0.74	(1)
Particulate size multiplier for PM_{10} =	0.35	(1)
Particulate size multiplier for $PM_{2.5}$ =	0.053	(1)
Wind speed (mph) =	7.60	(2)
Moisture content (%) =	19.5	(2)

(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton]) x (daily throughput [lb/day]) / (2,000 lb/ton)

Daily A1 throughput (lb/day) =	607,000	(3)

(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

Annual A1 throughput (tons/yr) =	97,436	(3)

REFERENCES:

(1) AP-42, Chapter 13.2.4 "Aggregate Handling and Storage Piles" (November 2006). Equation for quantity of particulate emissions generated by drop operations.

(2) See Detail Sheets in Review Report for Title V Operating Permit No. 15-0025-TV-01.

(3) See Table 2, Proposed Material Handling Unit Process Throughputs.

Table 18
Material Handling Mat 6 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor (lb/BDT)		Emission Estimate	
			Cyclone C-22	
			Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	0.040	[2]	0.42	0.074
PM_{10}	0.040	[c]	0.42	0.074
$PM_{2.5}$	0.040	[d]	0.42	0.074

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

Daily Cyclone C-22 throughput (lb/day) = 21,000 (1)

(b) Annual emissions estimate (lb/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

Annual Cyclone C-22 throughput (tons/yr) = 3,700 (1)

(c) PM_{10} emission factor (lb/BDT) = (PM emission factor [lb/BDT) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/BDT) = (PM_{10} emission factor [lb/BDT]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for sanderdust cyclone with baghouse control (August 2011).

(3) DEQ Form AQ-EF03 for bag filter system (August 2011).

(4) DEQ Form AQ-EF08 for baghouse controlled equipment (August 2011).

Table 19
Material Handling Mat 7 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor (lb/BDT)		Emission Estimate	
			Cyclone C-23	
			Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	1.0E-03	(2)	0.030	5.4E-03
PM_{10}	1.0E-03	(c)	0.029	5.3E-03
$PM_{2.5}$	1.0E-03	(d)	0.029	5.3E-03

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

Daily Cyclone C-23 throughput (lb/day) = 59,000 (1)

(b) Annual emissions estimate (lb/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

Annual Cyclone 3 throughput (tons/yr) = 10,750 (1)

(c) PM_{10} emission factor (lb/BDT) = (PM emission factor [lb/BDT) x (PM_{10} percentage of PM [%] / 100)

PM_{10} percentage of PM (%) = 99.5 (3)

(d) $PM_{2.5}$ emission factor (lb/BDT) = (PM_{10} emission factor [lb/BDT]) x ($PM_{2.5}$ percentage of PM_{10} [%] / 100)

$PM_{2.5}$ percentage of PM_{10} (%) = 100 (4)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for cyclone with baghouse control (August 2011).

(3) DEQ Form AQ-EF03 for bag filter system (August 2011).

(4) DEQ Form AQ-EF08 for baghouse controlled equipment (August 2011).

Table 20
Material Handling Mat 8 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor (lb/BDT)		Emission Estimate	
			Silo 6	
			Daily [a] (lb/day)	Annual [b] (tons/yr)
PM	0.100	(2)	1.05	0.19
PM_{10}	0.085	(3)	0.89	0.16
$PM_{2.5}$	0.050	(3)	0.53	0.093

NOTES:

BDT = bone dry tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [lb/day]) / (2,000 lb/ton)

Daily Silo 6 throughput (lb/day) = 21,000 (1)

(b) Annual emissions estimate (lb/yr) = (emission factor [lb/BDT]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

Annual Silo 6 throughput (tons/yr) = 3,700 (1)

REFERENCES:

(1) See Table 2, Proposed Material Handling Unit Process Throughputs.

(2) DEQ Form AQ-EF02 for target box (August 2011).

(3) DEQ Form AQGP-0101, Table 13.2 "Emission Factors for Cyclones and Target Boxes" (October 2017). Emission factors for target box.

MAUL FOSTER ALONGI

Table 21
Material Handling Mat 9 Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]		
		D1	D2	D3
Daily Unit Throughput	(lb/day)	59,000	59,000	820
Annual Unit Throughput	(tons/yr)	10,750	10,750	100

Pollutant	Emission Factor [a] (lb/ton)	Emission Estimate						Total Emission Estimate	
		D1		D2		D3			
		Daily [b] (lb/day)	Annual [c] (tons/yr)	Daily [b] (lb/day)	Annual [c] (tons/yr)	Daily [b] (lb/day)	Annual [c] (tons/yr)	Daily (lb/day)	Annual (tons/yr)
PM	2.5E-04	7.5E-03	1.4E-03	7.5E-03	1.4E-03	1.0E-04	1.3E-05	0.015	2.8E-03
PM_{10}	1.2E-04	3.6E-03	6.5E-04	3.6E-03	6.5E-04	4.9E-05	6.0E-06	7.2E-03	1.3E-03
$PM_{2.5}$	1.8E-05	5.4E-04	9.8E-05	5.4E-04	9.8E-05	7.5E-06	9.1E-07	1.1E-03	2.0E-04

NOTES:

(a) Emission Factor (lb/ton) = 0.0032 x (particulate size multiplier) x ([wind speed (mph)]/5)$^{1.3}$/([material moisture content (%)]/2)$^{1.4}$

Particulate size multiplier for PM =	0.74	(1)
Particulate size multiplier for PM_{10} =	0.35	(1)
Particulate size multiplier for $PM_{2.5}$ =	0.053	(1)
Wind speed (mph) =	7.60	(2)
Moisture content (%) =	14.5	(2)

(b) Daily emissions estimate (lb/day) = (emission factor [lb/ton]) x (daily throughput [lb/day]) / (2,000 lb/ton)

(c) Annual emissions estimate (lb/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) / (2,000 lb/ton)

REFERENCES:

(1) AP-42, Chapter 13.2.4 "Aggregate Handling and Storage Piles" (November 2006). Equation for quantity of particulate emissions generated by drop operations.

(2) See Detail Sheets in Review Report for Title V Operating Permit No. 15-0025-TV-01.

(3) See Table 2, Proposed Material Handling Unit Process Throughputs.

Table 22
Storage Piles Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	Emission Factor			Emissions Estimate			
				Monthly (lb/mo)		Annual (tons/yr)	
PM	--			17.0	(1)	0.100	(1)
PM_{10}	--			8.50	(1)	0.050	(1)
$PM_{2.5}$	--			8.50	(1)	0.050	(1)
VOC	0.94	lb/BDT	(2)	14,436	(a)	86.6	(b)

NOTES:

BDT = bone dry tons.

(a) Monthly emission estimate (lb/mo) = (annual VOC emissions estimates (tons/yr) x (2,000 lb/ton) / (12 mo/yr)

(b) Annual emission estimate (tons/yr) = (emission factor [lb/BDT]) x (annual PB furnish throughput [BDT/yr]) / (2,000 lb/ton)

Annual PB furnish throughput (BDT/yr) = 184,289 (3)

REFERENCES:

(1) Emission limit from Title V Operating Permit No. 15-0025-TV-01. Based emissions estimates from 1999 Title V renewal application.

(2) NCASI Technical Bulletin No. 723 (September 1996), "Laboratory and Limited Field Measurements of VOC Emissions from Wood Residuals". Factor is the average of winter and spring emission rates for Douglas Fir sawdust, shavings, and chips.

(3) See Table 2, Proposed Material Handling Unit Process Throughputs. Based on Total PB Furnish Throughput.

Table 23
Particleboard Unpaved Roads Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate [1]	
		Monthly	Annual
Vehicle Miles Traveled	(VMT)	1,927	19,897
Mean Vehicle Weight	(tons)	11.6	11.6

Vehicle	Emission Factor [a] (lb/VMT)	Emission Estimate	
		Monthly [b] (lb/mo)	Annual [c] (tons/yr)
PM	3.89	3,746	19.3
PM_{10}	1.05	1,011	5.22
$PM_{2.5}$	0.10	101	0.52

NOTES:

VMT = vehicle miles traveled.

(a) Particulate emission factor (lb/VMT) = {{particle size multiplier {lb/VMT}] x [surface material silt content {%} /12]^{a} x [mean vehicle weight {tons} /3]$^{0.45}$} x {[365 - {number of days with at least 0.01 inches of precipitation | days |}] / 365}

PM particle size multiplier =	4.90	(2)
PM_{10} particle size multiplier =	1.50	(2)
$PM_{2.5}$ particle size multiplier =	0.15	(2)
PM aerodynamic particle size constant "a" =	0.70	(2)
$PM_{10}/PM_{2.5}$ aerodynamic particle size constant "a" =	0.90	(2)
s = surface material silt content (%) =	6.40	(3)
P = days with at least 0.01 inches of precipitation (days) =	120	(4)

(b) Monthly emissions estimate (lb/mo) = (particulate emission factor [lb/VMT]) x (monthly vehicle miles traveled [VMT/mo]) x (1 -[control efficiency {%} / 100])

Control efficiency (%) =	50.0	(5)

(c) Annual emissions estimate (tons/yr) = (particulate emission factor [lb/VMT]) x (annual vehicle miles traveled [VMT/yr]) x (1 -[control efficiency {%} / 100]) / (2,000 [lb/ton])

Control efficiency (%) =	50.0	(5)

REFERENCES:

(1) See Table 3, Proposed Roads Process Parameters.

(2) AP-42, Chapter 13.2.2, Table 13.2.2-2 "Constants for Equations 1a and 1b" (November 2006). Constants for industrial roads.

(3) AP-42, Chapter 13.2.2, Table 13.2.2-1 "Typical Silt Content Values of Surface Material on Industrial Unpaved Roads" (November 2006). Mean silt loading for municipal solid waste landfills.

(4) Number of days of precipitation extrapolated from AP-42 Chapter 13.2.2 (November 2006), Figure 13.2.2-1.

(5) Control efficiency estimated based on the control technology and efficiency information presented in the WRAP Fugitive Dust Handbook (September 2006). Represents estimated control resulting from the implementation of a regular program for the wet suppression of unpaved roads.

Table 24
Plywood Unpaved Roads Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Parameter	Units	Process Rate (1)	
		Monthly	Annual
Vehicle Miles Traveled	(VMT)	3,002	30,893
Mean Vehicle Weight	(tons)	18.0	18.0

Vehicle	Emission Factor (a) (lb/VMT)	Emission Estimate	
		Monthly (b) (lb/mo)	Annual (c) (tons/yr)
PM	4.75	7,125	36.7
PM_{10}	1.28	1,924	9.90
$PM_{2.5}$	0.13	192	0.99

NOTES:

VMT = vehicle miles traveled.

(a) Particulate emission factor (lb/VMT) = ([particle size multiplier (lb/VMT)] x [surface material silt content (%) /12]^{a} x [mean vehicle weight (tons) /3]$^{0.45}$) x ([365 - (number of days with at least 0.01 inches of precipitation | days |)] / 365)

PM particle size multiplier =	4.90	(2)
PM_{10} particle size multiplier =	1.50	(2)
$PM_{2.5}$ particle size multiplier =	0.15	(2)
PM aerodynamic particle size constant "a" =	0.70	(2)
$PM_{10}/PM_{2.5}$ aerodynamic particle size constant "a" =	0.90	(2)
s = surface material silt content (%) =	6.40	(3)
P = days with at least 0.01 inches of precipitation (days) =	120	(4)

(b) Monthly emissions estimate (lb/mo) = (particulate emission factor [lb/VMT]) x (monthly vehicle miles traveled [VMT/mo]) x (1 -[control efficiency (%) / 100])

Control efficiency (%) =	50.0	(5)

(c) Annual emissions estimate (tons/yr) = (particulate emission factor [lb/VMT]) x (annual vehicle miles traveled [VMT/yr]) x (1 -[control efficiency (%) / 100]) / (2,000 [lb/ton])

Control efficiency (%) =	50.0	(5)

REFERENCES:

(1) See Table 3, Proposed Roads Process Parameters.

(2) AP-42, Chapter 13.2.2, Table 13.2.2-2 "Constants for Equations 1a and 1b" (November 2006). Constants for industrial roads.

(3) AP-42, Chapter 13.2.2, Table 13.2.2-1 "Typical Silt Content Values of Surface Material on Industrial Unpaved Roads" (November 2006). Mean silt loading for municipal solid waste landfills.

(4) Number of days of precipitation extrapolated from AP-42 Chapter 13.2.2 (November 2006), Figure 13.2.2-1.

(5) Control efficiency estimated based on the control technology and efficiency information presented in the WRAP Fugitive Dust Handbook (September 2006). Represents estimated control resulting from the implementation of a regular program for the wet suppression of unpaved roads.

Table 25
Facility VOC Product Usage Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Material	Annual Product Usage [1] (gal/yr)	Density [2] (lb/gal)	VOC Content [2]		Monthly VOC Emissions Estimate [a] (lb/mo)	Annual VOC Emissions Estimate (tons/yr)	
PB Moisture Ink	100	8.40	0.40	(lb/gal)	3.33	0.020	[b]
PB Ink Rolls	150	8.34	0.30	(lb/gal)	3.75	0.023	[b]
Plywood Ink Concentrate	200	8.84	0.26	(% w/w)	0.38	2.3E-03	[c]
Plywood Printing Ink	100	8.34	5.10	(lb/gal)	42.5	0.26	[b]
Plywood Putty	30,000	14.5	0.10	(lb/gal)	250	1.50	[b]
Total VOC Emissions Estimate					**300**	**1.80**	

NOTES:

(a) Monthly emission rate (lb/mo) = (annual emissions estimate [tons/yr]) x (2,000 lb/ton) / (annual months of operation [mo/yr])

Annual months of operation (mo/yr) = 12 (1)

(b) Annual emissions estimate (tons/yr) = (annual product usage [gal/yr]) x (VOC content [lb/gal]) / (2,000 lb/ton)

(c) Annual emissions estimate (tons/yr) = (annual product usage [gal/yr]) x (product density [lb/gal]) x (VOC content [% w/w] / 100) / (2,000 lb/ton)

REFERENCES:

(1) Information provided by Timber Products Company based on potential to emit production and usage rates.

(2) Information provided by manufacturer certified product data sheet. Product does not contain any HAPs so no HAP emissions estimates are presented.

Table 26
Resin Storage Tank Inputs
Timber Products Company - Medford, Oregon

Resin Tank ID	Stored Liquid [1]	Resin Product [1]	Total Number of Storage Tanks [1]	Tank ID	Tank Type [1]	Tank Location [1]	Tank Dimension [1] (ft)			Tank Working Capacity [a] (gal)	Annual Throughput		Annual Turnovers [c]
							Diameter	Height	Maximum Liquid Height		PSEL		
											(gal/yr) [1]	(bbl/yr) [b]	
Plywood Resin Tank 1	ULEF	Casco Resin ULEF-600-05	1	TANKPL1	Fixed roof	Outside (Covered)	12.0	10.00	8.00	6,768	400,000	9,525	67.5
Plywood Resin Tank 2	ULEF	Casco Resin ULEF-600-05	1	TANKPL2	Fixed roof	Outside (Covered)	12.0	10.00	8.00	6,768	400,000	9,525	67.5
Particleboard Resin Tank 1	pMDI	Rubinate 1840	1	TANKPB1	Fixed Roof	Outside (Covered)	9.50	20.0	17.0	9,013	300,000	7,144	35.4
Particleboard Resin Tank 2	pMDI	Rubinate 1840	1	TANKPB2	Fixed Roof	Outside (Covered)	9.50	20.0	17.0	9,013	300,000	7,144	35.4

NOTES:

ULEF = Ultra-low emitting formaldehyde.

pMDI = Polymeric methylene diphenyl diisocyanate.

(a) Tank working capacity (gal) = (π/4) x (tank diameter (ft))^2 x (maximum liquid height (ft)) x (7.48 gal/ft^3)

(b) Annual throughput (bbl/yr) = (annual throughput (gal/yr)) / (7.48 gal/ft^3) / (5.614 ft^3/bbl) (2)

(c) Annual turnovers = ((5.614 ft^3/bbl) x (annual throughput (bbl/yr))) / ((π/4) x (tank diameter (ft))^2) / ((maximum liquid height (ft)) - 1) (3)

REFERENCES:

(1) Information provided by Timber Products Company.

(2) Conversion factor provided by AP-42 Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks."

(3) AP-42 Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks." Equations 1-36 and 1-37.

Table 27
Resin Storage Tank Working Loss Criteria and HAP Emission Estimates
Timber Products Company - Medford, Oregon

Resin Tank	Product [1]	Tank Location [1]	Tank ID [1]	Average Annual Temperature [2] (°F)	Annual Throughput [1] (bbl/yr)	Annual Turnovers [3]	Net Working Loss Throughput [4] ($V_{Q,}$ ft³)	Stock Vapor Density [4] (WV, lb/ft³)	Pollutant	CAS	Species Percent Weight in Product (%)	VOC-Species Physical Properties: Molecular Weight (lb/lb-mol)	Vapor Pressure (psi)	Liquid Mass Fraction of VOC per Molecular Weight of VOC (z_i/M_i)	Liquid Mole Fraction (m_i)	Partial Vapor Pressure of VOC (psia, P_i)	Vapor Molar Fraction of VOC (y_i)	Vapor Mass Fraction of VOC (x_i)	Emissions Estimate: Monthly [5] (lb/mo)	Annual (tons/yr)
Plywood Resin Tank 1	Casco Resin ULEF 600-05	Outside (Covered)	TANKPL1	60.0	9,525	67.5	53,476	0.16	Total VOC	--	1.15 [d]	30.1 [c]	32.4 [c]	0.032 [e]	1.00 [e]	32.4 [f]	1.00 [g]	1.00 [h]	8.24	0.033 [i]
									Formaldehyde	50-00-0	0.55 [a]	30.0 [c]	64.1 [c]	0.016 [e]	0.49 [e]	31.7 [f]	0.98 [g]	0.98 [h]	8.04	0.032 [i]
									Methanol	67-56-1	0.60 [a]	32.0 [c]	1.41 [c]	0.016 [e]	0.51 [e]	0.71 [f]	0.022 [g]	0.023 [h]	0.19	7.7E-04 [i]
Plywood Resin Tank 2	Casco Resin ULEF 600-05	Outside (Covered)	TANKPL2	60.0	9,525	67.5	53,476	0.16	Total VOC	--	1.15 [d]	30.1 [c]	32.4 [c]	0.032 [e]	1.00 [e]	32.4 [f]	1.00 [g]	1.00 [h]	8.24	0.033 [i]
									Formaldehyde	50-00-0	0.55 [a]	30.0 [c]	64.1 [c]	0.016 [e]	0.49 [e]	31.7 [f]	0.98 [g]	0.98 [h]	8.04	0.032 [i]
									Methanol	67-56-1	0.60 [a]	32.0 [c]	1.41 [c]	0.016 [e]	0.51 [e]	0.71 [f]	0.022 [g]	0.023 [h]	0.19	7.7E-04 [i]
Particleboard Resin Tank 1	Rubinate 1840	Outside (Covered)	TANKPB1	60.0	7,144	35.4	40,107	7.4E-09	Methylene diphenyl diisocyanate (MDI)	101-68-8	45.0 [a]	250 [c]	1.6E-07 [c]	--	--	--	--	--	1.7E-05	6.7E-08 [j]
Particleboard Resin Tank 2	Rubinate 1840	Outside (Covered)	TANKPB2	60.0	7,144	35.4	40,107	7.4E-09	Methylene diphenyl diisocyanate (MDI)	101-68-8	45.0 [a]	250 [c]	1.6E-07 [c]	--	--	--	--	--	1.7E-05	6.7E-08 [j]
Total VOC Emissions [10]																			16.5	0.066
Total Formaldehyde Emissions																			16.1	0.064
Total Methanol Emissions																			0.39	1.5E-03
Total MDI Emissions																			3.3E-05	1.3E-07

NOTES:

(a) Net working loss throughput (ft³) = (5.614 ft³/bbl) x (annual throughput (bbl/yr)) (3)

(b) Monthly emissions estimate (lb/mo) = (annual emissions estimate (tons/yr)) x (2,000 lb/ton) / (12 mo/yr) x (short term variability safety factor)

Short term variability safety factor = 1.50

(c) Molecular weight (lb/lb-mol) = sum of ((species molecular weight (lb/lb-mol)) x (species vapor molar fraction of VOC))

(d) Liquid mass fraction of VOC per molecular weight of VOC = (species percent weight in product (%)) / (total VOC percent weight in product (%)) / (species molecular weight (lb/lb-mol))

(e) Liquid mole fraction of VOC species (mole/mole) = (liquid mass fraction of VOC per molecular weight of VOC) / (sum of individual species liquid mass fraction of VOC per molecular weight of VOC)

(f) Partial vapor pressure of VOC (psi) = (species true vapor pressure (psi)) x (species liquid mole fraction)

(g) Vapor molar fraction of VOC = (species partial vapor pressure of VOC (psi)) / (sum of individual species partial vapor pressure of VOC (psi))

(h) Vapor mass fraction of VOC = (species vapor molar fraction of VOC) x (species molecular weight (lb/lb-mol)) / (total VOC molecular weight (lb/lb-mol))

(i) Annual emissions estimate (tons/yr) = (species weight percent in product (%) / 100) x (net working loss throughput (ft³/yr)) x ([100 + (annual turnovers)] / (6 x (annual turnovers))) x (stock vapor density (lb/ft³)) / (2,000 lb/ton) (6)

(j) Annual emissions estimate (tons/yr) = (species vapor mass fraction of VOC) x (annual total VOC emissions estimate (tons/yr))

(k) Annual emissions estimate (tons/yr) = (species weight percent in product (%) / 100) x (net working loss throughput (ft³/yr)) x (stock vapor density (lb/ft³)) / (2,000 lb/ton) (7)

REFERENCES:

(1) See Table 26, Resin Storage Tank Inputs.

(2) AP-42, Chapter 7.1 (November 2019), Table 7.1-7, "Meteorological Data for Selected U.S. Locations." Average reported annual temperature of 56 degrees Fahrenheit for Medford, OR is conservatively rounded up to 60 degrees Fahrenheit.

(3) AP-42, Chapter 7.1 (November 2019), Equation 1-39.

(4) See Table 28, Resin Storage Tank Breathing Loss Criteria and HAP Emission Estimates for details on calculation of this parameter.

(5) Sum of constituent pollutant physical properties.

(6) Information provided by Timber Products via material safety data sheet.

(7) VOC-specific physical properties derived from information provided in AP-42 Chapter 7.1 (November 2019), Table 7.1-3 "Physical Properties of Selected Petrochemicals", and National Institute of Standards and Technology (NIST) Chemistry Webbook (2017).

(8) AP-42, Chapter 7.1 (November 2019), Equation 1-33, "Calculating working losses" for annual turnovers greater than 36. Total working loss multiplied by total VOC weight percentage.

(9) AP-42, Chapter 7.1 (November 2019), Equation 1-33, "Calculating working losses" for annual turnovers less than 36. Total working loss multiplied by total VOC weight percentage.

(10) Total VOC emissions includes MDI emissions since MDI is regulated as a VOC.

Table 28
Resin Storage Tank Breathing Loss Criteria and HAP Emission Estimates
Timber Products Company - Medford, Oregon

Resin Tank	Product [1]	Tank ID [1]	Tank Dimensions [1] (ft)			Standing Storage Parameters						Pollutant [2]	CAS	VOC-Species Physical Properties [3]				Emissions Estimate	
			Diameter	Height	Maximum Liquid Height	Vapor Space Outage (H_{vo}, ft)		Vapor Space Volume (V_v, ft³)		Stock Vapor Density (WV, lb/ft³)		Vented Vapor Saturation Factor (K_S)			Species Percent Weight in Product (%)	Molecular Weight (lb/lb-mol)	Vapor Pressure (psi)	Vapor Mass Fraction of VOC (x_v)	Monthly [h] (lb/mo)	Annual (tons/yr)	
Plywood Resin Tank 1	Casco Resin ULEF-600-05	TANKPL1	12.0	10.00	8.00	2.62	[a]	319	[c]	0.18	[e]	0.17	[g]	Total VOC	--	1.15	30.1	32.4	1.00	0.21	8.5E-04	[i]
														Formaldehyde	50-00-0	--	--	--	0.98	0.21	8.3E-04	[j]
														Methanol	67-56-1	--	--	--	0.023	5.0E-03	2.0E-05	[j]
Plywood Resin Tank 2	Casco Resin ULEF-600-05	TANKPL2	12.0	10.00	8.00	2.62	[b]	319	[d]	0.18	[f]	0.17	[h]	Total VOC	--	1.15	30.1	32.4	1.00	0.21	8.5E-04	[i]
														Formaldehyde	50-00-0	--	--	--	0.98	0.21	8.3E-04	[j]
														Methanol	67-56-1	--	--	--	0.023	5.0E-03	2.0E-05	[j]
Particleboard Resin Tank 1	Rubinate 1840	TANKPB1	9.50	20.0	17.0	3.65	[a]	259	[c]	7.4E-09	[e]	1.00	[g]	Methylene diphenyl diisocyanate (MDI)	101-68-8	45.0	250	1.6E-07	--	1.7E-06	6.6E-09	[i]
Parti	Rubinate 1840	TANKPB2	9.50	20.0	17.0	3.65	[b]	259	[d]	7.4E-09	[f]	1.00	[h]	Methylene diphenyl diisocyanate (MDI)	101-68-8	45.0	250	1.6E-07	--	1.7E-06	6.6E-09	[i]
Total VOC Emissions [14]																				0.42	1.7E-03	
Total Formaldehyde Emissions																				0.41	1.7E-03	
Total Methanol Emissions																				1.0E-02	4.0E-05	
Total MDI Emissions																				3.3E-06	1.3E-08	

NOTES:

(a) Monthly emissions estimate (lb/mo) = (annual emissions estimate (tons/yr)) x (2,000 lb/ton) / (12 mo/yr) x (short term variability safety factor)

Short term variability safety factor = 1.50

(b) Vapor space outage (H_{vo}, ft) = (tank height (ft)) - (maximum liquid height (ft)) + (0.167) x ((tank diameter (ft)) / 2) (3)

(c) Vapor space volume (V_v, ft³) = (π/4) x (tank shell diameter (ft))² x (vapor space outage (H_{vo}, ft)) (4)

(d) Stock vapor density (WV, lb/ft³) = [vapor molecular weight (M_v, lb/lb-mole)] x [(vapor pressure (P_{vp}, PSI)) / ((10.731 psia ft³/lb-mol) x (daily average liquid surface temperature (T_{LA}, °R))] (5)

Daily average liquid surface temperature (T_{LA}, °R) = 517 (e)

(e) Daily average liquid surface temperature (T_{LA}, °R) = (0.4) x (daily average ambient temperature (°R)) + (0.6) x (liquid bulk temperature (°R)) + (0.005) x (tank paint solar absorptance (α)) x (daily solar insolation factor (I, Btu/ft²-day)) (6)

Daily average ambient temperature (T_{AA}, °R) = 515 (f)

Liquid bulk temperature (T_B, °R) = 516 (g)

Tank paint solar absorptance (α) = 0.25 (7)

Daily solar insolation factor (I, Btu/ft² day) = 1,357 (8)

(f) Daily average ambient temperature (T_{AA}, °R) = (daily maximum ambient temperature (T_{AX}, °R) + daily minimum ambient temperature (T_{AN}, °R)) / 2 (9)

Daily maximum ambient temperature (T_{AX}, °R) = 527 (h)

Daily minimum ambient temperature (T_{AN}, °R) = 503 (i)

(g) Liquid bulk temperature (T_B, °R) = (daily average ambient temperature (T_{AA}, °R)) + ((0.003) x (tank paint solar absorptance (α)) x (daily solar insolation factor (I, Btu/ft²-day))) (10)

Daily average ambient temperature (T_{AA}, °R) = 515 (f)

Tank paint solar absorptance (α) = 0.25 (7)

Daily solar insolation factor (I, Btu/ft² day) = 1,357 (8)

(h) Vented vapor saturation factor (K_S) = (1) / (1 + (0.053) x (vapor pressure (psi)) x ((vapor space outage (H_{vo}, ft))) (11)

(i) Annual emissions estimate (tons/yr) = (365 days/yr) x (vapor space expansion factor) x (species percent weight in product (%) / 100) x (vapor space volume (ft³)) x (stock vapor density (lb/ft³)) x (vented vapor saturation factor) / (2,000 lb/ton) (12)

Vapor space expansion factor (K_E per day) = 0.042 (j)

(j) Vapor space expansion factor (K_E) = (0.0018) x ((0.7) x ((daily maximum ambient temperature (T_{AX}, °R)) - (daily minimum ambient temperature (T_{AN}, °R))) + (0.02) x (tank paint solar absorptance (α)) x (daily solar insolation factor (I, Btu/ft²-day))) (13)

Daily maximum ambient temperature (T_{AX}, °R) = 527 (h)

Daily minimum ambient temperature (T_{AN}, °R) = 503 (i)

Tank paint solar absorptance (α) = 0.25 (7)

Daily solar insolation factor (I, Btu/ft² day) = 1,357 (8)

(k) Annual emissions estimate (tons/yr) = (species vapor mass fraction of VOC) x (annual total VOC emissions estimate (tons/yr))

REFERENCES:

(1) See Table 26, Resin Storage Tank Inputs.
(2) See Table 27, Resin Storage Tank Working Loss Criteria and HAP Emission Estimates.
(3) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-16.
(4) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-3.
(5) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-22.
(6) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-28.
(7) AP-42 Chapter 7.1 (November 2019) Table 7.1-6, Paint Solar Absorptance." Assumes white paint in average condition.
(8) AP-42, Chapter 7.1 (November 2019), Table 7.1-7, "Meteorological Data for Selected U.S. Locations." Values for Medford, OR are used.
(9) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-30.
(10) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-31.
(11) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-21.
(12) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-2. Total breathing loss multiplied by total VOC weight percentage.
(13) AP-42, Chapter 7.1 (November 2019), "Organic Liquid Storage Tanks", Equation 1-12.
(14) Total VOC emissions includes MDI emissions since MDI is regulated as a VOC.

Table 29
Summary of Annual Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Source	Proposed Facility Emission Estimates (tons/yr)							
	PM	PM_{10}	$PM_{2.5}$	CO	NO_X	SO_2	VOC	GHG
Particleboard Natural Gas Package Boiler	0.26	0.26	0.26	8.82	10.5	0.18	0.58	12,617
Plywood Natural Gas Package Boiler	0.26	0.26	0.26	8.82	10.5	0.18	0.58	12,617
Veneer Dryer M1 / RTO	2.37	2.37	2.37	126	15.8	--	2.37	21,269
Veneer Dryer Fugitives	3.59	3.59	3.59	--	--	--	3.92	--
Plywood Presses	26.7	22.7	11.3	--	--	--	6.31	--
Plywood Miscellaneous VOC Sources	--	--	--	--	--	--	1.77	--
Particleboard Press	17.6	17.5	17.5	18.4	1.42	--	47.2	--
Particleboard Dryers	18.1	18.0	17.2	92.2	115	4.37	58.1	36,637
Particleboard Miscellaneous VOC Sources	--	--	--	--	--	--	16.7	--
Material Handling MAT 1	0.11	0.11	0.11	--	--	--	--	--
Material Handling MAT 1A	8.4E-02	8.3E-02	8.3E-02	--	--	--	--	--
Material Handling MAT 2	4.00	3.40	2.00	--	--	--	--	--
Material Handling MAT 3	0.13	6.0E-02	9.1E-03	--	--	--	--	--
Material Handling MAT 4	8.2E-03	3.9E-03	5.9E-04	--	--	--	--	--
Material Handling MAT 6	7.4E-02	7.4E-02	7.4E-02	--	--	--	--	--
Material Handling MAT 7	5.4E-03	5.3E-03	5.3E-03	--	--	--	--	--
Material Handling MAT 8	0.19	0.16	9.3E-02	--	--	--	--	--
Material Handling MAT 9	2.8E-03	1.3E-03	2.0E-04	--	--	--	--	--
Storage Piles	1.0E-01	5.0E-02	5.0E-02	--	--	--	86.6	--
Unpaved Roads - Particleboard	19.3	5.22	0.52	--	--	--	--	--
Unpaved Roads - Plywood	36.7	9.90	0.99	--	--	--	--	--
Facility VOC Product Usage	--	--	--	--	--	--	1.80	--
Resin Storage Tanks	--	--	--	--	--	--	6.8E-02	--
Aggregate Insignificant	1.00	1.00	1.00	1.00	--	--	--	--
Total Proposed Emissions	**130**	**84.7**	**57.4**	**256**	**154**	**4.73**	**226**	**83,140**

Regulatory Analysis	Emissions Estimates Summary (tons/yr)							
	PM	PM_{10}	$PM_{2.5}$	CO	NO_X	SO_2	VOC	GHG
Proposed Total Facility	130	84.7	57.4	256	154	4.73	226	83,140
Previous Total Facility	166	127	98.8	238	154	4.21	191	83,334
Proposed Project Change?	*-35.1*	*-42.0*	*-41.4*	*18.1*	*-0.4*	*0.52*	*35.3*	*-194*
Current PSEL	207	159	124	238	162	39.0	239	83,300
Netting Basis	276	228	193	237	162	4.00	279	25,800
Proposed PSEL	130	84.7	57.4	256	154	39.0	226	83,140
Significant Emissions Rate	*25*	*5*	*10*	*100*	*40*	*40*	*40*	*75,000*
Proposed PSEL Above Netting Basis	**No**	**No**	**No**	**18.7**	**No**	**35**	**No**	**57,340**
Proposed PSEL - Netting Basis > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

NOTES:
PSEL = plant site emission limit.
SER = significant emission rate.

Table 30
Summary of Short Term Criteria Emission Estimates
Timber Products Company - Medford, Oregon

Source	Proposed Facility Emission Estimates (lb/day)		
	PM	PM_{10}	$PM_{2.5}$
Particleboard Natural Gas Package Boiler	1.50	1.50	1.50
Plywood Natural Gas Package Boiler	1.50	1.50	1.50
Veneer Dryer M1 / RTO	14.4	14.4	14.4
Veneer Dryer Fugitives	21.8	21.8	21.8
Plywood Presses	146	124	62.1
Particleboard Press	147	146	146
Particleboard Dryers	151	150	143
Material Handling MAT 1	1.15	1.15	1.15
Material Handling MAT 1A	0.55	0.55	0.55
Material Handling MAT 2	31.0	26.4	15.5
Material Handling MAT 3	0.98	0.46	7.0E-02
Material Handling MAT 4	5.1E-02	2.4E-02	3.7E-03
Material Handling MAT 6	0.42	0.42	0.42
Material Handling MAT 7	3.0E-02	2.9E-02	2.9E-02
Material Handling MAT 8	1.05	0.89	0.53
Material Handling MAT 9	1.5E-02	7.2E-03	1.1E-03
Total Proposed Emissions	**519**	**490**	**409**
Current PSEL	866	863	755
Proposed Emissions > PSEL	**No**	**No**	**No**

Source	Proposed Facility Emission Estimates (lb/mo)		
	PM	PM_{10}	$PM_{2.5}$
Storage Piles	17.0	8.50	8.50
Unpaved Roads - Particleboard	3,746	1,011	101
Unpaved Roads - Plywood	7,125	1,924	192
Total Proposed Emissions	**10,888**	**2,943**	**302**
Current PSEL	12,641	3,316	383
Proposed Emissions > PSEL	**No**	**No**	**No**

NOTES:
PSEL = plant site emission limit.

Table 31
Particleboard Package Boiler HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/MMscf)		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	3.1E-03	(2)	1.9E-03	3.3E-04
Acrolein	107-02-8	Yes	2.7E-03	(2)	1.6E-03	2.8E-04
Arsenic and compounds	7440-38-2	Yes	2.0E-04	(3)	1.2E-04	2.1E-05
Benzene	71-43-2	Yes	5.8E-03	(2)	3.5E-03	6.1E-04
Beryllium and compounds	7440-41-7	Yes	1.2E-05	(4)	7.2E-06	1.3E-06
Cadmium and compounds	7440-43-9	Yes	1.1E-03	(3)	6.6E-04	1.2E-04
Chromium VI	18540-29-9	Yes	1.4E-03	(5)	8.4E-04	1.5E-04
Cobalt and compounds	7440-48-4	Yes	8.4E-05	(3)	5.0E-05	8.8E-06
Ethylbenzene	100-41-4	Yes	6.9E-03	(2)	4.1E-03	7.2E-04
Formaldehyde	50-00-0	Yes	0.012	(2)	7.4E-03	1.3E-03
Hexane	110-54-3	Yes	4.6E-03	(2)	2.8E-03	4.8E-04
Lead and compounds	7439-92-1	Yes	5.0E-04	(3)	3.0E-04	5.3E-05
Manganese and compounds	7439-96-5	Yes	3.8E-04	(3)	2.3E-04	4.0E-05
Mercury and compounds	7439-97-6	Yes	2.6E-04	(3)	1.6E-04	2.7E-05
Nickel and compounds	7440-02-0	Yes	2.1E-03	(3)	1.3E-03	2.2E-04
Selenium and compounds	7782-49-2	Yes	2.4E-05	(4)	1.4E-05	2.5E-06
Toluene	108-88-3	Yes	0.027	(2)	0.016	2.8E-03
Xylene (mixed isomers)	1330-20-7	Yes	0.020	(2)	0.012	2.1E-03
PAHs (excluding Naphthalene)	PAHs	Yes	1.0E-04	(2)	6.0E-05	1.1E-05
Benzo[a]pyrene	50-32-8	Yes	1.2E-06	(3)	7.2E-07	1.3E-07
Naphthalene	91-20-3	Yes	3.0E-04	(2)	1.8E-04	3.2E-05

NOTES:

MMscf = million standard cubic feet.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/MMscf]) x (daily natural gas fuel usage [MMscf/day])

Daily throughput (MMscf/day) = 0.60 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/MMscf]) x (annual natural gas fuel usage [MMscf/yr]) / (2,000 lb/ton)

Annual natural gas fuel usage (MMscf/yr) = 210 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) South Coast Air Pollution Control District, Reporting Procedures for AB2588, December 2016. Factors for boilers with 10-100 MMBtu/hr capacity.

(3) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998.

(4) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor shown at reported detection level.

(5) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor for total chromium.

Table 31
Particleboard Package Boiler HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/MMscf)		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	3.1E-03	(2)	1.9E-03	3.3E-04
Acrolein	107-02-8	Yes	2.7E-03	(2)	1.6E-03	2.8E-04
Arsenic and compounds	7440-38-2	Yes	2.0E-04	(3)	1.2E-04	2.1E-05
Benzene	71-43-2	Yes	5.8E-03	(2)	3.5E-03	6.1E-04
Beryllium and compounds	7440-41-7	Yes	1.2E-05	(4)	7.2E-06	1.3E-06
Cadmium and compounds	7440-43-9	Yes	1.1E-03	(3)	6.6E-04	1.2E-04
Chromium VI	18540-29-9	Yes	1.4E-03	(5)	8.4E-04	1.5E-04
Cobalt and compounds	7440-48-4	Yes	8.4E-05	(3)	5.0E-05	8.8E-06
Ethylbenzene	100-41-4	Yes	6.9E-03	(2)	4.1E-03	7.2E-04
Formaldehyde	50-00-0	Yes	0.012	(2)	7.4E-03	1.3E-03
Hexane	110-54-3	Yes	4.6E-03	(2)	2.8E-03	4.8E-04
Lead and compounds	7439-92-1	Yes	5.0E-04	(3)	3.0E-04	5.3E-05
Manganese and compounds	7439-96-5	Yes	3.8E-04	(3)	2.3E-04	4.0E-05
Mercury and compounds	7439-97-6	Yes	2.6E-04	(3)	1.6E-04	2.7E-05
Nickel and compounds	7440-02-0	Yes	2.1E-03	(3)	1.3E-03	2.2E-04
Selenium and compounds	7782-49-2	Yes	2.4E-05	(4)	1.4E-05	2.5E-06
Toluene	108-88-3	Yes	0.027	(2)	0.016	2.8E-03
Xylene (mixed isomers)	1330-20-7	Yes	0.020	(2)	0.012	2.1E-03
PAHs (excluding Naphthalene)	PAHs	Yes	1.0E-04	(2)	6.0E-05	1.1E-05
Benzo[a]pyrene	50-32-8	Yes	1.2E-06	(3)	7.2E-07	1.3E-07
Naphthalene	91-20-3	Yes	3.0E-04	(2)	1.8E-04	3.2E-05

NOTES:

MMscf = million standard cubic feet.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/MMscf]) x (daily natural gas fuel usage [MMscf/day])

Daily throughput (MMscf/day) = 0.60 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/MMscf]) x (annual natural gas fuel usage [MMscf/yr]) / (2,000 lb/ton)

Annual natural gas fuel usage (MMscf/yr) = 210 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) South Coast Air Pollution Control District, Reporting Procedures for AB2588, December 2016. Factors for boilers with 10-100 MMBtu/hr capacity.

(3) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998.

(4) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor shown at reported detection level.

(5) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor for total chromium.

Table 33
Veneer Dryer Heated Zone/RTO HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/8")		Emissions Estimates			
					Daily (lb/day)		Annual (tons/yr)	
Acetaldehyde	75-07-0	Yes	0.062	(1)	4.92	(a)	0.81	(b)
Acrolein	107-02-8	Yes	9.0E-03	(1)	0.72	(a)	0.12	(b)
Benzene	71-43-2	Yes	5.7E-03	(1)	0.45	(a)	0.075	(b)
Formaldehyde	50-00-0	Yes	6.2E-03	(4)	4.98	(c)	0.82	(d)
Methanol	67-56-1	Yes	1.7E-03	(4)	1.33	(c)	0.22	(d)
Methyl isobutyl ketone	108-10-1	Yes	3.2E-03	(1)	0.26	(a)	0.042	(b)
Phenol	108-95-2	Yes	3.8E-03	(1)	0.31	(a)	0.050	(b)
Propionaldehyde	123-38-6	Yes	1.8E-03	(1)	0.14	(a)	0.023	(b)
Styrene	100-42-5	Yes	1.5E-03	(1)	0.12	(a)	0.020	(b)
Toluene	108-88-3	Yes	7.4E-03	(1)	0.60	(a)	0.098	(b)
m-Xylene	108-38-3	Yes	9.3E-04	(5)	0.075	(a)	0.012	(b)
o-Xylene	95-47-6	Yes	ND	(1)	--	(a)	--	(b)
p-Xylene	106-42-3	Yes	9.3E-04	(5)	0.075	(a)	0.012	(b)

NOTES:

Msf-3/8" = thousand square feet on 3/8 inch basis.

(a) Daily emissions estimate (lb/yr) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day]) x (1 - [RTO control efficiency (%) /100])

Daily throughput (Msf-3/8"/day) = 800 (2)

RTO control efficiency (%) = 90.0 (3)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) x (1 - [RTO control efficiency (%) /100]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (2)

RTO control efficiency (%) = 90.0 (3)

(c) Daily emissions estimate (lb/yr) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day])

Daily throughput (Msf-3/8"/day) = 800 (2)

(d) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for uncontrolled softwood veneer dryers. Selection of emission factors specific to veneer dryers that are direct natural gas-fired was given priority; where that configuration was not available, the closest available was selected.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(3) See review report for Title V Operating Permit number 15-0025-TV-01

(4) Emission factor from source test February 2009 at RTO exhaust. Test was performed on facility indirect-heated dryers. See Table 35, Veneer Dryer M1 and RTO Natural Gas Combustion HAP Emission Estimates for emission estimates from fuel combustion in the direct-fired veneer dryer and RTO where applicable.

(5) Emission factors from NCASI Wood Products Database, February 2013. Factors for uncontrolled softwood veneer dryers. m-xylene and p-xylene isomers are assumed to be one-half of the reported emission factor for combined m,p-xylene isomers.

Table 34
Veneer Dryer Cooling Section HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/8")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	3.7E-03	(2)	2.96	0.49
Formaldehyde	50-00-0	Yes	ND	(2)	--	--
Methanol	67-56-1	Yes	5.0E-03	(2)	4.00	0.66
Methyl isobutyl ketone	108-10-1	Yes	5.2E-03	(2)	4.16	0.68
Phenol	108-95-2	Yes	3.4E-04	(2)	0.27	0.045
m-Xylene	108-38-3	Yes	4.9E-04	(3)	0.39	0.064
o-Xylene	95-47-6	Yes	5.9E-04	(2)	0.47	0.078
p-Xylene	106-42-3	Yes	4.9E-04	(3)	0.39	0.064

NOTES:

Msf-3/8" = thousand square feet on 3/8 inch basis.

(a) Daily emissions estimate (lb/yr) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day])

Daily throughput (Msf-3/8"/day) = 800 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) NCASI Technical Bulletin 768, Table 6.1.4 Summary of Softwood Veneer Cooling Section Emissions. Factors are reported averages for Western Softwood Veneer Cooling Sections. Where pollutants are reported as non-detect in NCASI Technical Bulletin 768 and NCASI Wood Products Database, they are treated as not present and not shown in the table.

(3) NCASI Technical Bulletin 768, Table 6.1.4 Summary of Softwood Veneer Cooling Section Emissions. Factors are reported averages for Western Softwood Veneer Cooling Sections. m-xylene and p-xylene isomers are assumed to be one-half of the reported emission factor for combined m,p-xylene isomers.

Table 35
Veneer Dryer M1 and RTO Natural Gas Combustion HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/MMscf)		Emissions Estimates			
					Daily [a] (lb/day)		Annual [b] (tons/yr)	
Acetaldehyde	75-07-0	Yes	–	(2)	–	(2)	–	(2)
Acrolein	107-02-8	Yes	–	(2)	–	(2)	–	(2)
Arsenic and compounds	7440-38-2	Yes	2.0E-04	(4)	2.4E-04		3.5E-05	
Benzene	71-43-2	Yes	–	(2)	–	(2)	–	(2)
Beryllium and compounds	7440-41-7	Yes	1.2E-05	(5)	1.5E-05		2.1E-06	
Cadmium and compounds	7440-43-9	Yes	1.1E-03	(4)	1.3E-03		1.9E-04	
Chromium VI	18540-29-9	Yes	1.4E-03	(6)	1.7E-03		2.5E-04	
Cobalt and compounds	7440-48-4	Yes	8.4E-05	(4)	1.0E-04		1.5E-05	
Ethylbenzene	100-41-4	Yes	6.9E-03	(3)	8.4E-03		1.2E-03	
Formaldehyde	50-00-0	Yes	0.012	(3)	0.015		2.2E-03	
Hexane	110-54-3	Yes	4.6E-03	(3)	5.6E-03		8.1E-04	
Lead and compounds	7439-92-1	Yes	5.0E-04	(4)	6.1E-04		8.9E-05	
Manganese and compounds	7439-96-5	Yes	3.8E-04	(4)	4.6E-04		6.7E-05	
Mercury and compounds	7439-97-6	Yes	2.6E-04	(4)	3.2E-04		4.6E-05	
Nickel and compounds	7440-02-0	Yes	2.1E-03	(4)	2.6E-03		3.7E-04	
Selenium and compounds	7782-49-2	Yes	2.4E-05	(5)	2.9E-05		4.2E-06	
Toluene	108-88-3	Yes	–	(2)	–	(2)	–	(2)
Xylene (mixed isomers)	1330-20-7	Yes	0.020	(3)	0.024		3.5E-03	
PAHs (excluding Naphthalene)	PAHs	Yes	1.0E-04	(3)	1.2E-04		1.8E-05	
Benzo[a]pyrene	50-32-8	Yes	1.2E-06	(4)	1.5E-06		2.1E-07	
Naphthalene	91-20-3	Yes	3.0E-04	(3)	3.6E-04		5.3E-05	

NOTES:

MMscf = million standard cubic feet.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/MMscf]) x (daily natural gas fuel usage [MMscf/day])

Daily throughput (MMscf/day) = 1.22 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/MMscf]) x (annual natural gas fuel usage [MMscf/yr]) / (2,000 lb/ton)

Annual natural gas fuel usage (MMscf/yr) = 354 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) See Table 33, Veneer Dryer Heated Zone/RTO HAP Emission Estimates. Emissions from fuel combustion in dryer and RTO burners for this this pollutant is accounted for at direct natural gas-fired dryer exhaust. They are not repeated here to avoid double-counting emissions.

(3) South Coast Air Pollution Control District, Reporting Procedures for AB2588, December 2016. Factors for boilers with 10-100 MMBtu/hr capacity.

(4) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998.

(5) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor shown at reported detection level.

(6) AP-42 Chapter 1.4, Natural Gas Combustion, July 1998. Factor for total chromium.

Table 36
Plywood Presses HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/8")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	2.5E-03	[3]	1.80	0.33
Methanol	67-56-1	Yes	0.034	[3]	24.5	4.47
Methyl isobutyl ketone	108-10-1	Yes	2.0E-03	[2]	1.44	0.26
Phenol	108-95-2	Yes	6.1E-03	[2]	4.39	0.80

NOTES:

Msf-3/8" = thousand square feet on 3/8 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day])

Daily throughput (Msf-3/8"/day) = 720 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) NCASI Technical Bulletin 768, Table 6.2.3 Summary of Hardwood Plywood Press Emissions. Factors are reported averages. Where pollutants are reported as non-detect in NCASI Technical Bulletin 768 and NCASI Wood Products Database, they are treated as not present and not shown in the table.

(3) Source test performed at Timber Products Grants Pass facility on November 21, 2015. Emission source test was hardwood plywood press equipped with total temporary enclosure, and running UF resin. Factors are test averages as reported in DEQ test acceptance memo dated May 9, 2016.

Table 37
Plywood Sander HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf 3/8")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	1.8E-03	(2)	1.27	0.23
Formaldehyde	50-00-0	Yes	4.8E-04	(3)	0.35	0.063
Methanol	67-56-1	Yes	7.2E-04	(3)	0.52	0.095

NOTES:

Msf-3/8" = thousand square feet on 3/8 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day])

Daily throughput (Msf-3/8"/day) = 720 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) NCASI Wood Products Database of Emission Factors (February 2013). Factors for softwood plywood uncontrolled sander are used. Pollutants that are reported as ND by NCASI are treated as not present.

(3) Source test performed at Timber Products Grants Pass facility in June 2008 at sander baghouse exhaust.

Table 38
Plywood Saws and Hog HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/8")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	5.6E-04	[2]	0.40	0.073
Formaldehyde	50-00-0	Yes	1.0E-03	[3]	0.74	0.13
Methanol	67-56-1	Yes	8.9E-03	[3]	6.40	1.17

NOTES:

Msf-3/8" = thousand square feet on 3/8 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/8"]) x (daily throughput [Msf-3/8"/day])

Daily throughput (Msf-3/8"/day) = 720 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/8"]) x (annual throughput [Msf-3/8"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/8"/yr) = 262,800 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) NCASI Wood Products Database of Emission Factors (February 2013). Factors for softwood plywood uncontrolled saw are used. Pollutants that are reported as ND by NCASI are treated as not present.

(3) Source test performed at Timber Products Grants Pass facility in June 2008 at combined saw and trim hog baghouse exhaust.

Table 39
Particleboard Dryers HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/BDT)		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	0.010	(2)	5.50	0.66
Acrolein	107-02-8	Yes	4.3E-03	(2)	2.33	0.28
Benzene	71-43-2	Yes	2.6E-03	(2)	1.41	0.17
Cumene	98-82-8	Yes	6.9E-05	(3)	0.037	4.5E-03
Formaldehyde	50-00-0	Yes	0.033	(2)	17.6	2.10
Hexane	110-54-3	Yes	2.6E-05	(3)	0.014	1.7E-03
Methanol	67-56-1	Yes	0.026	(2)	13.9	1.66
Methylene chloride	75-09-2	Yes	6.3E-04	(3)	0.34	0.041
Methyl isobutyl ketone	108-10-1	Yes	2.8E-03	(2)	1.48	0.18
Naphthalene	91-20-3	Yes	3.8E-03	(2)	2.03	0.24
Phenol	108-95-2	Yes	7.7E-03	(2)	4.17	0.50
Propionaldehyde	123-38-6	Yes	1.7E-03	(2)	0.91	0.11
Styrene	100-42-5	Yes	1.2E-04	(2)	0.062	7.5E-03
Toluene	108-88-3	Yes	4.3E-03	(2)	2.31	0.28
m-Xylene	108-38-3	Yes	2.8E-04	(4)	0.15	0.018
o-Xylene	95-47-6	Yes	1.4E-05	(3)	7.5E-03	9.0E-04
p-Xylene	106-42-3	Yes	2.8E-04	(4)	0.15	0.018

NOTES:

BDT = bone dried tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [BDT/day])

Daily throughput (BDT/day) = 539 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [BDT/yr]) / (2,000 lb/ton)

Annual throughput (BDT/yr) = 129,002 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) Emission factors from NCASI Wood Products Database, February 2013. Factors for uncontrolled particleboard rotary dryers. Selection of emission factors specific to dry rotary dryers that are direct wood-fired was given priority; where that configuration was not available, the closest available was selected. All factors represent direct-fired dryers.

(3) AP-42 Table 10.6.2-3 "Emission Factors for Particleboard Dryers-Organics," February 2002. Factors for uncontrolled direct wood-fired dry rotary dryer processing softwood furnish. Factor selected because they are specific to dry rotary dryers that are direct wood-fired while factors in the NCASI database do not specify the dryer heat source.

(4) AP-42 Table 10.6.2-3 "Emission Factors for Particleboard Dryers-Organics," February 2002. Factors for uncontrolled direct wood-fired dry rotary dryer processing softwood furnish. m-xylene and p-xylene isomers are assumed to be one-half of the reported emission factor for combined m,p-xylene isomers.

Table 40
Particleboard Dryer Burners Wood Combustion HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/MMBtu)		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	Yes	5.8E-05	(1)	0.097	0.010
1,2-Dichloropropane (Propylene dichloride)	78-87-5	Yes	1.7E-05	(1)	0.028	2.9E-03
Acetaldehyde	75-07-0	Yes	–	(3)	– (3)	– (3)
Acetophenone	98-86-2	Yes	1.8E-06	(1)	3.1E-03	3.2E-04
Acrolein	107-02-8	Yes	–	(3)	– (3)	– (3)
Antimony and compounds	7440-36-0	Yes	3.0E-07	(1)	5.1E-04	5.3E-05
Arsenic and compounds	7440-38-2	Yes	1.9E-06	(1)	3.2E-03	3.3E-04
Benzene	71-43-2	Yes	–	(3)	– (3)	– (3)
Beryllium and compounds	7440-41-7	Yes	3.0E-08	(1)	5.1E-05	5.3E-06
Bromomethane (Methyl bromide)	74-83-9	Yes	1.1E-05	(1)	0.019	2.0E-03
Cadmium and compounds	7440-43-9	Yes	3.7E-07	(1)	6.1E-04	6.4E-05
Carbon tetrachloride	56-23-5	Yes	2.0E-05	(4)	0.034	3.5E-03
Chlorine	7782-50-5	Yes	1.2E-03	(5)	2.05	0.21
Chlorobenzene	108-90-7	Yes	1.7E-05	(1)	0.028	2.9E-03
Chloroform	67-66-3	Yes	2.0E-05	(1)	0.034	3.5E-03
Chloromethane (Methyl chloride)	74-87-3	Yes	3.8E-05	(1)	0.064	6.6E-03
Chromium VI	18540-29-9	Yes	2.7E-07	(1)	4.6E-04	4.8E-05
Cobalt and compounds	7440-48-4	Yes	2.4E-06	(1)	3.9E-03	4.1E-04
Dibutyl phthalate	84-74-2	Yes	3.3E-05	(1)	0.056	5.8E-03
Ethylbenzene	100-41-4	Yes	4.0E-04	(1)	0.66	0.069
Formaldehyde	50-00-0	Yes	–	(3)	– (3)	– (3)
Hexane	110-54-3	Yes	–	(3)	– (3)	– (3)
Hydrochloric Acid	7647-01-0	Yes	4.4E-03	(1)	7.32	0.76
Hydrogen Fluoride	7664-39-3	Yes	2.4E-04	(1)	0.39	0.041
Lead and compounds	7439-92-1	Yes	5.2E-06	(1)	8.8E-03	9.1E-04
Manganese and compounds	7439-96-5	Yes	9.1E-05	(1)	0.15	0.016
Mercury and compounds	7439-97-6	Yes	1.1E-06	(1)	1.8E-03	1.9E-04
Methanol	67-56-1	Yes	–	(3)	– (3)	– (3)
Dichloromethane (Methylene chloride)	75-09-2	Yes	–	(3)	– (3)	– (3)
Nickel and compounds	7440-02-0	Yes	2.8E-06	(1)	4.7E-03	4.9E-04
Phenol	108-95-2	Yes	–	(3)	– (3)	– (3)
Phosphorus and compounds	7723-14-0	Yes	3.1E-04	(6)	0.52	0.054
Propionaldehyde	123-38-6	Yes	–	(3)	– (3)	– (3)
Selenium and compounds	7782-49-2	Yes	1.6E-06	(1)	2.7E-03	2.8E-04
Styrene	100-42-5	Yes	–	(3)	– (3)	– (3)
Toluene	108-88-3	Yes	–	(3)	– (3)	– (3)
m-Xylene	108-38-3	Yes	–	(3)	– (3)	– (3)
p-Xylene	106-42-3	Yes	–	(3)	– (3)	– (3)
o-Xylene	95-47-6	Yes	–	(3)	– (3)	– (3)
Acenaphthene	83-32-9	Yes	8.5E-07	(1)	1.4E-03	1.5E-04
Acenaphthylene	208-96-8	Yes	4.7E-06	(1)	7.9E-03	8.2E-04
Anthracene	120-12-7	Yes	2.7E-06	(1)	4.5E-03	4.7E-04
Benz[a]anthracene	56-55-3	Yes	8.1E-08	(1)	1.4E-04	1.4E-05
Benzo[a]pyrene	50-32-8	Yes	2.7E-06	(1)	4.6E-03	4.8E-04
Benzo[b]fluoranthene	205-99-2	Yes	1.4E-07	(1)	2.4E-04	2.5E-05
Benzo[e]pyrene	192-97-2	Yes	2.1E-07	(1)	3.5E-04	3.7E-05
Benzo[g,h,i]perylene	191-24-2	Yes	1.5E-07	(1)	2.5E-04	2.6E-05
Benzo[j]fluoranthene	205-82-3	Yes	1.6E-07	(1)	2.6E-04	2.7E-05
Benzo[k]fluoranthene	207-08-9	Yes	5.2E-08	(1)	8.7E-05	9.1E-06
Chrysene	218-01-9	Yes	7.9E-08	(1)	1.3E-04	1.4E-05
Dibenz[a,h]anthracene	53-70-3	Yes	9.6E-09	(1)	1.6E-05	1.7E-06
Fluoranthene	206-44-0	Yes	1.7E-06	(1)	2.8E-03	2.9E-04
Fluorene	86-73-7	Yes	3.0E-06	(1)	5.1E-03	5.3E-04
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	1.0E-07	(1)	1.7E-04	1.8E-05
2-Methyl naphthalene	91-57-6	Yes	1.4E-06	(1)	2.4E-03	2.4E-04

Table 40
Particleboard Dryer Burners Wood Combustion HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/MMBtu)		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Naphthalene	91-20-3	Yes	--	(3)	-- (3)	-- (3)
Perylene	198-55-0	Yes	3.2E-08	(1)	5.4E-05	5.6E-06
Phenanthrene	85-01-8	Yes	6.5E-06	(1)	0.011	1.1E-03
Pyrene	129-00-0	Yes	3.5E-06	(1)	5.9E-03	6.2E-04
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746-01-6	Yes	6.3E-13	(1)	1.1E-09	1.1E-10

NOTES:

MMBtu = million British thermal units.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/MMBtu]) x (daily wood fuel heat input [MMBtu/day])

Daily wood fuel heat input (MMBtu/day) = 1,680 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/MMBtu]) x (annual wood fuel heat input [MMBtu/yr]) / (2,000 lb/ton)

Annual wood fuel heat input (MMBtu/yr) = 349,600 (2)

REFERENCES:

(1) NCASI Master Summary Table, Oct 2015. Mean factor for wood combustion with ESP control is used.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(3) See Table 39, Particleboard Dryers HAP Emission Estimates. Emissions from fuel combustion in dryer burners for this pollutant is accounted for at direct wood-fired dryer exhaust. They are not repeated here to avoid double-counting emissions.

(4) NCASI Technical Bulletin 1013, Table 4.1.

(5) DEQ table of recommended emission factors for wood combustion.

(6) NCASI Technical Bulletin 1013, Table 4.3.

Table 41
Particleboard Press HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/4")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	6.0E-03	(2)	4.21	0.50
Acrolein	107-02-8	Yes	1.1E-03	(2)	0.77	0.092
Benzene	71-43-2	Yes	1.8E-03	(3)	1.24	0.15
Formaldehyde	50-00-0	Yes	0.015	(4)	10.7	1.28
Methanol	67-56-1	Yes	0.022	(2)	15.7	1.88
Methyl isobutyl ketone	108-10-1	Yes	0.018	(3)	12.4	1.48
Methylene diphenyl diisocyanate (MDI)	101-68-8	Yes	3.0E-03	(c)	2.07	0.25
Phenol	108-95-2	Yes	6.5E-03	(3)	4.52	0.54
Propionaldehyde	123-38-6	Yes	1.1E-03	(2)	0.77	0.092

NOTES:

Msf-3/4" = thousand square feet on 3/4 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/4"]) x (daily throughput [Msf-3/4"/day])

Daily throughput (Msf-3/4"/day) = 700 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/4"]) x (annual throughput [Msf-3/4"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/4"/yr) = 167,535 (1)

(c) Emission factor (lb/Msf-3/4") = (emission factor [lb/Msf-3/8"]) x (3/8") / (3/4")

MDI emission factor (lb/Msf-3/8") = 5.9E-03 (5)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) Emission factor from source test December 2012 at press baghouse exhaust. Test was performed while facility was using MDI resin.

(3) Emission factors from NCASI Wood Products Database, February 2013. Factors for uncontrolled particleboard press.

(4) Emission factor is average of five source tests performed 2010-2016. All test performed at press baghouse exhaust while facility was using MDI resin.

(5) Emission factor from NCASI Wood Products Database, February 2013. Factors for uncontrolled OSB press using MDI resin. Emission factors for MDI at particleboard presses running MDI resin are not available. The MDI factor for OSB presses was determined to be the most representative emission factor available.

Table 42
Particleboard Board Cooler HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor (lb/Msf-3/4")		Emissions Estimates	
					Daily [a] (lb/day)	Annual [b] (tons/yr)
Acetaldehyde	75-07-0	Yes	1.9E-03	(2)	1.33	0.16
Acrolein	107-02-8	Yes	3.6E-04	(3)	0.25	0.030
Formaldehyde	50-00-0	Yes	2.7E-03	(2)	1.89	0.23
Methanol	67-56-1	Yes	0.059	(2)	41.3	4.94
Methyl isobutyl ketone	108-10-1	Yes	3.2E-03	(3)	2.21	0.26
Phenol	108-95-2	Yes	4.7E-03	(4)	3.29	0.39

NOTES:

Msf-3/4" = thousand square feet on 3/4 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/4"]) x (daily throughput [Msf-3/4"/day])

Daily throughput (Msf-3/4"/day) = 700 (1)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/4"]) x (annual throughput [Msf-3/4"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/4"/yr) = 167,535 (1)

REFERENCES:

(1) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

(2) Emission factor from NCASI Technical Bulletin 771 (July 1999), Table 5.3.2, "Batch Press and Board Cooler Emissions, Mill 156." The Medford facility is Mill 156 in the NCASI program so the results are considered the most representative available data.

(3) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard board cooler. Factor selected because Mill 156 result was ND but the reported detection level is higher than the NCASI database factor.

(4) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard board cooler using Urea-Formaldehyde resins are used. Factor selected because it is lower than the reported detection level on the Mill 156 test results from Reference (2).

Table 43
Particleboard Sander HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor [1] (lb/Msf)	Emissions Estimates	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	4.5E-03	4.38	0.38
Methanol	67-56-1	Yes	0.013	12.9	1.11
Phenol	108-95-2	Yes	0.015	15.1	1.29

NOTES:

Msf = thousand square feet.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf]) x (daily throughput [Msf/day])

Daily throughput (Msf/day) = 977 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf]) x (annual throughput [Msf/yr]) / (2,000 lb/ton)

Annual throughput (Msf/yr) = 167,535 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard sander. Pollutants that are reported as ND by NCASI are treated as not present.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

Table 44
Particleboard Blender HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor [1] (lb/BDT)	Emissions Estimates	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	1.7E-03	1.28	0.15
Methanol	67-56-1	Yes	0.023	17.7	2.12

NOTES:

BDT = bone dried tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [BDT/day])

Daily throughput (BDT/day) = 770 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [BDT/yr]) / (2,000 lb/ton)

Annual throughput (BDT/yr) = 184,289 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard blender using Urea-Formaldehyde resins are used. Pollutants that are reported as ND by NCASI are treated as not present.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

Table 45
Particleboard Former HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor [1] (lb/BDT)	Emissions Estimates	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	1.6E-03	1.19	0.14
Methanol	67-56-1	Yes	0.034	26.4	3.16

NOTES:

BDT = bone dried tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [BDT/day])

Daily throughput (BDT/day) = 770 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [BDT/yr]) / (2,000 lb/ton)

Annual throughput (BDT/yr) = 184,289 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for OSB former using MDI resins are used. Since particleboard former data is only available for UF resin, the OSB emission factors specific to MDI resin are more representative. Pollutants that are reported as ND by NCASI are treated as not present.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

Table 46
Particleboard Refiners HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor [1] (lb/BDT)	Emissions Estimates	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	3.2E-03	2.46	0.29
Methanol	67-56-1	Yes	0.016	12.0	1.43
Phenol	108-95-2	Yes	5.0E-03	3.85	0.46

NOTES:

BDT = bone dried tons.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/BDT]) x (daily throughput [BDT/day])

Daily throughput (BDT/day) = 770 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/BDT]) x (annual throughput [BDT/yr]) / (2,000 lb/ton)

Annual throughput (BDT/yr) = 184,289 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard refiners are used. Pollutants that are reported as ND NCASI are treated as not present.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

Table 47
Particleboard Saws and Hog HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Emission Factor [1] (lb/Msf-3/4")	Emissions Estimates	
				Daily [a] (lb/day)	Annual [b] (tons/yr)
Formaldehyde	50-00-0	Yes	3.1E-03	0.22	0.026
Methanol	67-56-1	Yes	0.013	0.93	0.11

NOTES:

Msf-3/4" = thousand square feet on 3/4 inch basis.

(a) Daily emissions estimate (lb/day) = (emission factor [lb/Msf-3/4"]) x (daily throughput [Msf-3/4"/day])

Daily throughput (Msf-3/4"/day) = 70.0 (2)

(b) Annual emissions estimate (tons/yr) = (emission factor [lb/Msf-3/4"]) x (annual throughput [Msf-3/4"/yr]) / (2,000 lb/ton)

Annual throughput (Msf-3/4"/yr) = 16,754 (2)

REFERENCES:

(1) Emission factors from NCASI Wood Products Database, February 2013. Factors for particleboard saw are used. Pollutants that are reported as ND by NCASI are treated as not present.

(2) See Table 1, Proposed Emission Unit Input Process Rates and Parameters.

Table 48
Summary of Annual HAP Emission Estimates
Timber Products Company - Medford, Oregon

Pollutant	CAS	HAP?	Maximum Annual Emissions Estimate (tons/yr)																			
					Veneer Dryer M1/RTO						PB Dryers											
			PB Boiler	Plywood Boiler	Dryer Heated Zone	Dryer Cooling Section	Natural Gas	Plywood Presses	Plywood Sanders	Plywood Saws & Hog	Dryer Furnish	Wood-Fired Burners	PB Press	PB Board Cooler	PB Sanders	PB Saws & Hog	PB Blender	PB Former	PB Refiners	Resin Tank Working Losses	Resin Tank Breathing Losses	Facility Total
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	Yes	--	--	--	--	--	--	--	--	--	0.010	--	--	--	--	--	--	--	--	--	0.010
1,2-Dichloropropane (Propylene dichloride)	78-87-5	Yes	--	--	--	--	--	--	--	--	--	2.9E-03	--	--	--	--	--	--	--	--	--	2.9E-03
2-Methylnaphthalene	91-57-6	Yes	--	--	--	--	--	--	--	--	--	2.4E-04	--	--	--	--	--	--	--	--	--	2.4E-04
Acenaphthene	83-32-9	Yes	--	--	--	--	--	--	--	--	--	1.5E-04	--	--	--	--	--	--	--	--	--	1.5E-04
Acenaphthylene	208-96-8	Yes	--	--	--	--	--	--	--	--	--	8.2E-04	--	--	--	--	--	--	--	--	--	8.2E-04
Acetaldehyde	75-07-0	Yes	3.3E-04	3.3E-04	0.81	0.49	--	--	0.23	0.073	0.66	--	0.50	0.16	--	--	--	--	--	--	--	2.92
Acetophenone	98-86-2	Yes	--	--	--	--	--	--	--	--	--	3.2E-04	--	--	--	--	--	--	--	--	--	3.2E-04
Acrolein	107-02-8	Yes	2.8E-04	2.8E-04	0.12	--	--	--	--	--	0.28	--	0.092	0.030	--	--	--	--	--	--	--	0.52
Anthracene	120-12-7	Yes	--	--	--	--	--	--	--	--	--	4.7E-04	--	--	--	--	--	--	--	--	--	4.7E-04
Antimony and compounds	7440-36-0	Yes	--	--	--	--	--	--	--	--	--	5.3E-05	--	--	--	--	--	--	--	--	--	5.3E-05
Arsenic and compounds	7440-38-2	Yes	2.1E-05	2.1E-05	--	--	3.5E-05	--	--	--	--	3.3E-04	--	--	--	--	--	--	--	--	--	4.1E-04
Benz[a]anthracene	56-55-3	Yes	--	--	--	--	--	--	--	--	--	1.4E-05	--	--	--	--	--	--	--	--	--	1.4E-05
Benzene	71-43-2	Yes	6.1E-04	6.1E-04	0.075	--	--	--	--	--	0.17	--	0.15	--	--	--	--	--	--	--	--	0.39
Benzo[a]pyrene	50-32-8	Yes	1.3E-07	1.3E-07	--	--	2.1E-07	--	--	--	--	4.8E-04	--	--	--	--	--	--	--	--	--	4.8E-04
Benzo[b]fluoranthene	205-99-2	Yes	--	--	--	--	--	--	--	--	--	2.5E-05	--	--	--	--	--	--	--	--	--	2.5E-05
Benzo[e]pyrene	192-97-2	Yes	--	--	--	--	--	--	--	--	--	3.7E-05	--	--	--	--	--	--	--	--	--	3.7E-05
Benzo[g,h,i]perylene	191-24-2	Yes	--	--	--	--	--	--	--	--	--	2.6E-05	--	--	--	--	--	--	--	--	--	2.6E-05
Benzo[j]fluoranthene	205-82-3	Yes	--	--	--	--	--	--	--	--	--	2.7E-05	--	--	--	--	--	--	--	--	--	2.7E-05
Benzo[k]fluoranthene	207-08-9	Yes	--	--	--	--	--	--	--	--	--	9.1E-06	--	--	--	--	--	--	--	--	--	9.1E-06
Beryllium and compounds	7440-41-7	Yes	1.3E-06	1.3E-06	--	--	2.1E-06	--	--	--	--	5.3E-06	--	--	--	--	--	--	--	--	--	9.9E-06
Bromomethane (Methyl bromide)	74-83-9	Yes	--	--	--	--	--	--	--	--	--	2.0E-03	--	--	--	--	--	--	--	--	--	2.0E-03
Cadmium and compounds	7440-43-9	Yes	1.2E-04	1.2E-04	--	--	1.9E-04	--	--	--	--	6.4E-05	--	--	--	--	--	--	--	--	--	4.9E-04
Carbon tetrachloride	56-23-5	Yes	--	--	--	--	--	--	--	--	--	3.5E-03	--	--	--	--	--	--	--	--	--	3.5E-03
Chlorine	7782-50-5	Yes	--	--	--	--	--	--	--	--	--	0.21	--	--	--	--	--	--	--	--	--	0.21
Chlorobenzene	108-90-7	Yes	--	--	--	--	--	--	--	--	--	2.9E-03	--	--	--	--	--	--	--	--	--	2.9E-03
Chloroform	67-66-3	Yes	--	--	--	--	--	--	--	--	--	3.5E-03	--	--	--	--	--	--	--	--	--	3.5E-03
Chloromethane (Methyl chloride)	74-87-3	Yes	--	--	--	--	--	--	--	--	--	6.6E-03	--	--	--	--	--	--	--	--	--	6.6E-03
Chromium VI	18540-29-9	Yes	1.5E-04	1.5E-04	--	--	2.5E-04	--	--	--	--	4.8E-05	--	--	--	--	--	--	--	--	--	5.9E-04
Chrysene	218-01-9	Yes	--	--	--	--	--	--	--	--	--	1.4E-05	--	--	--	--	--	--	--	--	--	1.4E-05
Cobalt and compounds	7440-48-4	Yes	8.8E-05	8.8E-06	--	--	1.5E-05	--	--	--	--	4.1E-04	--	--	--	--	--	--	--	--	--	4.4E-04
Cumene	98-82-8	Yes	--	--	--	--	--	--	--	--	4.5E-03	--	--	--	--	--	--	--	--	--	--	4.5E-03
Dibenz[a,h]anthracene	53-70-3	Yes	--	--	--	--	--	--	--	--	--	1.7E-05	--	--	--	--	--	--	--	--	--	1.7E-05
Dibutyl phthalate	84-74-2	Yes	--	--	--	--	--	--	--	--	--	5.8E-03	--	--	--	--	--	--	--	--	--	5.8E-03
Ethylbenzene	100-41-4	Yes	7.2E-04	7.2E-04	--	--	1.2E-03	--	--	--	--	0.069	--	--	--	--	--	--	--	--	--	0.072
Fluoranthene	206-44-0	Yes	--	--	--	--	--	--	--	--	--	2.9E-04	--	--	--	--	--	--	--	--	--	2.9E-04
Fluorene	86-73-7	Yes	--	--	--	--	--	--	--	--	--	5.3E-04	--	--	--	--	--	--	--	--	--	5.3E-04
Formaldehyde	50-00-0	Yes	1.3E-03	1.3E-03	0.82	--	2.2E-03	0.33	0.063	0.13	2.10	--	1.28	0.23	0.38	0.026	0.15	0.14	0.29	0.064	1.7E-03	6.02
Hexane	110-54-3	Yes	4.8E-04	4.8E-04	--	--	8.1E-04	--	--	--	1.7E-03	--	--	--	--	--	--	--	--	--	--	3.5E-03
Hydrochloric Acid	7647-01-0	Yes	--	--	--	--	--	--	--	--	--	0.76	--	--	--	--	--	--	--	--	--	0.76
Hydrogen Fluoride	7664-39-3	Yes	--	--	--	--	--	--	--	--	--	0.041	--	--	--	--	--	--	--	--	--	0.041
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	--	--	--	--	--	--	--	--	--	1.8E-05	--	--	--	--	--	--	--	--	--	1.8E-05
Lead and compounds	7439-92-1	Yes	5.3E-05	5.3E-05	--	--	8.9E-05	--	--	--	--	9.1E-04	--	--	--	--	--	--	--	--	--	1.1E-03
Manganese and compounds	7439-96-5	Yes	4.0E-05	4.0E-05	--	--	6.7E-05	--	--	--	--	0.016	--	--	--	--	--	--	--	--	--	0.016
Mercury and compounds	7439-97-6	Yes	2.7E-05	2.7E-05	--	--	4.6E-05	--	--	--	--	1.9E-04	--	--	--	--	--	--	--	--	--	2.9E-04
Methanol	67-56-1	Yes	--	--	0.22	0.66	--	4.47	0.095	1.17	1.66	--	1.88	4.94	1.11	0.11	2.12	3.16	1.43	1.5E-03	4.0E-05	23.0
Methyl isobutyl ketone	108-10-1	Yes	--	--	0.042	0.68	--	0.26	--	--	0.18	--	1.48	0.26	--	--	--	--	--	--	--	2.91
Methylene chloride	75-09-2	Yes	--	--	--	--	--	--	--	--	0.041	--	--	--	--	--	--	--	--	--	--	0.041
Methylene diphenyl diisocyanate (MDI)	101-68-8	Yes	--	--	--	--	--	--	--	--	--	--	0.25	--	--	--	--	--	--	1.3E-07	1.3E-08	0.25
Naphthalene	91-20-3	Yes	3.2E-05	3.2E-05	--	--	5.3E-05	--	--	--	0.24	--	--	--	--	--	--	--	--	--	--	0.24
Nickel and compounds	7440-02-0	Yes	2.2E-04	2.2E-04	--	--	3.7E-04	--	--	--	--	4.9E-04	--	--	--	--	--	--	--	--	--	1.3E-03
PAHs (excluding Naphthalene)*	PAHs	Yes	1.1E-05	1.1E-05	--	--	1.8E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.9E-05
Perylene	198-55-0	Yes	--	--	--	--	--	--	--	--	--	5.6E-06	--	--	--	--	--	--	--	--	--	5.6E-06
Phenanthrene	85-01-8	Yes	--	--	--	--	--	--	--	--	--	1.1E-03	--	--	--	--	--	--	--	--	--	1.1E-03
Phenol	108-95-2	Yes	--	--	0.050	0.045	--	0.80	--	--	0.50	--	0.54	0.39	1.29	--	--	--	0.46	--	--	4.08
Phosphorus and compounds	7723-14-0	Yes	--	--	--	--	--	--	--	--	--	0.054	--	--	--	--	--	--	--	--	--	0.054
Propionaldehyde	123-38-6	Yes	--	--	0.023	--	--	--	--	--	0.11	--	0.092	--	--	--	--	--	--	--	--	0.22
Pyrene	129-00-0	Yes	--	--	--	--	--	--	--	--	--	6.2E-04	--	--	--	--	--	--	--	--	--	6.2E-04
Selenium and compounds	7782-49-2	Yes	2.5E-06	2.5E-06	--	--	4.2E-06	--	--	--	--	2.8E-04	--	--	--	--	--	--	--	--	--	2.9E-04
Styrene	100-42-5	Yes	--	--	0.020	--	--	--	--	--	7.5E-03	--	--	--	--	--	--	--	--	--	--	0.028
Toluene	108-88-3	Yes	2.8E-03	2.8E-03	0.098	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--	--	0.38
Xylene (mixed isomers)	1330-20-7	Yes	2.1E-03	2.1E-03	--	--	3.5E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.6E-03
m-Xylene	108-38-3	Yes	--	--	0.012	0.064	--	--	--	--	0.018	--	--	--	--	--	--	--	--	--	--	0.094
o-Xylene	95-47-6	Yes	--	--	--	0.078	--	--	--	--	9.0E-04	--	--	--	--	--	--	--	--	--	--	0.078
p-Xylene	106-42-3	Yes	--	--	0.012	0.064	--	--	--	--	0.018	--	--	--	--	--	--	--	--	--	--	0.094
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746-01-6	Yes	--	--	--	--	--	--	--	--	--	1.1E-10	--	--	--	--	--	--	--	--	--	1.1E-10
Total HAP Emission Estimates			**9.2E-03**	**9.2E-03**	**2.30**	**2.06**	**8.8E-03**	**5.86**	**0.39**	**1.38**	**6.27**	**1.20**	**6.27**	**6.02**	**2.78**	**0.14**	**2.27**	**3.31**	**2.19**	**0.066**	**1.7E-03**	**42.5**
Single Highest HAP Emissions Estimate			**2.8E-03**	**2.8E-03**	**0.82**	**0.68**	**3.5E-03**	**4.47**	**0.23**	**1.17**	**2.10**	**0.76**	**1.88**	**4.94**	**1.29**	**0.11**	**2.12**	**3.16**	**1.43**	**0.064**	**1.7E-03**	**23.0**

ATTACHMENT B

APPLICATION FORMS

State of Oregon
DEQ Department of Environmental Quality

Form AP106 - Answer Sheet

Oregon Title V Air Operating Permit Renewal Application

Facility name: Timber Products Company - Medford **Application No:** _____

Permit Number: _____

1.	Contact Person:		David S. Pope	
	Title:		Plant Manager	
	Phone number:		541-618-3608	
	Email address:		dpope@timberproducts.com	
	Fax number:		541-618-3682	
2.	Permit cover page changes:		Yes, update Facility Contact Person	
3.	Off-permit changes?		No	
	If yes, integrate changes into renewal permit? [if no, explain]		N/A	
4.	Section 502(b) (10) changes?		No	
	If yes, integrate changes into renewal permit? [if no, explain]		N/A	
5.	Process information:	a. Production:	167,535	Msf-3/4" per year
		b. Fuel usage:	774	MMscf natural gas per year
		c. Raw material usage	184,289	BDT furnish per year
6.	Operating schedule:	hours/day	24	
		days/week	7	
		weeks/year	52	
		Seasonal months	12	
7.	Number of employees:		341	
8.	Changes to the operating scenario(s)? [if yes, describe and submit form AP103]		Yes	
9.	Any new, modified, or reconstructed stationary sources or air pollution control equipment? [if yes, submit appropriate form(s)]		No	
10.	Current emissions units correctly identified and defined in the permit? [if no, submit necessary revisions]		No, revisions shown in Attachment C	
11.	CAM rule apply to any of the emissions units? [if yes, list the pollutant-specific emissions units that the rules apply to and submit form CP709]		Yes, form CP709 included in Attachment B	

12.	TRI program applies? If yes, submit the most recent Toxic Release Inventory (TRI) report. If no, check appropriate box below:	Yes
	□ Not one of the specific industry sectors required to report under the TRI program.	
	□ Does not employ 10 or more full-time employees.	
	□ Does not manufacture, process or use TRI-listed chemicals in quantities above threshold levels in a given year.	
13.	Accidental Release Prevention/Risk Management Plan regulation applies to the facility? [if yes, list the regulated substances present in processes at the facility on form ED607]	No
14.	Other new applicable requirements? [if yes, list the new applicable requirements AR401, emissions units, and submit a series CP700 form that describes the proposed monitoring]	No
15.	Are there any changes in the Plant Site Emissions Limits (PSEL) other than those identified in item 9 above? [if yes answer the following]	Yes
	Are the changes a result of having better emissions information such as a new emission factor from a recent source test? If yes, complete and submit any applicable emissions forms from series ED600.	Yes, series ED 600 forms included in Attachment B
	Are the changes due to an increase/decrease in production? If yes, complete and submit the applicable emissions form from series ED600. If the emissions increases are greater than the significant emission rate (SER), the owner or operator will need to provide an assessment of the air quality impact in accordance with OAR 340-222-0041(4)(b).	No
16.	In compliance with all of the conditions of the current permit? [if no, submit a compliance schedule]	Yes
17.	Requested changes to monitoring conditions other than those being replaced by CAM? [if yes, identify the condition, the requested change, and the reason using redline strikeout]	No
18.	Changes to:	
	Recordkeeping & Reporting conditions?	□ Yes ☑ No
	Non-applicable requirements?	□ Yes ☑ No
	Any condition? [if yes, identify the condition, the requested change, and the reason using redline strikeout]	□ Yes ☑ No

19. The application for renewal of a Title V Operating Permit must include form ED606 based on the most recent hazardous air pollutant information for the source. The information in Form ED606 should represent the source's potential to emit any pollutant listed in Table 1 of OAR 340-244-0040 and OA340-246-0090(3). Pollutants listed in OAR 340-246-0090(3) not otherwise listed in Table 1 of 340-244-0040 should be highlighted. The most recent Toxic Release Inventory (TRI) report must also be included with the application along with a discussion of any significant discrepancies between form ED606 and the TRI report.

Statement of Certification:

I have reviewed the attached documents submitted in addition to or in revision of the Oregon Title V Operating Permit application, and all supporting documentation in their entirety. To the best of my knowledge, information, and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment for knowing violations.

Mark Avery	Chief Operating Officer
Name of Responsible Official	**Title of Responsible Official**
	4-24-2020
Signature of Responsible Official	**Date**

Submit completed application to the Regional Office below by selecting the county where the facility is located.

Select County: Jackson
Oregon Department of Environmental Quality Western Region, Air Quality, 4026 Fairview Industrial Dr. SE Salem, OR 97302-1142

Print Form

FORM AP103
Answer Sheet

Operating Scenario Description

Facility name: Timber Products Company - Medford

Permit Number: 15-0025-TV-01

1	Operating scenario ID	Base (Old number 4)
2.	Operating scenario description:	
	The current permit identifies a total of four operating scenarios. The facility requests that alternate operating scenario 4, as described in the permit, be changed to the base operating scenario. Plywood Press 3 has not yet been installed, but the facility intends to do so. Therefore, alternate operating scenario 4 reflects the expected facility operations. The facility is requesting that other scenarios described in the permit (1 through 3) be removed. No other operating scenarios are requested at this time.	
3.	List the emissions units involved in this operating scenario.	All
4.	Operating schedule: hours/day	24
	days/week	7
	weeks/year	52
5	Seasonal variation (%): December - February	25
	March – May	25
	June - August	25
	September - November	25

6. Attach process flow diagram

State of Oregon Department of Environmental Quality

Title V Operating Permit Program

Compliance Assurance Monitoring

FORM CP709

Facility Name: Timber Products Company - Medford

Source Number: 15-0025-TV-01

Table 1 – Emission Units Subject to CAM

EU ID	EU Description	Pollutant	Control Device Description	Emission Limit	Units	Regulatory Basis	Monitoring Justification Attached?
PB-Dryer	Particleboard Dryers	PM	Wet-ESP	0.4	lb/Msf-3/4"	OAR 340-240-0140(1)	Yes

Table 2 – Emission Units Not Subject to CAM

EU ID	EU Description	Pollutant(s)	Reason Not Subject to CAM	Explanation of reason not subject (If "other" selected)	Potential Pre-control Emissions Calculations (Complete these columns only if pre-control emissions is the reason the EU is not subject to CAM.) Maximum Allowable Production Throughput	Units	Emissions Factor	Units	Potential Pre-control Emissions (tons/yr)*
PB Boiler	Particleboard Package Boiler	PM	This EU does not have a control device for this pollutant						
PW Boiler	Plywood Package Boiler	PM	This EU does not have a control device for this pollutant						
M1	Veneer Dryer M1/RTO	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		262800	Msf-3/8"/yr	0.52	lb/Msf-3/8"	68.328
VD-Fug	Veneer Dryer Fugitives	PM	This EU does not have a control device for this pollutant						
Ply-Press 1-3	Plywood Presses	PM	This EU does not have a control device for this pollutant						
PB-Press	Particleboard Press	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		167535	Msf-3/4"/yr	0.43	lb/Msf-3/4"	36.020025
Mat-1A	Material Handling MAT 1	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		218000	BDT/yr	0.2	lb/BDT	21.8
Mat-1A	Material Handling MAT 1A	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		167400	BDT/yr	0.2	lb/BDT	16.74
Mat-2	Material Handling MAT 2	PM	This EU does not have a control device for this pollutant						
Mat-3	Material Handling MAT 3	PM	This EU does not have a control device for this pollutant						
Mat-4	Material Handling MAT 4	PM	This EU does not have a control device for this pollutant						
Mat-6	Material Handling MAT 6	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		3700	BDT/yr	8	lb/BDT	14.8
Mat-7	Material Handling MAT 7	PM	Pre-control emissions of this pollutant from this EU are less than the major source threshold		10750	BDT/yr	0.2	lb/BDT	1.075
Mat-8	Material Handling MAT 8	PM	This EU does not have a control device for this pollutant						
Mat-9	Material Handling MAT 9	PM	This EU does not have a control device for this pollutant						
Piles-1	Storage Piles	PM	This EU does not have a control device for this pollutant						
Roads-PU	Particleboard Unpaved Roads	PM	This EU does not have a control device for this pollutant						
Roads-YU	Plywood Unpaved Roads	PM	This EU does not have a control device for this pollutant						

Notes:
Veneer Dryer emission factor from DEQ Form AQ-EF02 for uncontrolled natural gas-fired veneer dryer.

PB Press emission factor from AP-42 Table 10.6.2-4 for uncontrolled press. Represents total particulate matter based on sum of filterable and condensible PM emission factors.

Material handling emission factors derived from the controlled emission factors presented in the emissions inventory in Attachment A and assumes 99.5% baghouse control efficiency. Eg. uncontrolled emission factor (lb/BDT) = controlled emission factor (lb/BDT) / (1 - control efficiency [%])

State of Oregon Department of Environmental Quality

Title V Operating Permit Program

Compliance Assurance Monitoring

FORM CP709

Facility Name: Timber Products Company - Medford

Source Number: 15-0025-TV-01

Table 3a: CAM Plan for the Wet-ESP (PB-Dryer)

Pollutant: PM	Indicator No. 1	Indicator No. 2
I. Indicator	ESP voltage	Exhaust temperature
II. Indicator Range	Maintain ESP voltage above 25 kV	Maintain exhaust temperature below 150 deg F
Basis	Existing CAM monitoring requirement	Existing CAM monitoring requirement
III. Performance Criteria		
A. Data Representativeness	Maintain 90% data availability for any day, month and year of operation	Maintain 90% data availability for any day, month and year of operation
B. Verification of Operational Status	Operate and maintain according to manufacturer recommendations	Operate and maintain according to manufacturer recommendations
C. QA/QC Practices and Criteria	Operate and maintain according to manufacturer recommendations	Operate and maintain according to manufacturer recommendations
D. Quality Improvement Plan Threshold	Not applicable	Not applicable
E. Monitoring Frequency	Display reading at least once every minute during operation	Display reading at least once every minute during operation
F. Data Collection	Record hourly average once per operating hour	Record hourly average once per operating hour
G. Averaging Period	One hour average	One hour average

State of Oregon Department of Environmental Quality

Title V Operation Permit Program **FORM ED601**

CATEGORICALLY INSIGNIFICANT ACTIVITIES **Answer Sheet**

Facility name: Timber Products Company - Medford Permit Number: 15-0025-TV-01

Indicate which of the following categorically insignificant activities are present at the facility by placing an "X" in the "Yes" or "No" column.

Yes	No	Type of activity **Categorically Insignificant Activities**
X		Constituents of a chemical mixture present at less than 1 percent by weight of any chemical or compound regulated under divisions 200 through 268 excluding divisions 248 and 262 of this chapter, or less than 0.1 percent by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year
X		Evaporative and tail pipe emissions from on-site motor vehicle operation
X		Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The following equipment may never be included as categorically insignificant: A. Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour; B. Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour
X		Distillate oil, kerosene, gasoline, natural gas or propane burning equipment brought on site for six months or less for maintenance, construction or similar purposes, such as but not limited to generators, pumps, hot water pressure washers and space heaters, provided that any such equipment that performs the same function as the permanent equipment, must be operated within the source's existing PSEL
X		Office activities
X		Food service activities
X		Janitorial activities
X		Personal care activities
X		Grounds keeping activities, including, but not limited to building painting and road and parking lot maintenance
	X	On-site laundry activities
	X	On-site recreation facilities
X		Instrument calibration
X		Maintenance and repair shop
X		Automotive repair shops or storage garages;
X		Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
X		Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
X		Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities

CATEGORICALLY INSIGNIFICANT ACTIVITIES

Answer Sheet

Yes	No	Type of activity
X		Temporary construction activities
X		Warehouse activities
X		Accidental fires
X		Air vents from air compressors
X		Air purification systems
X		Continuous emissions monitoring vent lines
X		Demineralized water tanks
X		Pre-treatment of municipal water, including use of deionized water purification systems
X		Electrical charging stations
X		Fire brigade training
X		Instrument air dryers and distribution
	X	Process raw water filtration systems
	X	Pharmaceutical packaging
X		Fire suppression
	X	Blueprint making
X		Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
X		Electric motors
X		Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
X		On-site storage tanks not subject to any New Source Performance Standard (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
X		Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
X		Pressurized tanks containing gaseous compounds
X		Vacuum sheet stacker vents
X		Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities
X		Log ponds
X		Storm water settling basins
X		Fire suppression and training
X		Paved roads and paved parking lots within an urban growth boundary
	X	Hazardous air pollutant emissions in fugitive dust from paved and unpaved roads except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils
X		Health, safety, and emergency response activities

DEQ
State of Oregon Department of Environmental Quality

Yes	No	Type of activity
☐	☒	Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant
☒	☐	Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems
☒	☐	Non-contact steam condensate flash tanks
☒	☐	Non-contact steam vents on condensate receivers, deaerators and similar equipment
☒	☐	Boiler blow down tanks
☐	☒	Industrial cooling towers that do not use chromium-based water treatment chemicals
☐	☒	Ash piles maintained in a wetted condition and associated handling systems and activities
☐	☒	Uncontrolled oil/water separators in effluent treatment systems, excluding systems with a throughput of more than 400,000 gallons per year of effluent located at the following sources: A. Petroleum refineries; B. Sources that perform petroleum refining and re-refining of lubricating oils and greases including asphalt production by distillation and the reprocessing of oils and/or solvents for fuels; or C. Bulk gasoline plants, bulk gasoline terminals, and pipeline facilities
☒	☐	Combustion source flame safety purging on startup
☐	☒	Broke beaters, pulp and repulping tanks, stock chests and pulp handling equipment, excluding thickening equipment and repulpers
☐	☒	Stock cleaning and pressurized pulp washing, excluding open stock washing systems
☐	☒	White water storage tanks

State of Oregon Department of Environmental Quality

Aggregate Insignificant Emissions

FORM ED602
Answer Sheet

Facility: Timber Products Company - Medford Operating Senario Base Permit Number: 15-0025-TV-01

Activity Summary:

Activity	Annual Production/Process Rate		Pollutant	Emissions Factor			Emissions
	Rate	Units		Rate	Units	Reference	(tons/yr)
See Emissions Inventory in Attachment A.							

Pollutant Summary:

Pollutant	Annual Emissions (tons/year)

State of Oregon Department of Environmental Quality

Short Term Emission Detail

FORM ED605S
Answer Sheet

Facility: Timber Products Company - Medford

Operating Scenario Base

Permit Number: 15-0025-TV-01

Emissions Detail:

Emissions Unit ID	Device/ process ID	Pollutant	Short Term Production/ Process Rates		Emissions Factor			Short Term Emissions	Short term units
			Rate	Units	Rate	Units	Reference		
See Emissions Inventory	In Attachment A.								

State of Oregon Department of Environmental Quality

Short Term Emission Detail

FORM ED605S
Answer Sheet

Emissions Unit Summary:

EU ID	Pollutant	Short Term Emissions (tons/yr)

DEQ
State of Oregon Department of Environmental Quality

Hazardous Air Pollutants

FORM ED606
Answer Sheet

Facility: Timber Products Company - Medford

Permit Number: 15-0025-TV-01

Hazardous Air Pollutants:

Pollutant	Emissions Unit ID or Activity	Annual Production/Process Rates		Emissions Factor			Emissions (tons/yr)
		Rate	Units	Rate	Units	Reference	
See Emissions Inventory in Attachment A.							

ATTACHMENT C

REQUESTED REVISIONS TO TITLE V OPERATING PERMIT

State of Oregon Department of Environmental Quality

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
OREGON TITLE V OPERATING PERMIT

Western Region
4026 Fairview Industrial Drive SE
Salem, Oregon 97302

Issued in accordance with provisions of ORS 468A.040
and based on land use compatibility findings included in the permit record.

ISSUED TO:	INFORMATION RELIED UPON:	
Timber Products Co. Limited Partnership	Application Number:	018036 & 028448
P.O. Box 1669	Received:	3/31/00
Medford, OR 97501	Revised:	6/12/01, 11/23/15
PLANT SITE LOCATION:	**LAND USE COMPATIBILITY STATEMENT:**	
25 E. McAndrews Road	Issued by:	Jackson County
Medford, OR 97501	Dated:	8/1/94

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Claudia Davis, Western Region Air Quality Manager — Date

Nature of Business	SIC	NAICS
Plywood Manufacturing and/or veneer drying, 30,000 or more ft^2/hr, 3/8" basis finished product;	2435 2436	321211 321212
Particleboard manufacturing, 18,000or more ft^2/hr, ¾" basis finished product.	2493	321219

RESPONSIBLE OFFICIAL		FACILITY CONTACT PERSON	
Title:	Chief Operating Officer, Timber Products Company	Name:	David S. Pope~~Scott Dunn~~
or		Title:	Plant Manager~~Environmental Director~~
Title:	Company Executive~~Vice President~~, Timber Products Company~~Sales~~	Phone:	(541) 618-3682~~42~~
or			
Title:	Plant~~Regional~~ Manager~~, Oregon Panel Products~~		

TABLE OF CONTENTS

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT 3

PERMITTED ACTIVITIES 4

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION 4

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING REQUIREMENTS ..... 8~~7~~

- Facility-wide Requirements ..... 8~~7~~
- Plywood and Particleboard Package Boilers (PW Boiler, PB Boiler) ..... 14~~11~~
- Plywood Presses (Plywood Press 1, Plywood Press 2) ..... 20~~15~~
- Particle Dryers / WESP and Particleboard Press / Baghouse ..... 22~~17~~
- Material Handling and Storage Piles (Mat-1, Mat-1A, Mat-2, Mat-3, Mat-4, Mat-6, Mat-7, Mat-8, Mat-9, and Piles-1) ..... 25~~20~~
- Roads (Roads-PU and Roads-YU) ..... 29~~24~~
- Insignificant Activities Requirements ..... 30~~25~~

PLANT SITE EMISSION LIMITS ..... 31~~26~~

EMISSION FEES ..... 36~~30~~

GENERAL TESTING REQUIREMENTS ..... 36~~31~~

GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS ..... 37~~31~~

REPORTING REQUIREMENTS ..... 38~~32~~

Non-Applicable Requirements ..... 42~~36~~

General Conditions ..... 43~~37~~

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit
Act	Federal Clean Air Act
ASTM	American Society of Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2e	carbon dioxide equivalent
CPMS	Continuous parameter monitoring system
DEQ	Department of Environmental Quality
dscf	Dry standard cubic feet
EF	Emission factor
EPA	US Environmental Protection Agency
EU	Emissions Unit
FCAA	Federal Clean Air Act
FSA	Fuel sampling and analysis
GHG	greenhouse gas
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040
HCFC	Halogenated Chloro-Fluoro-Carbons
ID	Identification number or label
I&M	Inspection and maintenance
NA	Not applicable
NO_x	Nitrogen oxides
O_2	Oxygen
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
psia	pounds per square inch, actual
SERP	Source emissions reduction plan
SO_2	Sulfur dioxide
ST	Source test
VE	Visible emissions
VMT	Vehicle miles traveled
VOC	Volatile organic compounds

PERMITTED ACTIVITIES

1. Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from those processes and activities directly related to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [OAR 340-218-0010 and 340-218-0120(2)]

2. All conditions in this permit are federally enforceable, meaning that they are enforceable by DEQ, EPA, and citizens under the Clean Air Act, except Conditions 11~~12~~, 12~~13~~, 13~~14~~, G5, and G9 (OAR 340-248-0005 through 340-248-0180) are only enforceable by the state. [OAR 340-218-0060]

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

3. The emissions units regulated by this permit are the following [OAR 340-218-0040(3)]:

Emissions unit description	EU ID	Device description	Device ID	Plant	Pollution control devices Description	PCD ID
~~Boiler~~	~~Boiler-1~~	~~Natural gas fired boiler with propane backup~~	~~Boiler-1~~	~~F~~	~~none~~	~~NA~~
Boiler	PW Boiler	Natural gas fired boiler	Plywood Boiler	PW	none	NA
~~Veneer dryers 1 & 2~~	~~VD~~	~~Steam heated veneer dryers~~	~~Veneer dryers 1&2~~	~~PW~~	~~Regenerative Thermal Oxidizer~~	~~RTO-1~~
Veneer dryer M1	M1	Natural gas fired jet veneer dryer	Veneer dryer M1	PW	Regenerative Thermal Oxidizer	RTO-1
Veneer dryer fugitives	VD-FUG	~~Steam heated v~~Veneer dryers roof vent fugitives	~~Veneer dryers 1&2;~~ Veneer dryer M1	PW	none	NA
Plywood presses 1 & 2	Plywood Press-1,2	Plywood presses	Press 1 & 2	PW	none	NA
Plywood press 3	Plywood Press-3	Plywood press	Press 3	PW	None	NA
Plywood Miscellaneous VOC Sources	Plywood-Misc VOC	Plywood sanders and saws	NA	PW	None	NA
Boiler	PB Boiler	Natural gas fired boiler	Particleboard Boiler	PB	none	NA
Particle dryers 1 & 2	Particle Dryers-1,2	Rotary particle dryers	Dryers 1 & 2	PB	Wet Electrostatic Precipitator ~~and Biofilter~~	WESP-1/ ~~BIO-1~~
Particleboard press	Particleboard Press-1	Particleboard press	PB press	PB	Baghouse ~~and Biofilter~~	BH-24, ~~BIO-1~~
Particleboard Miscellaneous VOC Sources	Particleboard-Misc VOC	Particleboard board cooler, sanders, blenders, former, refiners and saws	NA	PB	None	NA

Emissions unit description	EU ID	Device description	Device ID	Plant	Pollution control devices Description	PCD ID
Pneumatic material handling equipment	Mat-1	Low pressure cyclone	C-4	PB	Baghouse	B-6
		Low pressure cyclone	C-5a	PB	Baghouse	B-6
		High pressure cyclone	C-7	PB	Baghouse	B-7-8
		High pressure cyclone	C-8	PB	Baghouse	B-7-8
		Baghouse	B-11	PB	Baghouse	B-11
		Low pressure cyclone	C-12	PB	Baghouse	B-12
Pneumatic material handling equipment	Mat-1A	High pressure cyclone	C-6	PB	Baghouse	B-6
		Low pressure cyclone	C-9	PB	Baghouse	B-9
		Low pressure cyclone	C-10	PB	Baghouse	B-10
Material handling	Mat-2	Silo	S-1	PB	filter	F-1
		Silo	S-2	PB	filter	F-2
		Silo	S-3	PB	filter	F-3
		Silo	S-4	PB	filter	F-4
		Silo	S-5	PB	filter	F-5
Material handling	Mat-3	Conveyors and loaders	*	PB	none	NA
Material handling	Mat-4	Truck dump	*	PB	none	NA
Material handling	Mat-6	Low pressure cyclone	C-22	PW	Baghouse	B-22
Material handling	Mat-7	Low pressure cyclone	C-23	PW	Baghouse	B-23
Material handling	Mat-8	Silo	S-6	PW	filter	F-6
Material handling	Mat-9	Truck loadout and hog	*	PW	None	NA
~~Paved road dust~~	~~Roads-PP~~	~~vehicle traffic~~	~~NA~~	~~PB~~	~~work practices~~	~~NA~~
Resin Storage Tanks	Tanks	Resin storage tanks	NA	F	None	NA
Facility VOC	Facility VOC	Product usage	NA	F	None	NA
Unpaved road dust	Roads-PU	vehicle traffic	NA	PB	work practices	NA
~~Paved road dust~~	~~Roads-YP~~	~~vehicle traffic~~	~~NA~~	~~PW~~	~~work practices~~	~~NA~~
Unpaved road dust	Roads-YU	vehicle traffic	NA	PW	work practices	NA
Storage piles	Piles-1	material storage piles	NA	F	none	NA

* A full description of the emissions devices and activities is provided in the review report.

Plant Source Groupings

Emissions unit description	EU ID	Device description	Device ID	Plant	Pollution control devices	
					Description	PCD ID
Plant wide Sources (Annual PSEL)	Plant-1	Includes all emissions units identified above	See individual emissions units	F	see emissions units	NA
Daily PSEL	Plant-2	Includes all emissions units identified above except those identified in Plant-3	See individual emissions units	F	see emissions units	NA
Monthly PSEL	Plant-3	Includes Piles-1, ~~Roads-PP,~~ Roads-PU, ~~Roads-YP,~~ and Roads-YU~~, and Chemicals-1~~ emissions units	See individual emissions units	F	see emissions units	NA
Particleboard limit	Plant-4	Includes Particle Dryers-1&2~~,/~~ Particleboard Press-1 ~~/BIO-1~~, Mat-1, Mat-1A, Mat-2, and Mat-3 emissions units	See individual emissions units	PB	see emissions units	NA
Plywood limit	Plant-5	Includes Plywood Press 1&2, Plywood Press 3, Mat-6, Mat-7, Mat-8, and Mat-9 emissions units	See individual emissions units	PW	see emissions units	NA

~~ALTERNATIVE OPERATING SCENARIOS~~

~~4. The permittee may operate under the following operating scenarios: [OAR 340-218-0140(1)]~~

~~4.a. The base operating scenario is defined in Condition 3, except that the Plywood Boiler, Particleboard Boiler, Veneer Dryer M1, and Plywood Press 3 are not operational.~~

~~4.b. In the alternate operating scenario 2, Veneer dryers 1&2, Plywood Boiler, Particleboard Boiler, and Plywood Press 3 defined in Condition 3 are not operational.~~

~~4.c. In the alternate operating scenario 3, Veneer dryers 1&2, Boiler-1, and Plywood Press 3 defined in Condition 3 are not operational.~~

~~4.d. In the alternate operating scenario 4, Veneer dryers 1&2, and Boiler-1 defined in in Condition 3 are not operational.~~

~~4.e. The permittee must contemporaneously record changes from one alternative operating scenario to another. The record must be made available or submitted upon request by DEQ. [OAR 340-218-0140(1)(c)]~~

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING REQUIREMENTS

The following tables and conditions contain the applicable requirements along with testing, monitoring, and recordkeeping requirements for the emissions units to which those requirements apply.

Facility-wide Requirements

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0210(2)	4~~5~~	Fugitive emissions	minimize	NA	NA	6~~7~~
340-240-0180	5~~6~~	FEC plan	develop and implement plan	NA	NA	6~~7~~
340-240-0190	7~~8~~	O & M plan	Develop and implement plan	NA	NA	8~~9~~
340-206-0050	9~~10~~	SERP	Source emission reduction plan	NA	NA	10~~11~~
340-208-0300	11~~12~~	Nuisance	no nuisance	NA	NA	13~~14~~
340-208-0450	12~~13~~	PM >250μ	no fallout	NA	NA	13~~14~~
340-228-0110(1)	14.a~~15.a~~	#1 Distillate oil sulfur content	≤0.3% S by weight	each shipment	NA	15~~16~~
340-228-0110(2)	14.b~~15.b~~	#2 Distillate oil sulfur content	≤0.5% S by weight	each shipment	NA	15~~16~~
340-234-0520(2)(a)	16~~17~~	PM	87.6 lbs/hr	NA	48~~65~~ and 69~~86~~	17~~18~~
340-234-0510(2)(a)	18~~19~~	PM	30 lbs/hr	NA	69~~86~~	19~~20~~
40 CFR Part 68	20~~21~~	Risk management	Risk management plan	NA	NA	20~~21~~
40 CFR Part 63, Subpart DDDD	21.a~~22.a~~	HAPs	See Subpart DDDD and Appendix B	Appendix B	Appendix B	Appendix B
40 CFR Part 63 Subpart DDDDD	21.b~~22.b~~	HAPs	See Subpart DDDDD and Appendix C	Appendix C	Appendix C	Appendix C

Formatted: Font: Times New Roman, 10 pt

Formatted: Font: Times New Roman, 10 pt

Fugitive PM Emissions

~~5.~~4. Applicable Requirement: The permittee must not allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne.

~~5.a.~~4.a. Such reasonable precautions must include, but not be limited to the following: [OAR 340-208-0210(1)]

~~5.a.i.~~4.a.i. Use, where possible, of water or chemicals for control of dust in the demolition of

existing buildings or structures, construction operations, the grading of roads or the clearing of land;

~~5.a.ii.~~4.a.ii. Application of water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;

~~5.a.iii.~~4.a.iii. Full or partial enclosure of materials stockpiles in cases where application of water or chemicals are not sufficient to prevent particulate matter from becoming airborne;

~~5.a.iv.~~4.a.iv. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;

~~5.a.v.~~4.a.v. Adequate containment during sandblasting or other similar operations;

~~5.a.vi.~~4.a.vi. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; and

~~5.a.vii.~~4.a.vii. Prompt removal from paved streets of earth or other material that does or may become airborne.

~~5.b.~~4.b. Upon request by DEQ, the permittee must develop a fugitive emission control plan for approval by DEQ if the above precautions are not adequate, and implement the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period.

~~6.~~5. Applicable Requirement: The permittee shall prepare and implement a fugitive emission-control (FEC) plan which shall identify reasonable measures to prevent particulate matter from becoming airborne. Special care will be taken by the facility to avoid the migration of material onto the public road system.

~~6.a.~~5.a. Such reasonable measures include, but are not limited to those identified in Condition 4.a~~5.a~~ and the following: [OAR 340-240-0180(2)]

~~6.a.i.~~5.a.i. The systematic paving of all unpaved roads and areas on which vehicular traffic occurs. Until an area is paved, subsection 5.a.ii~~6.a.ii~~ applies;

~~6.a.ii.~~5.a.ii. Scheduled application of water, or other suitable chemicals on unpaved roads, log storage or sorting yards, materials stockpiles, and other surfaces which can create airborne dust. Dust suppressant material must not adversely affect water quality;

~~6.a.iii.~~5.a.iii. Periodic sweeping or cleaning of paved roads and other areas as necessary to prevent migration of material onto the public road system;

~~6.a.iv.~~5.a.iv. Full or partial enclosure of materials stockpiled in cases where application of water or suitable chemicals are not sufficient to prevent particulate matter from becoming airborne;

~~6.a.v.~~5.a.v. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;

~~6.a.vi.~~5.a.vi. Adequate containment during sandblasting or other similar operations;

~~6.a.vii.~~5.a.vii. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; and

~~6.a.viii.~~5.a.viii. Procedures for the prompt removal of earthen material, dirt, dust, or other material from paved streets.

~~6.b.~~5.b. Reasonable measures may include landscaping and using vegetation to reduce the migration of material onto public and private roadways.

~~6.c.~~5.c. The permittee shall supervise and control fugitive emissions and material that may become airborne caused by the activity of outside contractors delivering or removing materials at the site.

~~6.d.~~5.d. The site-specific fugitive dust emissions control plan must be submitted to DEQ prior to or within 60 days of permit issuance or renewal. DEQ will approve or deny the plan within 30 days.

~~6.e.~~5.e. The FEC plan shall be reviewed at least annually and may be changed upon written approval by DEQ. Revision does not constitute a reopening of this permit.

~~7.~~6. Monitoring Requirement: At least once each week for a minimum period of 30 minutes, the permittee must visually survey the plant for any sources of excess fugitive emissions. This does not include sources ~~Boiler-1,~~PW Boiler, PB Boiler, ~~VD,~~M1, RTO-1, VD-FUG, Particle Dryers-1,2, Particleboard Press-1,~~Biofilter-1,~~ Mat-1, Mat 1A, Mat-2, Mat-6, Mat-7, and Mat-8. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the plant site boundaries. If sources of visible emissions are identified, the permittee must:

~~7.a.~~6.a. Immediately conduct a Method 9 test at the plant site boundary; or
~~7.b.~~6.b. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 4~~5~~; or
~~7.c.~~6.c. Implement the fugitive emission control plan required by condition 5~~6~~ whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period. [OAR 340-218-0050(3)(a)]

~~7.d.~~6.d. Recordkeeping: The permittee must maintain records of the fugitive emissions surveys, corrective actions (if necessary), and/or the results of any EPA Method 9 tests.

~~8.~~7. Applicable Requirement: The permittee shall prepare and implement an operation and maintenance (O&M) plan for all emissions units and pollution control devices at the facility. The O&M plan should consider, but not be limited to the requirements of conditions 1~~37~~, 1~~41~~, 1~~43~~, 29~~46~~, 33~~50~~, 35~~52~~, 46~~63~~ and the following: [OAR 340-240-0190]

~~8.a.~~7.a. Personnel training in operation and maintenance;
~~8.b.~~7.b. Preventative maintenance procedures, schedule and records;
~~8.c.~~7.c. Logging of the occurrence and duration of all upsets, breakdowns and malfunctions which result in excessive emissions;
~~8.d.~~7.d. Routine follow-up evaluation of upsets to identify the cause of the problem and changes needed to prevent a recurrence;
~~8.e.~~7.e. Periodic source testing of pollution control units as required by the permit;
~~8.f.~~7.f. Inspection of internal wear points of pollution control equipment during scheduled shutdowns; and
~~8.g.~~7.g. Inventory of key spare parts.
~~8.h.~~7.h. The O&M plan shall be reviewed at least annually and may be changed upon written approval by DEQ. Revision does not constitute a reopening of this permit

~~9.~~8. Monitoring Requirement: The permittee shall maintain records in an operating log book or equivalent of the results of all inspections and maintenance performed in accordance with the O&M plan required by condition 7~~8~~.

~~10.~~9. Applicable Requirement: In the event an Air Pollution Alert, Warning, or Emergency Episode is declared in the Medford area by DEQ, the permittee shall take the actions listed in Timber Product's Source Emission Reduction Plan (SERP) on file with DEQ. The SERP shall be available at all times on the source premises for inspection by DEQ personnel. The SERP shall be reviewed at least annually and may be changed upon written approval by DEQ. Revision does not constitute a reopening of this permit. [OAR 340-206-0050]

~~11.~~10. Monitoring Requirement: The permittee shall maintain records in a log book or equivalent of air pollution episodes and emission reduction actions performed in accordance with condition 9~~10~~.

Nuisance Conditions

~~12.~~11. Applicable Requirement: The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel. [OAR 340-208-0300] This condition is enforceable only by the State.

~~13.~~12. Applicable Requirement: The permittee must not cause or permit the deposition of any particulate matter

larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. [OAR 340-208-0450] This condition is enforceable only by the State.

~~14.~~13. Monitoring Requirement: The permittee must maintain a log of each nuisance complaint received by the permittee during the operation of the facility. Documentation must include date of contact, time of observed nuisance condition, description of nuisance condition, location of receptor, status of plant operation during the observed period, and time of response to complainant. A plant representative must immediately investigate the condition following the receipt of the nuisance complaint and a plant representative must provide a response to the complainant within 24 hours, if possible. This condition is only enforceable by the state. [OAR 340-218-0050(3)(a)]

Fuels

~~15.~~14. Applicable Requirement: If the permittee burns any of the fuels listed below, the sulfur content cannot exceed:

~~15.a.~~14.a. 0.3% sulfur by weight for ASTM Grade 1 distillate oil; [OAR 340-228-0110(1)]
~~15.b.~~14.b. 0.5% sulfur by weight for ASTM Grade 2 distillate oil; [OAR 340-228-0110(2)]

~~16.~~15. Monitoring Requirement: The permittee must monitor the sulfur content of each shipment of fuel received by: [OAR 340-218-0050(3)(a)]
~~16.a.~~15.a. Obtaining a sulfur content certificate from each vendor for each shipment of fuel received; or
~~16.b.~~15.b. Analyzing or having analyzed by a contract laboratory a representative sample taken by the permittee from each shipment of fuel received.

Particleboard Rule

~~17.~~16. Applicable Requirement: The permittee shall not cause or allow the combined emissions of particulate matter from Plant-4 (Particle Dryers-1,2, /Particleboard Press-1~~/ BIO-1~~, Mat-1, Mat-1A, Mat-2, and Mat-3) in excess of 87.6 pounds per hour. [OAR 340-234-0520(2)(a)] Particulate matter emissions shall be measured in accordance with conditions 48~~65~~and 69~~86~~.

~~18.~~17. Monitoring Requirement: The permittee shall monitor the emissions from emissions unit Plant-4 (Particle Dryers-1,2, / Particleboard Press-1~~/ BIO-1~~, Mat-1, Mat-1A, Mat-2, and Mat-3) in accordance with condition 66~~83~~. Once testing has been performed as required by conditions 48~~65~~ and 49~~66~~, those results shall be used instead of the emission factors identified in condition 66.b~~83.b~~. In addition, the daily emissions calculated in condition 66~~83~~ shall be divided by the hours of operation for each day to determine the hourly emissions. These exceptions shall not alter the monitoring requirements in condition 66~~83~~ for purposes of the Plant Site Emissions Limits.

Plywood Rule

~~19.~~18. Applicable Requirement: The permittee shall not cause or allow the combined emissions of particulate matter from Plant-5 (Includes Plywood Press 1&2, Plywood Press 3, Mat-6, Mat-7, Mat-8, and Mat-9) in excess of 30~~45~~ pounds per hour. [OAR 340-234-0510(2)(a)] Particulate matter emissions shall be measured in accordance with condition 69~~86~~.

~~20.~~19. Monitoring Requirement: The permittee shall monitor the emissions from emissions unit Plant-5 (Plywood Press-1,2, Plywood Press – 3, Mat-5, Mat-6, Mat-7, and Mat-8, and Mat-9) in accordance with condition 66~~83~~ by dividing the daily emissions by the hours of operation to arrive at the hourly emissions.

Accidental Release Prevention

~~21.~~20. Applicable Requirement: Should this stationary source become subject to the accidental release prevention regulations in 40 CFR Part 68, then the permittee must submit a risk management plan (RMP) by the date specified in 40 CFR 68.10 and comply with the plan and all other applicable Part 68 requirements. [40 CFR Part 68]

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

~~22.~~21. The permittee must comply with the following NESHAPs:

Plywood and Composite Wood Products NESHAP

~~22.a.~~21.a. The permittee must comply with all relevant provisions of the Plywood and Composite Wood Products NESHAP (40 CFR part 63 subpart DDDD), attached as Appendix A, by the applicable deadline. The applicable requirements are highlighted in this attachment. If a conflict exists between the language or conditions in Appendix A with 40 CFR Part 63, Subpart DDDD the language in 40 CFR Part 63, Subpart DDDD takes precedence.

Boiler and Process Heater NESHAP

~~22.b.~~21.b. The permittee must comply with all relevant provisions of the Boiler and Process Heater NESHAP (40 CFR part 63 subpart DDDDD), attached as Appendix B, to this permit, by the applicable deadline. If a conflict exists between the language or conditions in Appendix B with 40 CFR Part 63, Subpart DDDDD the language in 40 CFR Part 63, Subpart DDDDD takes precedence.

~~**Boiler Requirements (Boiler-1)**~~

~~Applicable Requirement~~	~~Condition Number~~	~~Pollutant/ Parameter~~	~~Limit/Standard~~	~~Averaging Time~~	~~Testing Condition~~	~~Monitoring Condition~~
~~340-208-0110(4)~~	~~23~~	~~Visible emissions~~	~~20% opacity~~	~~6-minute block average~~	~~27, 28, and 86~~	~~25 and 26~~
~~340-228-0210(2)(b)~~	~~24~~	~~PM~~	~~0.10 gr/dscf~~	~~avg. of 3 test runs~~	~~27, 28, and 86~~	~~25 and 26~~

~~**Visible Emissions Standard**~~

~~23. Applicable Requirement: The permittee must comply with the following visible emission limits for Boiler-1: [OAR 340-208-0110(4)]~~

~~23.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and~~

~~23.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 23.b.ii, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:~~

~~23.b.i. EPA Method 9; or~~
~~23.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or~~
~~23.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA~~

~~Method 9.~~

~~**PM Emissions Standard**~~

~~24. Applicable Requirement: The permittee may not emit particulate matter emissions from any fuel burning equipment installed, constructed, or modified on or after June 1, 1970 but prior to April 16, 2015 in excess of the following limits: [OAR 340-228-0210(2)(b)]~~

~~24.a. 0.10 grains per dry standard cubic foot provided that all representative compliance source test results prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot; or~~

~~24.b. Compliance with the emissions standards in this condition is determined using Oregon Method 5, or an alternative method approved by DEQ.~~

~~24.b.i. For fuel burning equipment that burns wood fuel by itself or in combination with any other fuel, the emission results are corrected to 12% CO2.~~
~~24.b.ii. For fuel burning equipment that burns fuels other than wood, the emission results are corrected to 50% excess air.~~
~~24.b.iii. For purposes of this condition, representative compliance source test results are data that was obtained:~~
~~24.b.iii.A. No more than ten years before April 16, 2015; and~~

~~24.b.iii.B. When a source is operating and maintaining air pollution control devices and emission reduction processes at the highest reasonable efficiency and effectiveness to minimize emissions based on the current configuration of the fuel burning equipment and pollution control equipment.~~

~~**Visible Emissions / PM Emissions Monitoring**~~

~~25. Monitoring Requirement: The permittee shall monitor the type and amount of fuel burned in Boiler-1 on a monthly basis. [40 CFR 60.48c(g)(2)] The permittee shall assure compliance with the emissions limits in conditions 23 and 24 by burning natural gas or propane.~~

~~26. Monitoring Requirement: At any time that the permittee is burning natural gas in Boiler-1, the permittee is not required to conduct any visible emissions or particulate matter monitoring because it is extremely unlikely that these standards could be violated while burning natural gas. The permittee must maintain records of the type of fuels being burned. If visible emissions are to be measured for any reason, the visible emissions must be measured in accordance with DEQ's Source Sampling Manual.~~

~~**Visible Emissions and PM Emissions Testing**~~

~~27. Source testing is not required by this permit to determine compliance with the visible emissions standard of Condition 23 or the particulate matter emissions standard of Condition 24. If source testing is conducted, the permittee shall use the test methods and averaging times to measure the pollutant emissions in Condition 86.~~

~~**Emission Factor Verification Testing**~~

~~28. At least once during the permit term, but no later than 18 months prior to the expiration date of the permit, the permittee shall conduct emission factor verification tests on emissions unit Boiler-1 in accordance with DEQ's Source Sampling Manual for NOx using EPA Methods 1-4 and 7E.~~

~~New~~ Plywood and Particleboard Package Boilers (PW Boiler, PB Boiler)

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0110(4)	22~~29~~	Visible emissions	20% opacity	6-minute block average	26~~33~~, 1~~34~~ and 69~~86~~	24~~31~~ and 25~~32~~
340-228-0210(2)(c)	23~~30~~	PM	0.10 gr/dscf	avg. of 3 test runs	26~~33~~, 1~~34~~ and 69~~86~~	24~~31~~ and 25~~32~~

Visible Emissions

~~29.~~22. Applicable Requirement: The permittee must comply with the following visible emission limits for sources other than wood or biomass-fired boilers, installed, constructed, or modified on or after June 1, 1970: [OAR 340-208-0110(4)]

~~29.a.~~22.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and

~~29.b.~~22.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 22.b.ii~~29.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~29.b.i.~~22.b.i. EPA Method 9; or
~~29.b.ii.~~22.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~29.b.iii.~~22.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

PM Emissions Standard

~~30.~~23. Applicable Requirement: The permittee may not emit particulate matter emissions from any fuel burning equipment installed, constructed, or modified on or after April 16, 2015, in excess of 0.10 grains per dry standard cubic foot. [OAR 340-228-0210(2)(c)]

~~30.a.~~23.a. Compliance with the emissions standards in this condition is determined using Oregon Method 5, or an alternative method approved by DEQ..

~~30.a.i.~~23.a.i. For fuel burning equipment that burns fuels other than wood, the emission results are corrected to 50% excess air.

Visible Emissions / PM Emissions Monitoring

~~31.~~24. Monitoring Requirement: The permittee shall monitor the type and amount of fuel burned in the PW Boiler and PB Boiler on a monthly basis. [40 CFR 60.48c(g)(2)] The permittee shall assure compliance with the emissions limits in conditions 22~~29~~ and 23~~30~~ by burning natural gas or propane.

~~32.~~25. Monitoring Requirement: At any time that the permittee is burning natural gas in PW Boiler and PB Boiler, the permittee is not required to conduct any visible emissions or particulate matter monitoring because it is extremely unlikely that these standards could be violated while burning natural gas. The

permittee must maintain records of the type of fuels being burned. If visible emissions are to be measured for any reason, the visible emissions must be measured in accordance with DEQ's Source Sampling Manual.

Visible Emissions and PM Emissions Testing

~~33.~~26. Source testing is not required by this permit to determine compliance with the visible emissions standard of Condition 22~~29~~ or the particulate matter emissions standard of Condition 23~~30~~. If source testing is conducted, the permittee shall use the test methods and averaging times to measure the pollutant emissions in Condition 69~~86~~.

~~**Emission Factor Verification Testing**~~

~~34. At least once during the permit term, but no later than 18 months prior to the expiration date of the permit, the permittee shall conduct emission factor verification tests on emissions units PW Boiler and PB Boiler in accordance with the DEQ's Source Sampling Manual for NOx using EPA Methods 1-4 and 7E.~~

~~**Veneer Dryers (VD, RTO-1, VD-FUG)**~~

~~Applicable Requirement~~	~~Condition Number~~	~~Pollutant/ Parameter~~	~~Limit/Standard~~	~~Averaging Time~~	~~Testing Condition~~	~~Monitoring Condition~~
~~340-240-120(1)(a) and 340-234-0510(1)(b)~~	~~35~~	~~Visible emissions~~	~~5% daily average; 10% maximum~~	~~Daily average, Maximum~~	~~39~~	~~36~~
~~340-240-0120(1)(c)~~	~~37~~	~~PM~~	~~0.30 lb/MSF (3/8" basis)~~	~~NA~~	~~39~~	~~38~~
~~OAR 340-240-0120(4) and 340-234-0510(1)(e)~~	~~41~~	~~highest and best~~	~~minimize emissions~~	~~NA~~	~~NA~~	~~42~~
~~OAR 340-240-0120(5) and 340-234-0510(1)(f)~~	~~43~~	~~concealing emissions~~	~~not allowed~~	~~NA~~	~~NA~~	~~NA~~

~~**Visible Emissions**~~

~~35. Applicable Requirement: The permittee shall not cause or allow the operation of RTO-1 and VD-FUG such that visible air contaminants emitted from the dryer stacks or other emission points exceed:~~

~~35.a. A daily average operating opacity of 5% [OAR 340-240-120(1)(a)(A)] ; or~~
~~35.b. A maximum opacity of 10% [OAR 340-240-0120(1)(a)(B)].~~

~~"Daily average operating opacity means the opacity of emissions determined using EPA Method 9 on any two days within a 12-month period which are separated from each other by at least 30 days; a violation of the average operating opacity limitation is judged to have occurred if the opacity of emissions on each of the two days is greater than the specified average operating opacity limitation. [OAR 340-240-0120(1)(a)(A)] "Maximum opacity" means the opacity as determined by EPA Method 9. The maximum opacity can be increased if the permittee demonstrates by source test that it can achieve the emission limit in OAR 340-240-0120(1)(c) at higher visible emissions [OAR 340-240-0120(1)(a)(B)] Visible emissions shall be measured in accordance with condition 36.~~

~~**Visible Emissions Monitoring**~~

~~36. Monitoring Requirement: The permittee shall monitor visible emissions from the stacks or roof vents of~~

~~RTO-1 and VD-FUG, by conducting a Method 9 test. Each Method 9 test shall be a minimum of 6 minutes long unless any one reading is greater than 10% opacity, then the observation period shall be 60 minutes or until a violation of the applicable standard in condition 35 is documented, whichever period is shorter.~~

~~36.a. The initial observation frequency for conducting the Method 9 test is monthly.~~
~~36.b. If 8 consecutive months of Method 9 test results are less than the standard in condition 35, the test frequency may be quarterly.~~
~~36.c. If any test result exceeds the applicable standard in condition 35, the test frequency shall be daily for 5 consecutive days following the exceedance. If the results of the daily tests are all less than the applicable standard in conditions 35, the test frequency shall be the same as before the exceedance occurred.~~
~~36.d. All Method 9 tests shall be performed during periods that the emission devices are in operation.~~

~~**PM Emissions Standard**~~

~~37. Applicable Requirement: The permittee shall not cause or allow the emissions of particulate matter from RTO-1 and VD-FUG in excess of 0.30 pounds per thousand square feet of veneer dried (gross throughput) on a 3/8" basis. [OAR 340-240-0120(1)(c)] Particulate matter emissions shall be measured in accordance with condition 39.~~

~~**Continuous Monitoring**~~

~~38. Monitoring Requirement: The permittee shall install, calibrate, maintain, operate, and record the output of a continuous monitoring system for measuring RTO bed temperature in accordance with the manufacturers written instructions.~~

~~38.a. Real time data shall be displayed at least once every minute that the veneer dryers are in operation. Hourly averages of the data shall be recorded once each clock hour that the veneer dryers are in operation.~~

~~38.b. Minimum data availability shall be 90% for any day, month, and year of operation. Monitor availability shall be determined excluding periods of calibrations and routine maintenance.~~

~~38.c. All excursions of the bed temperature action levels and the corrective action taken to return the RTO to highest and best practicable treatment and control shall be recorded in a veneer dryer operating log.~~

~~**PM Emissions Testing and Emission Factor Verification Testing**~~

~~39. Oregon Method 7 shall be used for measuring particulate matter emissions from the RTO-1. Each test run shall be a minimum of 60 minutes long with a minimum sample volume of 31.6 dscf, unless otherwise approved by the DEQ. Test results shall be reported as pounds per hour and pounds per thousand square feet of veneer dried (gross throughput) on a 3/8" basis.~~

~~39.a. The RTO shall be tested once during calendar year 2017 and once every 3 years thereafter. [OAR 340-240-0220(1)(b)]~~

~~39.b. During each test run, the permittee shall record the following information:~~

~~39.b.i. gross veneer dried as square feet per hour on a 3/8" basis for each dryer;~~
~~39.b.ii. the species and type (sap or heart) of veneer dried in each dryer;~~
~~39.b.iii. the drying temperature by zone, drying time, and percent redry material for each dryer;~~
~~39.b.iv. visible emissions as measured by EPA Method 9 for a minimum of 6 minutes during or within 30 minutes before or after each Oregon Method 7 test run. A visible~~

~~emissions test shall also be conducted on the RTO-1 exhaust stack and fugitive roof vents for the VD-FUG emissions unit); and~~

~~39.b.v. RTO operating parameters.~~

~~39.c. A test report prepared in accordance with the DEQs Source Sampling Manual shall be submitted within 60 days of completing the source test.~~

~~40. During the tests required by condition 39, the permittee shall conduct emission factor verification tests in accordance with the DEQ's Source Sampling Manual for VOC using EPA Method 25A.~~

~~**Highest and Best**~~

~~41. The veneer dryers shall be maintained and operated at all times such that air contaminant generating processes and all air contaminant control equipment shall be at full efficiency and effectiveness so that the emission of air contaminants are kept at the lowest practicable levels. [OAR 340-240-0120(4) and 340-234-0510(1)(e)]~~

~~42. The permittee shall prepare or review and revise an operation and maintenance plan in accordance with condition 8 within six (6) months of the issuance date of this permit that includes at a minimum the following:~~

~~42.a. An inspection and maintenance program for minimizing fugitive emissions.~~

~~42.b. The O&M plan shall be maintained on site and be made available to the DEQ inspector upon request. In addition, the O&M plan shall be reviewed by the permittee at least annually and revised if the work practices change. Revision does not constitute a reopening of this permit.~~

~~**Concealing Emissions**~~

~~43. The permittee shall not willfully cause or permit the installation or use of any means, such as dilution, which, without resulting in a reduction in the total amount of air contaminants emitted, conceals an emission which would otherwise violate conditions 35 or 37. [OAR 340-240-0120(5) and 340-234-0510(1)(f)]~~

~~New~~ **Veneer Dryer M1 (M1, RTO-1, VD-FUG)**

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-240-120(1)(a) and 340-234-0510(1)(b)	27~~44~~	Visible emissions	5% daily average; 10% maximum	Daily average, Maximum	31~~48~~	28~~45~~
340-240-0120(1)(b)	29~~46~~	PM	0.30 lb/MSF (3/8" basis)	NA	31~~48~~	30~~47~~
OAR 340-240-0120(4) and 340-234-0510(1)(e)	33~~50~~	highest and best	minimize emissions	NA	NA	34~~51~~
OAR 340-240-0120(5) and 340-234-0510(1)(f)	35~~52~~	concealing emissions	not allowed	NA	NA	NA

Visible Emissions

~~44.~~27. Applicable Requirement: The permittee shall not cause or allow the operation of RTO-1 and VD-FUG

such that visible air contaminants emitted from the dryer stacks or other emission points exceed:

~~44.a.~~27.a. A daily average operating opacity of 5% [OAR 340-240-120(1)(a)(A) and 340-234-0510(1)(b)(A)]; or

~~44.b.~~27.b. A maximum opacity of 10% [OAR 340-240-0120(1)(a)(B) and 340-234-0510(1)(b)(B)].

"Daily average operating opacity means the opacity of emissions determined using EPA Method 9 on any two days within a 12-month period which are separated from each other by at least 30 days; a violation of the average operating opacity limitation is judged to have occurred if the opacity of emissions on each of the two days is greater than the specified average operating opacity limitation. [OAR 340-240-0120(1)(a)(A)] "Maximum opacity" means the opacity as determined by EPA Method 9. The maximum opacity can be increased if the permittee demonstrates by source test that it can achieve the emission limit in OAR 340-240-0120(1)(c) at higher visible emissions [OAR 340-240-0120(1)(a)(B)] Visible emissions shall be measured in accordance with condition 28~~45~~.

Visible Emissions Monitoring

~~45.~~28. Monitoring Requirement: The permittee shall monitor visible emissions from the stacks or roof vents of RTO-1 and VD-FUG, by conducting a Method 9 test. Each Method 9 test shall be a minimum of 6 minutes long unless any one reading is greater than 10% opacity, then the observation period shall be 60 minutes or until a violation of the applicable standard in condition 27~~44~~ is documented, whichever period is shorter.

~~45.a.~~28.a. The initial observation frequency for conducting the Method 9 test is monthly.

~~45.b.~~28.b. If 8 consecutive months of Method 9 test results are less than the standard in condition 13~~5~~, the test frequency may be quarterly.

~~45.c.~~28.c. If any test result exceeds the applicable standard in condition 13~~5~~, the test frequency shall be daily for 5 consecutive days following the exceedance. If the results of the daily tests are all less than the applicable standard in conditions 13~~5~~, the test frequency shall be the same as before the exceedance occurred.

~~45.d.~~28.d. All Method 9 tests shall be performed during periods that the emission devices are in operation.

PM Emissions Standard

~~46.~~29. Applicable Requirement: The permittee shall not cause or allow the emissions of particulate matter from RTO-1 and VD-FUG in excess of 0.30 pounds per thousand square feet of veneer dried (gross throughput) on a 3/8" basis. [OAR 340-240-0120(1)(b)] Particulate matter emissions shall be measured in accordance with condition 31~~48~~.

Continuous Monitoring

~~47.~~30. Monitoring Requirement: The permittee shall install, calibrate, maintain, operate, and record the output of a continuous monitoring system for measuring RTO bed temperature in accordance with the manufacturers written instructions.

~~47.a.~~30.a. Real time data shall be displayed at least once every minute that the veneer dryer is in operation. Hourly averages of the data shall be recorded once each clock hour that the veneer dryer is in operation.

~~47.b.~~30.b. Minimum data availability shall be 90% for any day, month, and year of operation. Monitor availability shall be determined excluding periods of calibrations and routine maintenance.

~~47.c.~~30.c. All excursions of the bed temperature action levels and the corrective action taken to

return the RTO to highest and best practicable treatment and control shall be recorded in a veneer dryer operating log.

PM Emissions Testing and Emission Factor Verification Testing

~~48.~~31. Oregon Method 7 shall be used for measuring particulate matter emissions from the RTO-1. Each test run shall be a minimum of 60 minutes long with a minimum sample volume of 31.6 dscf, unless otherwise approved by the DEQ. Test results shall be reported as pounds per hour and pounds per thousand square feet of veneer dried (gross throughput) on a 3/8" basis.

~~48.a.~~31.a. The RTO shall be tested once per permit term~~during calendar year 2017 and one every 3 years thereafter~~. [OAR 340-240-0220(1)(b)]

~~48.b.~~31.b. During each test run, the permittee shall record the following information:

~~48.b.i.~~31.b.i. gross veneer dried as square feet per hour on a 3/8" basis for each dryer;
~~48.b.ii.~~31.b.ii. the species and type (sap or heart) of veneer dried in each dryer;
~~48.b.iii.~~31.b.iii. the drying temperature by zone, drying time, and percent redry material for each dryer;
~~48.b.iv.~~31.b.iv. visible emissions as measured by EPA Method 9 for a minimum of 6 minutes during or within 30 minutes before or after each Oregon Method 7 test run (a visible emissions test shall also be conducted on the RTO-1 exhaust stack and fugitive roof vents for the VD-FUG emissions unit); and
~~48.b.v.~~31.b.v. RTO operating parameters.

~~48.c.~~31.c. A test report prepared in accordance with the DEQ's Source Sampling Manual shall be submitted within 60 days of completing the source test.

~~49.~~32. During the tests required by condition 31~~48~~, the permittee shall conduct emission factor verification tests in accordance with the DEQ's Source Sampling Manual for VOC using EPA Method 25A.

Highest and Best

~~50.~~33. The veneer dryer shall be maintained and operated at all times such that air contaminant generating processes and all air contaminant control equipment shall be at full efficiency and effectiveness so that the emission of air contaminants are kept at the lowest practicable levels. [OAR 340-240-0120(4) and 340-234-0510(1)(e)]

~~51.~~34. The permittee shall prepare or review and revise an operation and maintenance plan in accordance with condition 7~~8~~ within six (6) months of the issuance date of this permit that includes at a minimum the following:

~~51.a.~~34.a. An inspection and maintenance program for minimizing fugitive emissions.

~~51.b.~~34.b. The O&M plan shall be maintained on site and be made available to the DEQ inspector upon request. In addition, the O&M plan shall be reviewed by the permittee at least annually and revised if the work practices change. Revision does not constitute a reopening of this permit.

Concealing Emissions

~~52.~~35. The permittee shall not willfully cause or permit the installation or use of any means, such as dilution, which, without resulting in a reduction in the total amount of air contaminants emitted, conceals an emission which would otherwise violate conditions 27~~44~~ or 29~~46~~. [OAR 340-240-0120(5) and 340-234-

0510(1)(f)]

Plywood Presses (Plywood Press 1, Plywood Press 2)

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
OAR 340-208-0110(3)	36~~53~~	Visible emissions	20% opacity	6-minute block average	39~~56~~ and 69~~86~~	6~~7~~ and 37~~54~~
340-226-0210(2)	38~~55~~	PM	~~0.124gr/dscf/.~~0.15 gr/dscf	avg. of 3 test runs	39~~56~~ and 69~~86~~	NA

Visible Emissions Standard

~~53.~~36. Applicable Requirement: The permittee must comply with the following visible emission limits for sources other than wood or biomass-fired boilers installed, constructed or modified prior to June 1, 1970: [OAR 340-208-0110(3)]

~~53.a.~~36.a. Any visible emissions may not equal or exceed an average of 20 percent opacity.

~~53.b.~~36.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 36.b.ii~~53.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~53.b.i.~~36.b.i. EPA Method 9; or
~~53.b.ii.~~36.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~53.b.iii.~~36.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

Visible Emissions Monitoring

~~54.~~37. Monitoring Requirement: Visible emissions monitoring for Plywood Press 1 and Plywood Press 2 is included within the facility wide fugitive PM survey under condition 6~~7~~.

PM Emission Standard

~~55.~~38. Applicable Requirement: The permittee may not emit particulate matter emissions from any non-fuel burning equipment installed, constructed, or modified before June 1, 1970 in excess of the following limits: [OAR 340-226-0210(2)(a)]

~~55.a.~~38.a. 0.10 grains per dry standard cubic foot provided that all representative compliance source test results collected prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot;
~~55.b.~~38.b. If any representative compliance source test results collected prior to April 16, 2015 demonstrate emissions greater than 0.080 grains per dry standard cubic foot, or if there are no representative source test results, then:

~~55.b.i. 0.24 grains per dry standard cubic foot until Dec. 31, 2019 and~~

~~55.b.ii.~~38.b.i. 0.15 grains per dry standard cubic foot on and after Jan 1, 2020.

~~55.c.~~38.c. For equipment or a mode of operation that is used less than 876 hours per calendar year, 0.24 grains per dry standard cubic foot from April 16, 2015 through December 31, 2019, and 0.20 grains per dry standard cubic foot on and after Jan. 1, 2020.

~~55.d.~~38.d. The owner or operator of a source installed, constructed or modified before June 1, 1970 may request that DEQ grants an extension allowing the source up to one additional year to comply with the standard in Condition 55.b.ii. The request for an extension must be submitted no later than Oct 1, 2019.

~~55.e.~~38.e. Compliance with the emissions standards in this condition is determined using:

~~55.e.i.~~38.e.i. Oregon Method 5;
~~55.e.ii.~~38.e.ii. DEQ Method 8, as approved by DEQ for sources with exhaust gases at or near ambient conditions;
~~55.e.iii.~~38.e.iii. DEQ Method 7 for direct heat transfer sources; or
~~55.e.iv.~~38.e.iv. An alternative method approved by DEQ.
~~55.e.v.~~38.e.v. For purposes of this condition, representative compliance source test results are data that was obtained:

~~55.e.v.A.~~38.e.v.A. No more than ten years before April 16, 2015; and
~~55.e.v.B.~~38.e.v.B. When a source is operating and maintaining air pollution control devices and emission reduction processes at the highest reasonable efficiency and effectiveness to minimize emissions based on the current configuration of the fuel burning equipment and pollution control equipment.

Visible Emissions and PM Emissions Testing

~~56.~~39. Source testing is not required by this permit to determine compliance with the visible emissions standard of Condition 36~~53~~ or the particulate matter emissions standard of Condition 38~~55~~. If source testing is conducted, the permittee shall use the test methods and averaging times to measure the pollutant emissions in Condition 69~~86~~.

New Plywood Press (Plywood Press 3)

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
OAR 340-208-0110(4)	40~~57~~	Visible emissions	20% opacity	6-minute block average	43~~60~~ and 69~~86~~	67 and 41~~58~~
340-226-0210(2)(c)	42~~59~~	PM	0.10 gr/dscf	avg. of 3 test runs	43~~60~~ and 69~~86~~	NA

Visible Emissions Standard

~~57.~~40. The permittee must comply with the following visible emission limits for sources other than wood or biomass-fired boilers, installed, constructed, or modified on or after June 1, 1970: [OAR 340-208-0110(4)]

~~57.a.~~40.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and

~~57.b.~~40.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 40.b.ii~~57.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~57.b.i.~~40.b.i. EPA Method 9; or
~~57.b.ii.~~40.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~57.b.iii.~~40.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

Visible Emissions Monitoring

~~58.~~41. Monitoring Requirement: Visible emissions monitoring for Plywood Press 3 is included within the facility wide fugitive PM survey under condition 6~~7~~.

PM Emission Standard

~~59.~~42. The permittee may not emit particulate matter emissions from any non-fuel burning equipment installed, constructed, or modified on or after April 16, 2015, in excess of 0.10 grains per dry standard cubic foot. [OAR 340-226-0210(2)(c)]
~~59.a.~~42.a. Compliance with the emissions standards in this condition is determined using:

~~59.a.i.~~42.a.i. Oregon Method 5;
~~59.a.ii.~~42.a.ii. DEQ Method 8, as approved by DEQ for sources with exhaust gases at or near ambient conditions;
~~59.a.iii.~~42.a.iii. DEQ Method 7 for direct heat transfer sources; or
~~59.a.iv.~~42.a.iv. An alternative method approved by DEQ.

Visible Emissions and PM Emissions Testing

~~60.~~43. Source testing is not required by this permit to determine compliance with the visible emissions standard of Condition 40~~57~~ or the particulate matter emissions standard of Condition 42~~59~~. If source testing is conducted, the permittee shall use the test methods and averaging times to measure the pollutant emissions in Condition 69~~86~~.

Particle Dryers / WESP and Particleboard Press / Baghouse~~WESP/ Biofilter~~

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
OAR 340-240-0140(2)	44~~61~~	Visible emissions	10% opacity	6-minute average	48~~65~~	45~~62~~
OAR 340-240-0140(1)	46~~63~~	PM	0.40 lbs/Mft^2 (¾" basis)	NA	48~~65~~	47~~64~~

Visible Emissions Standard

~~61.~~44. Applicable Requirement: The permittee shall not cause or allow the emissions of any air contaminant into the atmosphere from Particle Dryers-1 & 2/WESP~~Biofilter~~-1 to exceed 10% opacity as a six minute average. [OAR 340-240-0140(2)] Visible emissions shall be measured in accordance with condition 45~~62~~.

Visible Emissions Monitoring

~~62.~~45. Monitoring Requirement: The permittee shall monitor visible emissions from the stack of WESP~~Biofilter~~-1, by conducting a Method 9 test. Each Method 9 test shall be a minimum of 6 minutes long unless any one reading is greater than 10% opacity, then the observation period shall be 60 minutes or until a violation of the applicable standard in condition 44~~61~~ is documented, whichever period is shorter.

~~62.a.~~45.a. The initial observation frequency for conducting the Method 9 test is monthly.

~~62.b.~~45.b. If 8 consecutive months of Method 9 test results are less than the standard in condition 13~~5~~, the test frequency may be quarterly.

~~62.c.~~45.c. If any test result exceeds the applicable standard in condition 44~~61~~, the test frequency shall be daily for 5 consecutive days following the exceedance. If the results of the daily tests are all less than the applicable standard in conditions 44~~61~~, the test frequency shall be the same as before the exceedance occurred.

~~62.d.~~45.d. All Method 9 tests shall be performed during periods that the emission devices are in operation.

PM Emission Standard

~~63.~~46. Applicable Requirement: The permittee shall not cause or allow the emission of particulate matter from Particle Dryers-1 & 2 in excess of 0.40 pound per thousand square feet of particleboard produced by the plant on a 3/4" basis of finished product equivalent. [OAR 340-240-0140(1)]. Particulate matter shall be measured in accordance with condition 48~~65~~.

~~63.a.~~46.a. If the one hour average Wet Electrostatic Precipitator (WESP-1) exhaust temperature exceeds 150°F, the permittee shall take corrective action. [OAR 340-226-0120 and 340-218-0050(3)]

~~63.b.~~46.b. If the one hour average WESP-1 voltage (kV) reading is less than 25 kV, the permittee shall take corrective action. [OAR 340-226-0120 and 340-218-0050(3)]

~~63.c.~~46.c. If corrective action cannot be performed within 3 hours of an excursion or the corrective action is ineffective, the permittee shall notify DEQ and immediately observe the Biofilter-1 stack emissions for abnormal visible emissions. If abnormal visible emissions are observed, the permittee shall perform a Method 9 test in accordance with condition 45~~62~~.

~~63.d.~~46.d. In the semi-annual monitoring report required by condition 81~~98~~, the permittee shall report the number of action level excursions during the reporting period.

~~63.e.~~46.e. An action level excursion by itself is not necessarily a violation of the particulate matter emission standard. [OAR 340-226-0120 and 340-218-0050 (3)]

Continuous Monitoring

~~64.~~47. Monitoring Requirement: The permittee shall install, calibrate, maintain, operate, and record the output of a continuous monitoring system for measuring Particle Dryers-1 & 2/WESP-1 voltage and exhaust temperature in accordance with the manufacturer's written instructions.

~~64.a.~~47.a. Real time data shall be displayed at least once every minute that the particle dryers are in operation. Hourly averages of the data shall be recorded once each clock hour that the particle dryers are in operation.

~~64.b.~~47.b. Minimum data availability shall be 90% for any day, month, and year of operation. Monitor availability shall be determined excluding periods of calibrations and routine maintenance.

~~64.c.~~47.c. All excursions of the WESP-1 voltage or exhaust temperature action levels and the corrective action taken to return the Wet Electrostatic Precipitator (WESP-1) to highest and best practicable treatment and control shall be recorded in a particle dryer operating log.

~~64.d.~~47.d. The corrective action levels established in condition 48~~65~~ may be amended, by written approval, by DEQ, based on information submitted by the permittee to DEQ which demonstrates that WESP-1 is operating at the highest and best practicable treatment and control. Upon DEQ approval, the permittee can affect the permit change through the 502(b)(10) application.

Emissions Testing and Emission Factor Verification Testing

~~65.~~48. Oregon Method 7 shall be used for measuring particulate matter emissions from the Particle Dryers-1 & 2/WESP~~Biofilter~~-1. Each test run shall be a minimum of 60 minutes long with a minimum sample volume of 31.6 dscf, unless otherwise approved by DEQ. Test results shall be reported as pounds per hour and pounds per thousand square feet of particleboard production on a 3/4" basis of finished product equivalent.

~~65.a.~~48.a. The WESP~~Biofilter~~ shall be tested for particulate matter once during the permit term~~calendar year 2017 and one every 3 years thereafter~~. [OAR 340-240-0220(1)(b)]
~~65.b. The Biofilter shall be tested bi-annually for compliance with 40 CFR part 63 Subpart DDDD. [Appendix A]~~

~~65.c.~~48.b. During each test run, the permittee shall record the following information:

~~65.c.i.~~48.b.i. particleboard production on a 3/4" basis of finished product equivalent;
~~65.c.ii.~~48.b.ii. visible emissions as measured by EPA Method 9 for a minimum of 6 minutes during or within 30 minutes before or after each Oregon Method 7 test run; and
~~65.c.iii.~~48.b.iii. ~~Biofilter and~~ WESP operating parameters including the pressure drop and exhaust temperature.

~~65.d.~~48.c. A test report prepared in accordance with DEQ's Source Sampling Manual shall be submitted within 60 days of completing the source test.

~~66.~~49. During one of the tests required by condition 48~~65~~, but no later than 18 months prior to the expiration date of this permit, the permittee shall conduct emission factor verification tests in accordance with DEQ's Source Sampling Manual for CO, NOx, and VOC using EPA Methods 10, 7E, and 25A; respectively.

Material Handling and Storage Piles (Mat-1, Mat-1A, Mat-2, Mat-3, Mat-4, Mat-6, Mat-7, Mat-8, Mat-9, and Piles-1)

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
OAR 340-208-0110(3)	50~~67~~	Visible emissions	20% opacity	6-minute average	56~~73~~ and 69~~86~~	67, 52~~69~~ and 53~~70~~
OAR 340-208-0110(4)	51~~68~~	Visible emissions	20% opacity	6-minute average	56~~73~~ and 69~~86~~	67, 52~~69~~ and 53~~70~~
OAR 340-226-0210(2)(a)	54~~71~~	PM	~~0.24gr/dscf~~/0.15 gr/dscf	avg. of 3 test runs	56~~73~~ and 69~~86~~	NA
OAR 340-226-0210(2)(b)	55~~72~~	PM	0.14 gr/dscf	avg. of 3 test runs	56~~73~~ and 69~~86~~	NA
OAR 340-240-0130	57~~74~~	PM	98.5% control if emissions >10 tons/yr	NA	NA	58~~75~~
340-234-0520(1)(a)	59~~76~~	Truck dump	enclosure	NA	NA	60~~77~~

Formatted: Font: Times New Roman, 10 pt

Visible Emissions Standard

~~67.~~50. Applicable Requirement: The permittee must comply with the following visible emission limits for Mat-1, Mat-2, Mat-3, Mat-4, Mat-6, Mat-7, Mat-8, and Mat-9: [OAR 340-208-0110(3)]

~~67.a.~~50.a. Any visible emissions may not equal or exceed an average of 20 percent opacity.

~~67.b.~~50.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 50.b.ii~~67.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~67.b.i.~~50.b.i. EPA Method 9; or
~~67.b.ii.~~50.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~67.b.iii.~~50.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

~~68.~~51. Applicable Requirement: The permittee must comply with the following visible emission limits for Mat-1A and Piles-1: [OAR 340-208-0110(4)]

~~68.a.~~51.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and

~~68.b.~~51.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 51.b.ii~~68.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~68.b.i.~~51.b.i. EPA Method 9; or
~~68.b.ii.~~51.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~68.b.iii.~~51.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

Visible Emissions Monitoring

~~69.~~52. Monitoring Requirement: The permittee shall monitor visible emissions from the stacks or roof vents of Mat-1, Mat-1A, Mat-2, Mat-6, Mat-7, and Mat-8 by conducting a Method 9 test. Each Method 9 test shall be a minimum of 6 minutes long unless any one reading is greater than 20% opacity, then the observation period shall be 60 minutes or until a violation of the applicable standard in conditions 50~~67~~ and 51~~68~~ is documented, whichever period is shorter.

~~69.a.~~52.a. For the baghouse and filter controlled emission devices within emissions unit Mat-1, Mat-1A, Mat-2, Mat-6, Mat-7, and Mat-8, the Method 9 testing may be waived provided the following conditions are met:

~~69.a.i.~~52.a.i. a Method 22 visible emissions survey is performed for a minimum of 6 minutes; and
~~69.a.ii.~~52.a.ii. the visible emissions are less than 5% of the observation period (18 seconds for a 6 minute period).

~~69.b.~~52.b. The initial schedule for conducting the Method 9 or Method 22 tests is as follows:

~~69.b.i.~~52.b.i. Mat-1 and Mat-1A shall be tested monthly
~~69.b.ii.~~52.b.ii. Mat-2, Mat-6, Mat-7, and Mat-8 shall be tested quarterly

~~69.c.~~52.c. If 8 consecutive months of Method 9 test results are less than the standard in conditions 50~~67~~ and 51~~68~~, or the Method 22 tests show visible emissions less than 5% of the observation period, the test frequency may be quarterly.

~~69.d.~~52.d. If any test result exceeds the applicable standard in conditions 50~~67~~ or 51~~68~~, the test frequency shall be daily for 5 consecutive days following the exceedance. If the results of the daily tests are all less than the applicable standard in conditions 50~~67~~ and 51~~68~~, the test frequency shall be the same as before the exceedance occurred.

~~69.e.~~52.e. All Method 9 or Method 22 tests shall be performed during periods that the emission devices are in operation.

~~70.~~53. Monitoring Requirement: Visible emissions monitoring for Mat-3, Mat-4, Mat-9, and Piles-1 are included within the facility wide fugitive PM survey under condition 6~~7~~.

PM Emission Standard

~~71.~~54. Applicable Requirement: The permittee may not emit particulate matter emissions from Mat-1, Mat-2, Mat-3, Mat-4, Mat-6, Mat-7, Mat-8, and Mat-9 in excess of the following limits: [OAR 340-226-0210(2)(a)]

~~71.a.~~54.a. 0.10 grains per dry standard cubic foot provided that all representative compliance source test results collected prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot;

~~71.b.~~54.b. If any representative compliance source test results collected prior to April 16, 2015 demonstrate emissions greater than 0.080 grains per dry standard cubic foot, or if there are no representative compliance source test results, then:

~~71.b.i. 0.24 grains per dry standard cubic foot until Dec. 31, 2019; and~~
~~71.b.ii.~~54.b.i. 0.15 grains per dry standard cubic foot on and after Jan. 1, 2020.

~~71.c.~~54.c. For equipment or a mode of operation that is used less than 876 hours per calendar year, 0.24 grains per dry standard cubic foot from April 16, 2015 through December 31, 2019, and 0.20 grains per dry standard cubic foot on and after Jan. 1, 2020.

~~71.d.~~54.d. The owner or operator of a source installed, constructed or modified before June 1, 1970 may request that DEQ grant an extension allowing the source up to one additional year to comply with the standard in Condition 54.b.i~~71.b.ii~~. The request for an extension must be submitted no later than Oct. 1, 2019.

~~71.e.~~54.e. Compliance with the emissions standards in this condition is determined using:

~~71.e.i.~~54.e.i. Oregon Method 5;
~~71.e.ii.~~54.e.ii. DEQ Method 8, as approved by DEQ for sources with exhaust gases at or near ambient conditions;
~~71.e.iii.~~54.e.iii. DEQ Method 7 for direct heat transfer sources; or
~~71.e.iv.~~54.e.iv. An alternative method approved by DEQ.
~~71.e.v.~~54.e.v. For purposes of this condition, representative compliance source test results are data that was obtained:
~~71.e.v.A.~~54.e.v.A. No more than ten years before April 16, 2015; and
~~71.e.v.B.~~54.e.v.B. When a source is operating and maintaining air pollution control devices and emission reduction processes at the highest reasonable efficiency and effectiveness to minimize emissions based on the current configuration of the fuel burning equipment and pollution control equipment.

~~72.~~55. Applicable Requirement: The permittee may not emit particulate matter emissions Mat-1A and Piles-1 in excess of the following limits: [OAR 340-226-0210(2)(b)]

~~72.a.~~55.a. 0.10 grains per dry standard cubic foot provided that all representative compliance source test results prior to April 16, 2015 demonstrate emissions no greater than 0.080 grains per dry standard cubic foot; or

~~72.b.~~55.b. If any representative compliance source test results collected prior to April 16, 2015 demonstrate emissions greater than 0.080 grains per dry standard cubic foot, or if there are no representative compliance source test results, then 0.14 grains per dry standard cubic foot.

~~72.c.~~55.c. Compliance with the emissions standards in this condition is determined using:

~~72.c.i.~~55.c.i. Oregon Method 5;
~~72.c.ii.~~55.c.ii. DEQ Method 8, as approved by DEQ for sources with exhaust gases at or near ambient conditions;
~~72.c.iii.~~55.c.iii. DEQ Method 7 for direct heat transfer sources; or
~~72.c.iv.~~55.c.iv. An alternative method approved by DEQ.
~~72.c.v.~~55.c.v. For purposes of this condition, representative compliance source test results are data that was obtained:
~~72.c.v.A.~~55.c.v.A. No more than ten years before April 16, 2015; and
~~72.c.v.B.~~55.c.v.B. When a source is operating and maintaining air pollution control devices and emission reduction processes at the highest reasonable efficiency and effectiveness to minimize emissions based on the current configuration of the fuel burning equipment and pollution control equipment.

Visible Emissions and PM Emissions Testing

~~73.~~56. Source testing is not required by this permit to determine compliance with the visible emissions standard of Condition 67 & 68 or the particulate matter emissions standard of Condition 71 & 72. If source testing is conducted, the permittee shall use the test methods and averaging times to measure the pollutant emissions in Condition 69~~86~~.

Air Conveyance Standard and Monitoring

~~74.~~57. Applicable Requirement: Any air conveying system within each emissions unit Mat-1, Mat-1A, Mat-2, Mat-6, Mat-7, or Mat-8 that emits greater than 10 tons per year of particulate matter to the atmosphere shall, with the prior written approval of DEQ, be equipped with a control system with collection efficiency of at least 98.5 percent. [OAR 340-240-0130]

~~75.~~58. Monitoring Requirement: The permittee shall monitor the emissions of all air conveying systems in accordance with the procedures contained in this permit and submit a plan for installing a control device with at least a 98.5% efficiency to DEQ immediately upon discovering that the emissions will exceed 10 tons per year.

Raw Materials Standard

~~76.~~59. Applicable Requirement: The permittee shall cause all truck dump and storage areas holding or intended to hold raw materials to be enclosed to prevent windblown particle emissions from these areas from being deposited upon property not under the ownership of the permittee in accordance with OAR 340-234-0520(1).

~~76.a.~~59.a. The temporary storage of raw materials outside the regularly used areas of the plant site is prohibited unless the permittee first notifies DEQ and receives written approval in accordance with OAR 340-234-0520(1)(b).

~~76.b.~~59.b. If the permittee desires to control windblown particulate emissions from truck dump and storage areas other than by enclosure, the permittee shall first apply to the DEQ for authorization to utilize alternative controls in accordance with OAR 340-234-0520(1)(c).

~~77.~~60. Monitoring Requirement: The permittee must operate the outdoor green sawdust pile in emissions unit Piles-1in accordance with the DEQ approved Alternative Control Plan dated 5/24/1996. Revision does not constitute a reopening of this permit.

Roads (~~Roads-PP,~~ Roads-PU~~, Roads-YP,~~ and Roads-YU)

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0110(3)	61~~78~~	Visible emissions	20% opacity	6-minute block average	None	6~~7~~

Visible Emissions Standard

~~78.~~61. Applicable Requirement: The permittee must comply with the following visible emission limits for sources other than wood or biomass-fired boilers installed, constructed or modified prior to June 1, 1970: [OAR 340-208-0110(3)]

~~78.a.~~61.a. Any visible emissions may not equal or exceed an average of 20 percent opacity.

~~78.b.~~61.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 61.b.ii~~78.b.ii~~, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:

~~78.b.i.~~61.b.i. EPA Method 9; or
~~78.b.ii.~~61.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with DEQ's Continuous Monitoring Manual or 40 CFR part 60; or
~~78.b.iii.~~61.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

Visible Emissions Monitoring

~~79.~~62. Monitoring Requirement: Visible emissions monitoring for ~~Roads-PP,~~ Roads-PU~~, Roads-YP,~~ and Roads-YU is included within the facility wide fugitive PM survey under condition 6~~7~~.

Insignificant Activities Requirements

~~80.~~63. DEQ acknowledges that insignificant emissions units (IEUs) identified by rule as either categorically insignificant activities or aggregate insignificant emissions as defined in OAR 340-200-0020 exist at facilities required to obtain an Oregon Title V Operating Permit. IEUs must comply with all applicable requirements. In general, the requirements that could apply to IEUs are incorporated as follows:

~~80.a.~~63.a. OAR 340-208-0110 (20% opacity)
~~80.b.~~63.b. OAR 340-228-0210 (0.14 gr/dscf corrected to 12% CO_2 or 50% excess air for fuel burning equipment)
~~80.c.~~63.c. OAR 340-226-0210 (0.14 gr/dscf for non-fugitive, non-fuel burning equipment)
~~80.d.~~63.d. OAR 340-226-0310 (process weight limit for non-fugitive, non-fuel burning process equipment)
~~80.e.~~63.e. The permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to the following: [40 CFR 63.11116(a), (b), (d) and OAR 340-244-0240, federally enforceable]

~~80.e.i.~~63.e.i. Minimize gasoline spills;
~~80.e.ii.~~63.e.ii. Clean up spills as expeditiously as practicable;
~~80.e.iii.~~63.e.iii. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
~~80.e.iv.~~63.e.iv. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
~~80.e.v.~~63.e.v. The permittee is not required to submit the notifications or reports as specified in 40 CFR 63.11124 and 63.11126, or subpart A, but the permit must have records available within 24 hours of a request by DEQ to document gasoline throughput.
~~80.e.vi.~~63.e.vi. Portable gasoline containers that meet the requirements of 40 CFR Part 59, subpart F, are considered acceptable for compliance with Condition 63.e.iii~~80.e.iii~~.

~~80.f.~~63.f. In addition to the measures specified in Condition 63.e~~80.e~~, the permittee must take the following measures to minimize vapor releases: [OAR 340-244-0240, state only enforceable]

~~80.f.i.~~63.f.i. Do not top off or overfill vehicle tanks. If a person can confirm that a vehicle tank is not full after the nozzle clicks off (such as by checking the vehicle's fuel tank gauge), the person may continue to dispense fuel using best judgment and caution to prevent a spill;
~~80.f.ii.~~63.f.ii. Post a sign at the gasoline dispensing facility (GDF) instructing a person filling up a motor vehicle to not top off the vehicle tank;
~~80.f.iii.~~63.f.iii. Ensure that cargo tanks unloading at the GDF comply with Conditions 63.e.i~~80.e.i~~ through 63.e.iii~~80.e.iii~~, 63.f.i~~80.f.i~~, and 63.f.ii~~80.f.ii~~.
~~80.f.iv.~~63.f.iv. The permittee must only load gasoline into storage tanks at the facility by utilizing submerged filling, as defined in OAR 340-244-0030. The submerged fill pipe must be no more than 12 inches from the bottom of the storage tank.

Unless otherwise specified in this permit or an applicable requirement, DEQ is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to IEUs. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in and perform the testing in accordance with DEQ's Source Sampling Manual.

PLANT SITE EMISSION LIMITS

~~81.~~64. The permittee must not cause or allow plant site emissions to exceed the following limits for any 12 consecutive calendar month period: [OAR 340-222-0035 through OAR 340-222-0041]

Pollutant	Plant Site Emission Limit (tons/yr)	Unassigned Emissions (tons/yr)
PM	130~~207~~	69
PM_{10}	85~~159~~	69
$PM_{2.5}$	57~~124~~	69
SO_2	39	0
NO_x	154~~162~~	0
CO	256~~238~~	0
VOC	226~~239~~	40
GHG (CO_2e)	83,~~2~~300	0

~~81.a.~~64.a. The permittee may only use Unassigned Emissions after any necessary construction (OAR 340-218-0190) and permit revision applications (OAR 340-218-0120 through 340-218-0180) have been approved by DEQ. If not used by the permit renewal, the unassigned emissions will be reduced to the SER except for Particulate Matter (OAR 340-222-0055(3)(c) [OAR 340-222-055(3)(c)]

~~82.~~65. The permittee must not cause or allow plant site emissions to exceed the following short term limits: [OAR 340-222-0042]

Emissions Unit(s)	Pollutant(s)	PSEL
Plant-2: ~~Boiler-1,~~ PW Boiler, PB Boiler, ~~Veneer Dryers / RTO,~~ Veneer Dryer M1 / RTO, Veneer Dryers FUG, Plywood Press-1, Plywood Press-2, Plywood Press-3, Particle Dryers-1&2, ~~/~~ Particleboard Press-1~~/Biofilter~~, Mat-1, Mat-1A, Mat-2, Mat-3, Mat-4, Mat-6, Mat-7, Mat-8, and Mat-9	PM	519~~866~~ lb/day
	PM_{10}	490~~863~~ lb/day
	$PM_{2.5}$	409~~755~~ lb/day
Plant-3: Piles-1, ~~Roads-PP,~~ Roads-PU, ~~Roads-YP,~~ and Roads-YU~~, and Chemicals-1~~	PM	10,888~~12,641~~ lb/month
	PM_{10}	2,943~~3,316~~ lb/month
	$PM_{2.5}$	302~~383~~ lb/month

~~82.a.~~65.a. The permittee shall determine compliance with the monthly plant site emissions limit for emissions unit Plant-3 by summing the monthly emissions determined by conditions 66.e~~83.e~~ and 66.f~~83.f~~.

Monitoring Requirement: [OAR 340-218-0050(3)]

~~83.~~66. The permittee must determine compliance with the Plant Site Emission Limits established in Condition 64~~81~~ or 65~~82~~ of this permit by conducting monitoring and calculations for each 12-month period in accordance with the following procedures, test methods, and frequencies except for GHGs:

~~83.a.~~66.a. The permittee shall monitor the following process parameters:

Emissions Unit	Process Parameter	Units	Frequency
~~Boiler 1,~~ PW Boiler, PB Boiler	Fuel usage	MMscf	daily
~~Veneer Dryers / RTO,~~ Veneer Dryer M1 / RTO, and VD-FUG	Gross veneer dried	MSF-3/8" basis	daily
Plywood Press-1&2, Plywood Press 3, Mat-6, Mat-7, Mat-8, and Mat-9	Finished plywood	MSF-3/8" basis	daily
Mat-1,Mat-1A, Mat-2, Mat-3, Mat-4	Finished particleboard	MSF-3/4" basis	daily
Particleboard Press-1 ~~/ Particle Dryers / Biofilter exhaust~~	Finished particleboard pressed	MSF-3/4" basis	daily
Particle Dryers 1&2	Furnish dried	BDT	daily
Piles-1	Finished particleboard	MSF-3/4" basis	monthly
~~Roads-PP and~~ Roads-PU	Finished particleboard	MSF-3/4" basis	monthly
~~Roads-YP and~~ Roads YU	Finished plywood	MSF-3/8" basis	monthly

~~83.b.~~66.b. The permittee shall calculate short and long term emissions for emissions units ~~Boiler-1,~~ PW Boiler, PB Boiler RTO-1, VD-FUG, Plywood Press-1, Plywood Press-2, Particleboard Press-1 and Particle Dryers 1&2~~BIO-1~~ using the following formula, process parameters, and emission factors:

$$E = P_{eu} \times EF_{eu} \times K$$

where:

E	=	Pollutant emissions in lbs/month and tons/yr.
P_{eu}	=	Process parameter identified in the table below;
EF_{eu}	=	Emission factor identified for each emissions unit and pollutant in the table below;
K	=	Conversion constant: 1 lb/lb for daily and monthly emissions calculations; 1 ton/2,000 lbs for annual emissions calculations.

Emission Source Description	Throughput Type [Units]	Emission Factors (lb/throughput unit)				
		$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC
~~Boiler 1~~	~~lb/million cubic feet of gas~~	~~2.5~~	~~1.7~~	~~100~~	~~84~~	~~5.5~~
PW Boiler, PB Boiler	lb/million cubic feet of gas	2.5	1.7	100	84	5.5
~~Veneer Dryers /RTO~~	~~lb/MSF veneer dried (3/8" basis)~~	~~0.0168~~	~~--~~	~~0.008~~	~~0.962~~	~~0.055~~
Veneer Dryer M1 / RTO	lb/MSF veneer dried (3/8" basis)	0.01852	--	0.12	0.962	0.01822
VD-FUG	lb/MSF veneer dried (3/8" basis)	0.0273	--	--	--	0.03098
Plywood Press-1&2, Plywood Press-3	lb/MSF plywood production (3/8" basis)	0.203	--	--	--	0.048
Particleboard Press	lb/MSF particleboard production (3/4" basis)	0.21	--	0.017	0.22	0.56
Particle Dryers ~~/ Particleboard Press / Biofilter exhaust~~	lb/BDT furnish~~MSF particleboard production (3/4" basis)~~	0.28104	-- 0.034	1.791.381	1.431.106	0.90716
Particleboard Dryers	lb/MMBtu	--	0.025	--	--	--

~~83.c.~~66.c. The permittee shall calculate the short and long term emissions for emissions units

Mat-1, Mat-2, Mat-3, and Mat-4 using the following formula and the process parameter measurements identified in condition 66.a~~83.a~~:

Formatted: Condensed by 0.1 pt

$$E = \Sigma\ [(E_{prop,\,i}/P_{prop}) \times P)]$$

where:

E = pollutant emissions in lbs/day or tons/yr.
$E_{prop,i}$ = emissions of each pollutant from emission unit, as presented in proposed emission inventory. Proposed emissions are as follows:

E_{prop}	PM		PM_{10}		$PM_{2.5}$	
	Daily (lbs/day)	Annual (tons/yr)	Daily (lbs/day)	Annual (tons/yr)	Daily (lbs/day)	Annual (tons/yr)
Mat-1	1.15	0.11	1.15	0.11	1.14	0.11
Mat-1A	0.55	0.08	0.55	0.08	0.55	0.08
Mat-2	31.0	4.00	26.43~~1.0~~	3.40~~4.00~~	15.53~~1.0~~	2~~4~~.00
Mat-3	0.98~~1.3~~	0.13~~7~~	0.46	0.06	0.07	0.01
Mat-4	0.05~~7~~	0.01	0.024	0.024	0.004	0.001

P_{prop} = proposed finished particleboard production:
= 167,535MSF - 3/4" basis per year
700 MSF - 3/4" basis per day
P = actual daily or annual particleboard production in MSF - 3/4" finished basis

~~83.d.~~66.d. The permittee shall calculate the short and long term emissions for emissions units Mat-6, Mat-7, Mat-8, and Mat-9 using the following formula and the process parameter measurements identified in condition 66.a~~83.a~~:

Formatted: Condensed by 0.1 pt

$$E = \Sigma\ [(E_{prop,i}/P_{prop}) \times P)]$$

where:

E = pollutant emissions in lbs/day or tons/yr.
$E_{prop,i}$ = emissions of each pollutant from emission unit, as presented in proposed emission inventory. Proposed emissions are as follows:

E_{prop}	PM		PM_{10}		$PM_{2.5}$	
	Daily (lbs/day)	Annual (tons/yr)	Daily (lbs/day)	Annual (tons/yr)	Daily (lbs/day)	Annual (tons/yr)
Mat-6	0.42~~01~~	0.074~~02~~	0.42~~01~~	0.074~~02~~	0.42~~01~~	0.074~~02~~
Mat-7	0.03	0.005	0.03	0.005	0.03	0.005
Mat-8	1.05	0.185	1.05	0.185	1.05	0.185
Mat-9	0.02	0.003~~4~~	0.01	0.001	0.001	0.0002

P_{prop} = proposed finished plywood production:
= 262,800 MSF - 3/8" basis per year
720 MSF - 3/8" basis per day
P = actual daily or annual plywood production in

MSF - 3/8" finished basis

~~83.e.~~66.e. The permittee shall calculate the short and long term emissions for emissions unit Piles-1 using the following formula and the process parameter measurements identified in condition 66.a~~83.a~~:

Formatted: Condensed by 0.1 pt

$$E = E_{prop,i}/P_{prop} \times P$$

where:

E = pollutant emissions in lbs/month or tons/yr.
$E_{prop,i}$ = emissions of pollutant, as presented in proposed emission inventory. Proposed emissions are as follows:

E_{prop}	Piles-1	
	Monthly (lbs/mo~~day~~)	Annual (tons/yr)
PM	17.0~~.55~~	0.1
PM_{10}	8.50~~.27~~	0.05
$PM_{2.5}$	8.50~~.27~~	0.05
VOC	14.436~~5.000~~	86.69~~0~~

P_{prop} = proposed finished particleboard production:
= 167,535 MSF - 3/4" basis per year
21,000 MSF - 3/4" basis per month
P = actual monthly or annual particleboard production in MSF - 3/4" finished basis

~~83.f.~~66.f. The permittee shall calculate the short and long term emissions for emissions units ~~Roads-PP,~~ Roads-PU~~, Roads-YP,~~ and Roads-YU using the following formula and the process parameter measurements identified in condition 66.a~~83.a~~:

Formatted: Condensed by 0.1 pt

$$E = \Sigma\ [(E_{prop,i}/P_{prop}) \times P)]$$

where:

E = pollutant emissions in lbs/month or tons/yr.
$E_{prop,i}$ = emissions of pollutant, as presented in proposed emission inventory. Proposed emissions are as follows:

E_{prop}	PM		PM_{10}		$PM_{2.5}$		P_{prop}
	Daily (lbs/mo~~day~~)	Annual (tons/yr)	Daily (lbs/mo~~day~~)	Annual (tons/yr)	Daily (lbs/mo~~day~~)	Annual (tons/yr)	
~~plyp Roads-YP~~	~~20.13~~	~~3.67~~	~~4.03~~	~~0.73~~	~~0.99~~	~~0.18~~	~~Plywood production~~
plyu Roads-YU	7.125~~151.77~~	36.7~~27.70~~	1.924~~40.97~~	9.90~~7.48~~	192~~4.10~~	0.99~~0.75~~	Plywood production
~~pbp Roads-PP~~	~~12.75~~	~~2.33~~	~~2.55~~	~~0.47~~	~~0.63~~	~~0.11~~	~~Particleboard production~~

pbu Roads-PU	3,746~~100.71~~	19.3~~18.38~~	1,011~~27.19~~	5.22~~4.96~~	101~~2.72~~	0.52~~0.50~~	Particleboard production

P_{prop} for plywood associated traffic = 262,800 MSF - 3/8" basis per year
21,600 MSF - 3/8" basis per month
P_{prop} for particleboard associated traffic = 167,535 MSF - 3/4" basis per year
21,000 MSF - 3/4" basis per month
P = actual monthly or annual plywood or particleboard production in MSF - 3/8" and 3/4" finished basis; respectively

~~83.g.~~66.g. The emissions factors listed in Condition 66.b~~83.b~~ are not enforceable limits unless otherwise specified in this permit. Compliance with PSELs must only be determined by the calculations contained in this condition.

~~83.h.~~66.h. Emission factor verification testing

~~83.h.i.~~66.h.i. The permittee shall conduct emission verification tests for the following emissions sources:
~~83.h.i.A. Boiler-1for NOx in condition 28~~
~~83.h.i.B. Package Boilers for NOx in condition 34~~
~~83.h.i.C. VD/RTO-1 for VOC in condition 40~~
~~83.h.i.D.~~66.h.i.A. ~~Proposed~~ VD M1/RTO-1 for VOC in condition 32~~49~~
~~83.h.i.E.~~66.h.i.B. Particle Dryers 1&2~~Biofilter-1~~ for CO, NOx, and VOC in condition 49~~66~~

~~83.h.ii.~~66.h.ii. Emissions results shall be reported in units of the emission factor in the PSEL monitoring section, Condition 66.b~~83.b~~.

~~83.h.iii.~~66.h.iii. The permittee shall submit a summary of all emission factor verification tests to DEQ within 60 days of any test. The summary shall include the following information:

~~83.h.iii.A.~~66.h.iii.A. Emissions unit, emissions device, and monitoring point identification;
~~83.h.iii.B.~~66.h.iii.B. Emission results in pounds per hour and pounds per production (e.g., steam, particleboard pressed (MSF - 3/4" basis), material throughput (BDT), and veneer dried (MSF - 3/8" basis);
~~83.h.iii.C.~~66.h.iii.C. Process parameters during the test (e.g. material throughput, types and amounts of fuels, heat input, etc.); and
~~83.h.iii.D.~~66.h.iii.D. Control device operating parameters.

~~83.i.~~66.i. Recordkeeping: The permittee must maintain the following source specific records:

~~83.i.i.~~66.i.i. records of the daily and annual amount of fuel burned in Boiler-1, PW Boiler, and PB Boiler by fuel type [40 CFR 60.48c(g)];
~~83.i.ii.~~66.i.ii. records of the daily and annual gross amount of veneer dried (ft^2 - 3/8" basis) by species and type (heart/sap/redry);
~~83.i.iii.~~66.i.iii. records of the daily, monthly, and annual amount of finished plywood produced (ft^2 - 3/8" basis);
~~83.i.iv.~~66.i.iv. records of the daily and annual amount of gross (actual) particleboard produced (ft^2 - 3/4" basis);
~~83.i.v.~~66.i.v. records of the daily, monthly, and annual amount of finished particleboard

produced (ft^2 - 3/4" basis);

~~83.i.vi.~~66.i.vi. records of the facility inspection and maintenance activities;

~~83.i.vii.~~66.i.vii. records of operation and maintenance activities and corrective actions, including 3 hour block average RTO bed temperature and WESP-1 voltage and exhaust temperature~~and amperage and 24 hour average biofilter bed temperature~~;

~~83.i.viii.~~66.i.viii. records of the weekly facility excess fugitive emissions inspections and corrective action;

~~83.i.ix.~~66.i.ix. records of air pollution episodes and emission reduction actions performed, upon occurrence;

~~83.i.x.~~66.i.x. records of the visible emissions observation reports and corrective action log;

~~83.i.xi.~~66.i.xi. records of inspection and maintenance procedures for control devices;

~~83.i.xii.~~66.i.xii. records of the occurrence and length of downtime for all pollution control devices;

~~83.i.xiii.~~66.i.xiii. source test and emission factor verification test reports;

~~83.i.xiv.~~66.i.xiv. short and long term plant site emissions for emissions units Plant-1, Plant-2, Plant-3, Plant-4, and Plant-5;

~~83.i.xv.~~66.i.xv. excess emissions.

EMISSION FEES

~~84.~~67. Emission fees will be based on the Plant Site Emissions Limits, unless permittee elects to report actual emissions for one or more permitted processes/pollutants. [OAR 340-220-0090]

GENERAL TESTING REQUIREMENTS

~~85.~~68. Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with DEQ's Source Sampling Manual. [OAR 340-212-0120] [40 CFR 60.8]

~~85.a.~~68.a. Unless otherwise specified by a state or federal regulation, the permittee must submit a source test plan to DEQ at least 30 days prior to the date of the test. The test plan must be prepared in accordance with the Source Sampling Manual and address any planned variations or alternatives to prescribed test methods. Permittee should be aware, if significant variations are requested, it may require more than 30 days for DEQ to grant approval and may require EPA approval in addition to approval by DEQ.

~~85.b.~~68.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

~~85.c.~~68.c. Unless otherwise specified by permit condition or DEQ approved source test plan, all compliance source tests must be performed as follows:

~~85.c.i.~~68.c.i. At least 90% of the design capacity for new or modified equipment;

~~85.c.ii.~~68.c.ii. At least 90% of the maximum operating rate for existing equipment; or

~~85.c.iii.~~68.c.iii. At 90 to 110% of the normal maximum operating rate for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report.

~~85.d.~~68.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, DEQ may accept two (2) test runs for demonstrating compliance with the emission limit or standard.

~~85.e.~~68.e. Source test reports prepared in accordance with DEQ's Source Sampling Manual must be submitted to DEQ within 60 days of completing any required source test, unless a

different time period is approved in the source test plan submitted prior to the source test.

~~86.~~69. Although source testing is not required by this permit for the permit conditions listed below, if source testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods and averaging times to measure the pollutant emissions:

Permit Condition	Test Method	Averaging Time	Special conditions
1~~23~~, 22~~29~~, 36~~53~~, 50~~67~~, 51~~68~~ and 61~~78~~	Modified EPA Method 9 in accordance with the DEQ's Source Sampling Manual	aggregate of three min. in any 60 min. period	Each Method 9 observation shall represent a period of 15 seconds for the purpose of determining the aggregate amount of time in a 60 minute period that the visible emissions are greater than the opacity limit. The test duration may be less than 60 minutes if a violation of the standard is documented before the full 60 minute observation period is completed
1~~24~~, 23~~30~~, 1~~37~~, 38~~55~~, 54~~71~~, and 55~~72~~	ODEQ Method 5, 7, or 8	average of three test runs	ODEQ Method 8 is for sources with exhaust gases at essentially ambient conditions (e.g. material handling cyclones); ODEQ Method 7 is for direct contact combustion sources (e.g. particle and veneer dryers); ODEQ Method 5 is for indirect contact fuel burning equipment (e.g. boilers) and any other source.

Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt
Formatted: Font: 8 pt

GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS

General Monitoring Requirements:

~~87.~~70. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]

~~88.~~71. The permittee must use the same methods to determine compliance as those used to determine actual emissions for fee purposes and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]

~~89.~~72. The permittee must comply with the monitoring requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

General Recordkeeping Requirements

~~90.~~73. The permittee must maintain the following general records of testing and monitoring required by this permit: [OAR 340-218-0050(3)(b)(A)]

~~90.a.~~73.a. The date, place as defined in the permit, and time of sampling or measurements;
~~90.b.~~73.b. The date(s) analyses were performed;
~~90.c.~~73.c. The company or entity that performed the analyses;
~~90.d.~~73.d. The analytical techniques or methods used;
~~90.e.~~73.e. The results of such analyses;
~~90.f.~~73.f. The operating conditions as existing at the time of sampling or measurement; and
~~90.g.~~73.g. The records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drift checks).

~~91.~~74. Unless otherwise specified by permit condition, the permittee must make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), the missing record(s) will not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time is specified. Upon discovering a required record is missing, the permittee must document the reason for the missing record. In addition, any missing record that can be recovered from other available information will not be considered a missing record. [OAR 340-214-0110, 340-214-0114, and

340-218-0050(3)(b)]

~~92.~~75. The permittee must comply with the recordkeeping requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]

~~93.~~76. Unless otherwise specified, the permittee must retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings (or other original data) for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contaminant Discharge Permit or Oregon Title V Operating Permit must also be retained for five (5) years from the date of the monitoring sample, measurement, report, or application. [OAR 340-218-0050(b)(B)]

REPORTING REQUIREMENTS

General Reporting Requirements

~~94.~~77. Excess Emissions Reporting: The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]

~~94.a.~~77.a. Immediately (within 1 hour of the event) notify DEQ of an excess emission event by phone, email, or facsimile; and

~~94.b.~~77.b. Within 15 days of the excess emissions event, submit a written report that contains the following information: [OAR 340-214-0340(1)]

~~94.b.i.~~77.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;

~~94.b.ii.~~77.b.ii. The date and time the permittee notified DEQ of the event;

~~94.b.iii.~~77.b.iii. The equipment involved;

~~94.b.iv.~~77.b.iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;

~~94.b.v.~~77.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;

~~94.b.vi.~~77.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);

~~94.b.vii.~~77.b.vii. The final resolution of the cause of the excess emissions; and

~~94.b.viii.~~77.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.

~~94.c.~~77.c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Accident Response System (OARs). The current number is 1-800-452-0311.

~~94.d.~~77.d. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess emissions to DEQ for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by DEQ in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.

~~94.e.~~77.e. The permittee must notify DEQ of planned startup/shutdown or scheduled maintenance events.

~~94.f.~~77.f. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(3). However, the permittee is not required to submit the detailed log

with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period. [OAR 340-218-0050(3)(c)]

~~95.~~78. Permit Deviations Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition 77~~94~~.

Continuous monitoring report for conditions 38, 47 and 64 shall be submitted to DEQ's Western Region Medford office of the fifteenth of each month for the previous month. Reporting shall be in a format approved in a format approved by the Medford office (the report shall include the information required in Appendix C of DEQ's Continuous Monitoring Manual).

~~96.~~79. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5); [OAR 340-218-0050(3)(c)(D)]

~~97.~~80. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

Addresses of regulatory agencies are the following, unless otherwise instructed:

Submit all Notices and applications that do not include payment to the Western Region~~Western Region~~'s Permit Coordinator.

Submit all reports (annual reports, source test plans and reports, etc.) to DEQ's Western Region~~Western Region~~. If you know the name of the Air Quality staff member responsible for your permit, please include it.

Western Region~~Western Region~~
4026 Fairview Industrial Drive SE
Salem, OR 97302~~Salem, OR 97302~~
503-378-8240

Submit payments for invoices, applications to modify the permit, and any other payments to DEQ's Business Office:
DEQ – Air Quality Division
811 SW Sixth Avenue
Portland, OR 97204
503-229-5359

Submit all reports for EPA requirements to:
Air Operating Permits
US Environmental Protection Agency
Mail Stop OAQ-108
1200 Sixth Avenue
Seattle, WA 98101

Semi-annual and Annual Reports

~~98.~~81. The permittee must submit three (3) copies of reports of any required monitoring at least every 6 months, completed on forms approved by DEQ. Six month periods are January 1 to June 30, and July 1 to December 31. One copy of the report must be submitted to the EPA and two copies to the DEQ regional office. All instances of deviations from permit requirements must be clearly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(d)]]

~~98.a.~~81.a. The first semi-annual report is be due on July 30 and must include the semi-annual compliance certification, OAR 340-218-0080.

~~98.b.~~81.b. The annual report is due on March 15 and must consist of the following:

~~98.b.i.~~81.b.i. The emission fee report; [OAR 340-220-0100]
~~98.b.ii.~~81.b.ii. A summary of the excess emissions upset log; [OAR 340-214-0340]
~~98.b.iii.~~81.b.iii. The second semi-annual compliance certification; and [OAR 340-218-0080]
~~98.b.iv.~~81.b.iv. Annual emission inventory report for the prior calendar year (R1001)
~~98.b.v.~~81.b.v. Other annual reporting requirements:
~~98.b.v.A.~~81.b.v.A. Annual records of fuel used~~total steam produced in Boiler 1,~~ PW Boiler~~,~~ and PB Boiler;
~~98.b.v.B.~~81.b.v.B. Annual records of total gross veneer dried (3/8" basis);
~~98.b.v.C.~~81.b.v.C. Annual records of total finished plywood produced (3/8" basis);
~~98.b.v.D.~~81.b.v.D. Annual records of total finished particleboard produced (3/4" basis);
~~98.b.v.E.~~81.b.v.E. Annual records of total gross particleboard produced (3/4" basis);
~~98.b.v.F.~~81.b.v.F. Annual records of total amount of VOC containing materials used along with the VOC percent.

~~99.~~82. The semi-annual compliance certification must include the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable): [OAR 340-218-0080(6)(c)]

~~99.a.~~82.a. The identification of each term or condition of the permit that is the basis of the certification;
~~99.b.~~82.b. The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means must include, at a minimum, the methods and means required under OAR 340-218-0050(3). *Note: Certification of compliance with the monitoring conditions in the permit is sufficient to meet this requirement, except when the permittee must certify compliance with new applicable requirements that are incorporated by reference into the permit. When certifying compliance with new applicable requirements that are not yet in the permit, the permittee must provide the information required by this condition.* If necessary, the permittee must identify any other material information that must be included in the certification to comply with section 113(c)(2) of the FCAA, which prohibits knowingly making a false certification or omitting material information;
~~99.c.~~82.c. The status of compliance with terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification must be based on the method or means designated in Condition 82.b~~99.b~~ of this rule. The certification must identify each deviation and take it into account in the compliance certification. The certification must also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance, as defined under OAR 340-200-0020, occurred; and
~~99.d.~~82.d. Such other facts as DEQ may require to determine the compliance status of the source.

~~100.~~83. Greenhouse Gas Registration and Reporting: If the calendar year emission rate of greenhouse gases (CO2e) is greater than or equal to 2,756 tons (2,500 metric tons), the permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215. The greenhouse gas report must be certified by the responsible official consistent with OAR 340-218-0040(5).

~~101.~~84. Notwithstanding any other provision contained in any applicable requirement, the permittee may use monitoring as required under OAR 340-218-0050(3) and incorporated into the permit, in addition to any

specified compliance methods, for the purpose of submitting compliance certifications. [OAR 340-218-0080(6)(e)]

NON-APPLICABLE REQUIREMENTS

~~102.~~85. The following State and Federal air quality requirements are not applicable to this facility for the reasons stated. [OAR 340-218-0110]

Applicable Requirement	Reason Code	Applicable Requirement	Reason Code	Applicable Requirement	Reason Code	Applicable Requirement	Reason Code
OAR Chapter 340:						**40 CFR**	
Division 202		**Division 230:**		**Division 240:**		Part 55	b
0050 through 0220	g	0100 through 0150	e	0110	e	Part 57	b
Division 208		0200 through 0230	e	0150	e	Part 60, except subparts A, Dc and appendixes	b
0510 through 0610	d	0310 through 0500	e	0160	e	Part 61, except subpart A, M, and appendices	b
Division 214		**Division 232:**		0320 through 0610	e	Part 63, except subpart A, DDDD, DDDDD, and appendices	b
0210 through 0220	c	0050 through 0230	c	**Division 242:**		Part 72 through 76	b
Division 222		**Division 234:**		0070 through 0630	d	Part77	b
0040	h	0110 through 0140	e	**Division 256:**		Part78	b
0090	h	0210 through 0270	b	0210 through 0470	b	Part 82, except subpart F	b
Division 226:		0530	b	**Division 258:**		Part 85 through 89	b
0310 through 0320	e	**Division 236:**		0010 through 0400	b		
Division 228:		0310 through 0330	b	**Division 260:**			
0100 through 0130	f	0410 through 0440	b	0030	b		
0200	e	0500	b	0040	b		
0300	f	**Division 238:**		**Division 264:**			
		0100	b	0100 through 0160	d		
				0175 through 0180	d		

Reason code definitions:

a this pollutant is not emitted by the facility
b the facility is not in this source category
c the facility is not in a special control/nonattainment area
d the facility is not in this county
e the facility does not have this emissions unit
f the facility does not use this fuel type
g the rule does not apply because no changes have been made at the facility that would trigger these procedural requirements

h this method/procedure is not used by the facility
i this rule applies only to DEQ and regional authorities
j. there are no emissions units with add-on control devices or the pre-controlled potential emissions are is less than 100 tons per year or the emissions units with add-on control devices and pre-controlled emissions greater than 100 tons per year are subject to emissions standards promulgated after November of 1990

GENERAL CONDITIONS

G1. General Provision

Terms not otherwise defined in this permit have the meaning assigned to such terms in the referenced regulation.

G2. Reference materials

Where referenced in this permit, the versions of the following materials are effective as of the dates noted unless otherwise specified in this permit:

a. Source Sampling Manual; April 16, 2015 - State Implementation Plan Volume 3, Appendix A4;
b. Continuous Monitoring Manual; April 16, 2015 - State Implementation Plan Volume 3, Appendix A6; and
c. All state and federal regulations as in effect on the date of issuance of this permit.

G3. Applicable Requirements [OAR 340-218-0010(3)(b)]

Oregon Title V Operating Permits do not replace requirements in Air Contaminant Discharge Permits (ACDP) issued to the source even if the ACDP(s) have expired. For a source operating under a Title V permit, requirements established in an earlier ACDP remain in effect notwithstanding expiration of the ACDP or Title V permit, unless a provision expires by its terms or unless a provision is modified or terminated following the procedures used to establish the requirement initially. Source specific requirements, including, but not limited to TACT, RACT, BACT, and LAER requirements, established in an ACDP must be incorporated into the Oregon Title V Operating Permit and any revisions to those requirements must follow the procedures used to establish the requirement initially.

G4. Compliance [OAR 340-218-0040(3)(n)(C), 340-218-0050(6), and 340-218-0080(4)]

a. The permittee must comply with all conditions of this permit. Any permit condition noncompliance constitutes a violation of the Federal Clean Air Act and/or state rules and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. Any noncompliance with a permit condition specifically designated as enforceable only by the state constitutes a violation of state rules only and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
b. Any schedule of compliance for applicable requirements with which the source is not in compliance at the time of permit issuance is supplemental to, and does not sanction noncompliance with the applicable requirements on which it is based.
c. For applicable requirements that will become effective during the permit term, the source must meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement.

G5. Masking Emissions:

The permittee must not install or use any device or other means designed to mask the emission of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [OAR 340-208-0400] This condition is enforceable only by the State.

G6. Credible Evidence:

Notwithstanding any other provisions contained in any applicable requirement, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any such applicable requirements. [OAR 340-214-0120]

G7. Certification [OAR 340-214-0110, 340-218-0040(5), 340-218-0050(3)(c)(D), and 340-218-0080(2)]

Any document submitted to DEQ or EPA pursuant to this permit must contain certification by a responsible official of truth, accuracy and completeness. All certifications must state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and, complete. The permittee must promptly, upon discovery, report to DEQ a material error or omission in these records, reports, plans, or other documents.

G8. Open Burning [OAR Chapter 340, Division 264]

The permittee is prohibited from conducting open burning, except as may be allowed by OAR 340-264-0020 through 340-264-0200.

G9. Asbestos [40 CFR Part 61, Subpart M (federally enforceable), OAR Chapter 340-248-0005 through 340-248-0180 (state-only enforceable) and 340-248-0205 through 340-248-0280]

The permittee must comply with OAR Chapter 340, Division 248, and 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

G10. Stratospheric Ozone and Climate Protection [40 CFR 82 Subpart F, OAR 340-260-0040]

The permittee must comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.

G11. Permit Shield [OAR 340-218-0110]

a. Compliance with the conditions of the permit is deemed compliance with any applicable requirements as of the date of permit issuance provided that:

   i. Such applicable requirements are included and are specifically identified in the permit, or
   ii. DEQ, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

b. Nothing in this rule or in any federal operating permit alters or affects the following:

   i. The provisions of ORS 468.115 (enforcement in cases of emergency) and ORS 468.035 (function of department);
   ii. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
   iii. The applicable requirements of the national acid rain program, consistent with section 408(a) of the FCAA; or

iv. The ability of DEQ to obtain information from a source pursuant to ORS 468.095 (investigatory authority, entry on premises, status of records).

c. Sources are not shielded from applicable requirements that are enacted during the permit term, unless such applicable requirements are incorporated into the permit by administrative amendment, as provided in OAR 340-218-0150(1)(h), significant permit modification, or reopening for cause by DEQ.

G12. Inspection and Entry [OAR 340-218-0080(3)]

Upon presentation of credentials and other documents as may be required by law, the permittee must allow DEQ, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), to perform the following:

a. Enter upon the permittee's premises where an Oregon Title V Operating Permit program source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
b. Have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;
c. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. As authorized by the FCAA or state rules, sample or monitor, at reasonable times, substances or parameters, for the purposes of assuring compliance with the permit or applicable requirements.

G13. Fee Payment [OAR 340-220-0010, and 340-220-0030 through 340-220-0190]

The permittee must pay an annual base fee and an annual emission fee for particulates, sulfur dioxide, nitrogen oxides, and volatile organic compounds. The permittee must submit payment to the DEQ of Environmental Quality, Financial Services, 811 SW 6th Ave., Portland, OR 97204, within 30 days of date DEQ mails the fee invoice or August 1 of the year following the calendar year for which emission fees are paid, whichever is later. Disputes must be submitted in writing to DEQ. Payment must be made regardless of the dispute. User-based fees will be charged for specific activities (e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

G14. Off-Permit Changes to the Source [OAR 340-218-0140(2)]

a. The permittee must monitor for, and record, any off-permit change to the source that:

i. Is not addressed or prohibited by the permit;
ii. Is not a Title I modification;
iii. Is not subject to any requirements under Title IV of the FCAA;
iv. Meets all applicable requirements;
v. Does not violate any existing permit term or condition; and
vi. May result in emissions of regulated air pollutants subject to an applicable requirement but not otherwise regulated under this permit or may result in insignificant changes as defined in OAR 340-200-0020.

b. A contemporaneous notification, if required under OAR 340-218-0140(2)(b), must be submitted to DEQ and the EPA.
c. The permittee must keep a record describing off-permit changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
d. The permit shield of Condition G11 does not extend to off-permit changes.

G15. Section 502(b)(10) Changes to the Source [OAR 340-218-0140(3)]

a. The permittee must monitor for, and record, any section 502(b)(10) change to the source, which is defined as a change that would contravene an express permit term but would not:

i. Violate an applicable requirement;
ii. Contravene a federally enforceable permit term or condition that is a monitoring, recordkeeping, reporting, or compliance certification requirement; or
iii. Be a Title I modification.

b. A minimum 7-day advance notification must be submitted to DEQ and the EPA in accordance with OAR 340-218-0140(3)(b).
c. The permit shield of Condition G11 does not extend to section 502(b)(10) changes.

G16. Administrative Amendment [OAR 340-218-0150]

Administrative amendments to this permit must be requested and granted in accordance with OAR 340-218-0150. The permittee must promptly submit an application for the following types of administrative amendments upon becoming aware of the need for one, but no later than 60 days of such event:

a. Legal change of the registered name of the company with the Corporations Division of the State of Oregon, or
b. Sale or exchange of the activity or facility.

G17. Minor Permit Modification [OAR 340-218-0170]

The permittee must submit an application for a minor permit modification in accordance with OAR 340-218-0170.

G18. Significant Permit Modification [OAR 340-218-0180]

The permittee must submit an application for a significant permit modification in accordance with OAR 340-218-0180

G19. Staying Permit Conditions [OAR 340-218-0050(6)(c)]

Notwithstanding Conditions G16 and G17, the filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G20. Construction/Operation Modification [OAR 340-218-0190]

The permittee must obtain approval from DEQ prior to construction or modification of any stationary source or air pollution control equipment in accordance with OAR 340-210-0200 through OAR 340-210-0250.

G21. New Source Review Modification [OAR 340-224-0010]

The permittee may not begin construction of a major source or a major modification of any stationary source without having received an Air Contaminant Discharge Permit (ACDP) from DEQ and having satisfied the requirements of OAR 340, Division 224.

G22. Need to Halt or Reduce Activity Not a Defense [OAR 340-218-0050(6)(b)]

The need to halt or reduce activity will not be a defense. It will not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G23. Duty to Provide Information [OAR 340-218-0050(6)(e) and OAR 340-214-0110]

The permittee must furnish to DEQ, within a reasonable time, any information that DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee must also furnish to DEQ copies of records required to be retained by the permit or, for information claimed to be confidential, the permittee may furnish such records to DEQ along with a claim of confidentiality.

G24. Reopening for Cause [OAR 340-218-0050(6)(c) and 340-218-0200]

a. The permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by DEQ.
b. A permit must be reopened and revised under any of the circumstances listed in OAR 340-218-0200(1)(a).
c. Proceedings to reopen and reissue a permit must follow the same procedures as apply to initial permit issuance and affect only those parts of the permit for which cause to reopen exists.

G25. Severability Clause [OAR 340-218-0050(5)]

Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, recordkeeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with.

G26. Permit Renewal and Expiration [OAR 340-218-0040(1)(a)(D) and 340-218-0130]

a. This permit expires at the end of its term, unless a timely and complete renewal application is submitted as described below. Permit expiration terminates the permittee's right to operate.
b. Applications for renewal must be submitted at least 12 months before the expiration of this permit, unless DEQ requests an earlier submittal. If more than 12 months is required to process a permit renewal application, DEQ must provide no less than six (6) months for the owner or operator to prepare an application.
c. Provided the permittee submits a timely and complete renewal application, this permit will remain in effect until final action has been taken on the renewal application to issue or deny the permit.

G27. Permit Transference [OAR 340-218-0150(1)(d)]

The permit is not transferable to any person except as provided in OAR 340-218-0150(1)(d).

G28. Property Rights [OAR 340-200-0020 and 340-218-0050(6)(d)]

The permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations, except as provided in OAR 340-218-0110.

G29. Permit Availability [OAR 340-200-0020 and 340-218-0120(2)]

The permittee must have available at facility at all times a copy of the Oregon Title V Operating Permit and must provide a copy of the permit to DEQ or an authorized representative upon request.

State of Oregon
Department of
Environmental
Quality

ALL INQUIRIES SHOULD BE DIRECTED TO:
Western Region
4026 Fairview Industrial Drive SE
Salem, OR 97302
503-378-8240

Attachment A

Attachment B

Attachment C

ATTACHMENT D

TOXIC RELEASE INVENTORY (TRI) REPORT

*** Do not send to EPA: This is the final copy of your form.***

Form Approved OMB Number:2025-0009
Approval Expires: 2021-10-31

Complete form online via TRI-MEweb. For a trade secret submission, send completed forms to TRI Reporting Center, P. O. Box 10163, Fairfax, VA 22038. The annual public burden related to the Form R is estimated to average 35.71 hours per response for a facility filing a report on one chemical. See the Reporting Forms and Instructions for more information on submissions and the Paperwork Reduction Act.

EPA United States Environmental Protection Agency	**FORM R** Section 313 of the Emergency Planning and Community Right-to-know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act.	TRI Facility ID Number 97501TMBRP25EAS Toxic Chemical, Category, or Generic Name Diisocyanates

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank:	Revision (Enter up to two code(s)) [ ][ ]	Withdrawal (Enter up to two code(s)) [ ][ ]

Important: See Instructions to determine when "Not Applicable (NA)" boxes should be checked.

Part I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR: 2018

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 trade secret? [ ] Yes (Answer question 2.2; attach substantiation forms) [X] NO (Do not answer 2.2; go to Section 3)
2.2	Is this copy [ ] Sanitized [ ] Unsanitized (Answer only if "Yes" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official:	Signature:	Date Signed:
John Wasniewski Regional Manager, Oregon Panel Products	Reference Copy: Copy of Record Resides in CDX	2019-06-11

SECTION 4. FACILITY IDENTIFICATION

4.1	Facility or Establishment Name TIMBER PRODUCTS CO MEDFORD	TRI Facility ID Number 97501TMBRP25EAS	BIA Code
	Street 25 E MCANDREWS RD		Facility or Establishment Mailing Address (if different from physical street address) 25 E MCANDREWS ST
	City/County/State/ZIP Code MEDFORD / Jackson / OR / 97501	City/State/ZIP Code MEDFORD / OR / 97502	Country (Non-US)

4.2	This report contains information for: (Important: check a or b; check c or d if applicable)	a. [X] An Entire facility	b. [ ] Part of a facility	c. [ ] A Federal facility	d. [ ] GOCO

4.3	Technical Contact name	SCOTT DUNN		Email Address SDUNN@TIMBERPRODUCTS.COM		Telephone Number (include area code and ext.) 541-618-3642	
4.4	Public Contact name	JOHN WASNIEWSKI		Email Address JOHNW@SOR.TIMBERPRODUCTS.COM		Telephone Number (include area code and ext.) 541-618-3660	
4.5	NAICS Code(s) (6 digits)	a. 321211 (Primary)	b. 321219	c.	d.	e.	f.

4.6	Dun and Bradstreet Number(s) (9 digits)
	a. 059418764
	b.

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of U.S. Parent Company (for TRI Reporting purposes)	TIMBER PRODUCTS CO		No U.S. Parent Company (for TRI Reporting purposes) [ ]
5.2	Parent Company's Dun & Bradstreet Number	NA [ ]	006120634	

*** Do not send to EPA: This is the final copy of your form.***

EPA FORM R PART II. CHEMICAL - SPECIFIC INFORMATION	TRI Facility ID Number 97501TMBRP25EAS Toxic Chemical, Category, or Generic Name Diisocyanates

SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you are reporting a mixture component in Section 2 below.)

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) N120
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) Diisocyanates
1.3	Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive). NA

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, spaces, and punctuation.) NA

SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY
(Important: Check all that apply.)

3.1 Manufacture the toxic chemical:	3.2 Process the toxic chemical:	3.3 Otherwise use the toxic chemical:
a. [ ] Produce b. [ ] Import		
If produce or import: c. [ ] For on-site use/processing d. [ ] For sale/distribution e. [ ] As a byproduct f. [ ] As an impurity	a. [X] As a reactant Sub-Uses: P199 b. [X] As a formulation component Sub-Uses: P299 c. [ ] As an article component d. [ ] Repackaging e. [ ] As an impurity f. [ ] Recycling	a. [ ] As a chemical processing aid Sub-Uses: b. [ ] As a manufacturing aid Sub-Uses: c. [ ] Ancillary or other use Sub-Uses:

SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ON-SITE AT ANY TIME DURING THE CALENDAR YEAR

4.1	[06] (Enter two-digit code from instruction package.)

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE

			A. Total Release (pounds/year*) (Enter range code or estimate**)	B. Basis of Estimate (Enter code)	C. Percent from Stormwater
5.1	Fugitive or non-point air emissions	NA [ ]	A	O	
5.2	Stack or point air emissions	NA [ ]	C	O	
5.3	Discharges to receiving streams or water bodies (Enter one name per box)	NA [X]			
	Stream or Water Body Name	Reach Code (optional)			
5.3.1	NA				

*For Dioxin and Dioxin-like Compounds, report in grams/year
**Range Codes: A=1-10 pounds; B=11-499 pounds; C=500-999 pounds.

*** Do not send to EPA: This is the final copy of your form.***

EPA FORM R PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)	TRI Facility ID Number 97501TMBRP25EAS Toxic Chemical, Category, or Generic Name Diisocyanates

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE (Continued)

		NA	A. Total Release (pounds/year*) (Enter range code** or estimate)	B. Basis of Estimate (Enter code)
5.4-5.5	Disposal to land on-site			
5.4.1	Class I Underground Injection wells	[X]		
5.4.2	Class II-V Underground Injection wells	[X]		
5.5.1.A	RCRA subtitle C landfills	[X]		
5.5.1.B	Other landfills	[X]		
5.5.2	Land treatment/application farming	[X]		
5.5.3A	RCRA Subtitle C surface impoundments	[X]		
5.5.3B	Other surface impoundments	[X]		
5.5.4	Other disposal	[X]		

Optional Waste Rock Piles Information
You may check this box if your Section 5.5 quantities include "waste rock piles." [ ] Enter quantity of "waste rock piles" (pounds/year*)

SECTION 6. TRANSFER(S) OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs) NA [X]

*For Dioxin and Dioxin-like Compounds, report in grams/year
**Range Codes: A=1-10 pounds; B=11-499 pounds; C=500-999 pounds.

*** Do not send to EPA: This is the final copy of your form.***

EPA FORM R PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)	TRI Facility ID Number 97501TMBRP25EAS Toxic Chemical, Category, or Generic Name Diisocyanates

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS	NA [X]
6.2.1 Off-Site EPA Identification Number (RCRA ID No.)	
Off-Site Location Name:	NA
Off-Site Address:	

City		County		State		ZIP		Country (Non-US)	
Is location under control of reporting facility or parent company?						[ ] Yes [ ] No			

A. Total Transfer (pounds/year*) (Enter range code** or estimate)	B. Basis of Estimate (Enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (Enter code)

SECTION 7A. ONSITE WASTE TREATMENT METHODS AND EFFICIENCY

[X] Not Applicable (NA) - Check here if no on-site waste treatment is applied to any waste stream containing the toxic chemical or chemical category.

a. General Waste Stream (enter code)	b. Waste Treatment Method(s) Sequence [enter 3-character code(s)]	c. Waste Treatment Efficiency Estimate

*For Dioxin and Dioxin-like Compounds, report in grams/year

**Range Codes: A=1-10 pounds; B=11-499 pounds; C=500-999 pounds.

*** Do not send to EPA: This is the final copy of your form.***

EPA FORM R PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)	TRI Facility ID Number 97501TMBRP25EAS Toxic Chemical, Category, or Generic Name Diisocyanates

SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES

[X] NA - Check here if no on-site energy recovery is applied to any waste stream containing the toxic chemical or chemical category.

Energy Recovery Methods [Enter 3-character code(s)]

SECTION 7C. ON-SITE RECYCLING PROCESSES

[X] NA - Check here if no on-site recycling is applied to any waste stream containing the toxic chemical or chemical category.

Recycling Methods [Enter 3-character code(s)]

SECTION 8. SOURCE REDUCTION AND WASTE MANAGEMENT

		Column A Prior Year (pounds/year*)	Column B Current Reporting Year (pounds/year*)	Column C Following Year (pounds/year*)	Column D Second Following Year (pounds/year*)
	8.1 - 8.7 Production-Related Waste Managed				
8.1a	Total on-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	NA	NA	NA	NA
8.1b	Total other on-site disposal or other releases	755	641	641	641
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	NA	NA	NA	NA
8.1d	Total other off-site disposal or other releases	NA	NA	NA	NA
8.2	Quantity used for energy recovery on-site	NA	NA	NA	NA
8.3	Quantity used for energy recovery off-site	NA	NA	NA	NA
8.4	Quantity recycled on-site	NA	NA	NA	NA
8.5	Quantity recycled off-site	NA	NA	NA	NA
8.6	Quantity treated on-site	NA	NA	NA	NA
8.7	Quantity treated off-site	NA	NA	NA	NA
8.8	Non-production-related waste managed**		NA		
8.9	[X] Production ratio or [ ] Activity ratio (select one and enter value to right)		0.98		
8.10	Did your facility engage in any newly implemented source reduction activities for this chemical during the reporting year? If so, complete the following section; if not, check NA.		NA [X]		

	Source Reduction Activities (Enter code(s))	Methods to Identify Activity (Enter code(s))			Estimated annual reduction (Enter code(s)) (optional)
8.10.1	NA				

*For Dioxin and Dioxin-like Compounds, report in grams/year

** Includes quantities released to the environment or transferred off-site as a result of remedial actions, catastrophic events, or other one-time events not associated with production processes

TRI Facility ID Number
97501TMBRP25EAS
Toxic Chemical, Category, or Generic Name
Diisocyanates

Additional optional information on source reduction, recycling, or pollution control activities.

Section 8.11: If you wish to submit additional optional information on source reduction, recycling, or pollution control activities, provide it here.	
Topic	Comment

Section 9.1: If you wish to submit any miscellaneous, additional, or optional information regarding your Form R submission, provide it here.	
Topic	Comment