LRAPA
Lane Regional Air Protection Agency

ANNUAL REPORTING FORM FOR:WOOD PRODUCTS **AQGP-R010**

1. **Source Number:** _____ 2. **Reporting period:** (calendar year): _____

3. **Company information:**

Legal Name:	Other Company Name (if different than legal):
Mailing Address:	Site Address (if different than mailing address):
City, State, Zip Code:	City, County, Zip Code:

4. **Site Contact Person:**

Name:	Telephone Number:
Title:	E-mail:

5. **Process Emissions:** For each process, below, check "yes" if you have that process at your facility or "no" if you do not. For each that you answered "yes", fill out the emissions information on the corresponding Attachment.

Process	Yes	No	If you answered "yes", then:
1. Boiler(s)			Using the emission factors in Condition 13.1 of your permit, fill in Attachment 1, parts a through f, whichever are applicable.
2. Cyclone(s)			Fill in Attachment 2, parts a and/or b, whichever are applicable.
3. Target box(s)			Fill in Attachment 2, part c.
4. Kilns			Using the emission factors in Condition 13.3 and/or 13.4 of your permit, fill in Attachment 3 for each species of lumber dried.
5. Veneer dryer(s)			Using the emission factors in 13.5 of your permit, fill in Attachment 4, parts a, b, c, d, and/or e; whichever are applicable.
6. Plywood presses			Fill in Attachment 5, parts a, b, c, d, e, f, and/or g; whichever are applicable.
7. Surface coating or wood treatment			Fill in Attachment 6, parts a and b.
8. After filling in the emissions for each process, TOTAL the emissions on Attachment 7.			

6. Records of all planned and unplanned excess emissions

Date	Time	Duration (hours)	Description of excess emissions	Corrective action

7. List any air quality/nuisance complaints received within the last calendar year. How were the complaints addressed?*

Date	Time	Complaint	Response

8. List permanent changes, if any, made to the plant process, production levels, and/or pollution control equipment that affected air contaminant emissions:*

9. List major maintenance performed on pollution control equipment:*

10. By signing below, I hereby certify that I have personally examined and am familiar with the information submitted in this report and that the information contained in this report is true, accurate and complete to the best of my knowledge and belief.

Name of official (Printed or Typed):	Title of official and phone number:
Signature of official:	Date:

ATTACHMENT 1: Boilers

See Condition 13.1 of the General Permit for emission factor information.

a. Wood-fired boilers:

Annual Steam Production (1000s of pounds/year)	Pollutant	Emission Factor (lbs/1000 lb steam)	Emissions (tons/year)
	PM		
	PM_{10}		
	$PM_{2.5}$		
	SO_2		
	NO_X		
	CO		
	VOC		

b. Natural gas-fired boilers:

Annual Fuel Burned (millions of cubic feet/year)	Pollutant	Emission Factor (lbs/million cubic feet)	Emissions (tons/year)
	PM		
	PM_{10}		
	$PM_{2.5}$		
	SO_2		
	NO_X		
	CO		
	VOC		

c. Oil, propane, or butane-fired boilers:

Annual Fuel Burned (1000s of gallons/year)	Pollutant	Emission Factor (lbs/1000 gallons)	Emissions (tons/year)
	PM		
	PM_{10}		
	$PM_{2.5}$		
	SO_2*		
	NO_X		
	CO		
	VOC		

*Attach supporting documentation for the fuel sulfur content (e.g., vendor certificate or independent laboratory analysis)

d. Wood-fired boilers - HAPs:

Annual Steam Production (1000s of pounds/year)	Pollutant	Emission Factor (lbs/1000 lb steam)	Emissions (tons/year)
	Acrolein	0.0060	
	Benzene	0.0063	
	Formaldehyde	0.0066	
	HCl	0.029	
	Naphthalene	0.000146	
	Styrene	0.0014	
	Toluene	0.00138	
	Antimony	0.000012	
	Arsenic	0.000033	
	Cobalt	0.0000098	
	Lead	0.000072	
	Manganese	0.0024	
	Nickel	0.00005	
	Total HAPs	0.0534	

e. Natural gas-fired boilers - HAPs:

Annual Fuel Burned (millions of cubic feet/year)	Pollutant	Emission Factor (lbs/million cubic feet)	Emissions (tons/year)
	Benzene	0.0021	
	Formaldehyde	0.075	
	Toluene	0.0034	
	Arsenic	0.00020	
	Cobalt	0.000084	
	Lead	0.0005	
	Manganese	0.00038	
	Nickel	0.0021	
	Total HAPs	0.08376	

f. Oil, propane, or butane-fired boilers - HAPs:

Annual Fuel Burned (1000s of gallons/year)	Pollutant	Emission Factor* (lbs/1000 gallons)	Emissions (tons/year)
	Benzene		
	Formaldehyde		
	Naphthalene		
	Toluene		
	Antimony		
	Arsenic		
	Chromium		
	Cobalt		
	Lead		
	Manganese		
	Nickel		
	Total HAPs		

*Emission Factor varies by fuel type. See Condition 13.1b for specific HAP emission factors.

ATTACHMENT 2: Cyclones, Target Boxes

Note: The Annual Material Throughput is the sum total for all of the devices in the stated classification. You may inventory each device separately by repeating the appropriate table. See Condition 13.2 of the General Permit for emission factor information.

a. Medium efficiency cyclone(s):

Material/controls	Annual Material Throughput (BDT/year)	Pollutant	Emission Factor (lbs/BDT)	Emissions (tons/year)
Dry and green chips, shavings, hogged fuel/bark, green sawdust		PM	0.5	
		PM_{10}	0.43	
		$PM_{2.5}$	0.25	
Baghouse control		$PM/PM_{10}/PM_{2.5}$	0.001	

b. High efficiency cyclone(s):

Material/controls	Annual Material Throughput (BDT/year)	Pollutant	Emission Factor (lbs/BDT)	Emissions (tons/year)
Dry and green chips, shavings, hogged fuel/bark, green sawdust		PM	0.2	
		PM_{10}	0.19	
		$PM_{2.5}$	0.16	
Dry and green chips, shavings, hogged fuel/bark, green sawdust with Baghouse control		$PM/PM_{10}/PM_{2.5}$	0.001	
Sanderdust		PM	2.0	
		PM_{10}	1.9	
		$PM_{2.5}$	0.16	
Sanderdust with Baghouse control		$PM/PM_{10}/PM_{2.5}$	0.04	

c. Target Box(s):

Material/controls	Annual Material Throughput (BDT/year)	Pollutant	Emission Factor (lbs/BDT)	Emissions (tons/year)
All materials without controls		PM	0.1	
		PM_{10}	0.085	
		$PM_{2.5}$	0.05	

BDT = Bone Dry Tons

Example calculation for a medium efficiency cyclone:

(4000 BDT of shavings/year) x (0.5 lb PM/BDT) x (1 ton/2000 lbs) = 1 ton of PM/year

ATTACHMENT 3: Kilns (steam and electric heated)

See Condition 13.3 and 13.4 of the General Permit for emission factor information

a. Wood species: _____

Annual Lumber Dried (MBF/year)	Pollutant	Emission Factor (lbs/MBF)	Emissions (tons/year)
	$PM/PM_{10}/PM_{2.5}$		
	VOC		
	Methanol		
	Formaldehyde		
	Acetaldehyde		

b. Wood species: _____

Annual Lumber Dried (MBF/year)	Pollutant	Emission Factor (lbs/MBF)	Emissions (tons/year)
	$PM/PM_{10}/PM_{2.5}$		
	VOC		
	Methanol		
	Formaldehyde		
	Acetaldehyde		

c. Wood species: _____

Annual Lumber Dried (MBF/year)	Pollutant	Emission Factor (lbs/MBF)	Emissions (tons/year)
	$PM/PM_{10}/PM_{2.5}$		
	VOC		
	Methanol		
	Formaldehyde		
	Acetaldehyde		

MBF = 1000 Board Feet

ATTACHMENT 4: Veneer Dryers (steam heated, direct wood-fired, and direct natural gas-fired)

See Condition 13.5 of the General Permit for emission factor information. MSF = 1000 Square Feet

a. Steam heat:

Species/controls	Annual Veneer Dried (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
Douglas Fir (uncontrolled)		$PM/PM_{10}/PM_{2.5}$	1.01	
Douglas Fir (Burley or 45% control)		$PM/PM_{10}/PM_{2.5}$	0.56	
Hemlock, White Fir (uncontrolled)		$PM/PM_{10}/PM_{2.5}$	0.25	
Hemlock, White Fir (Burley or 45% control)		$PM/PM_{10}/PM_{2.5}$	0.15	

b. Steam heat (all species/controls, including cooling section and fugitives):

Annual Veneer Dried (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
	VOC	1.914	
	Acetaldehyde	0.0266	
	Acrolein	0.0013	
	Formaldehyde	0.0163	
	Methanol	0.059	
	Phenol	0.0156	
	Propionaldehyde	0.0024	
	Benzene	0.00059	
	Toluene	0.0011	
	Xylene	0.00075	
	Total HAP	0.1236	

c. Gas-fired:

Species/controls	Annual Veneer Dried (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
Douglas Fir (uncontrolled)		$PM/PM_{10}/PM_{2.5}$	0.52	
Douglas Fir (Burley or 45% control)		$PM/PM_{10}/PM_{2.5}$	0.29	
Hemlock, White Fir (uncontrolled)		$PM/PM_{10}/PM_{2.5}$	0.15	
Hemlock, White Fir (Burley or 45% control)		$PM/PM_{10}/PM_{2.5}$	0.10	

d. Gas-fired (all species/controls, including cooling section and fugitives):

Annual Veneer Dried (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
	NO_X	0.12	
	CO	0.02	
	VOC	2.59	
	Acetaldehyde	0.0684	
	Acrolein	0.009	
	Formaldehyde	0.0675	
	Methanol	0.0477	
	Phenol	0.026	
	Propionaldehyde	0.0036	
	Benzene	0.0057	
	Toluene	0.0074	
	Xylene	0.0039	
	Total HAP	0.2392	

e. Direct Wood-fired (all species/controls):

Annual Veneer Dried (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
	VOC	1.1	
	Formaldehyde	0.045	

ATTACHMENT 5: Plywood Presses and Associated Activities

a. Plywood Presses using Phenol Formaldehyde Resin:

Annual Plywood Pressed (MSF/year)	Pollutant	Softwood Emission Factor (lbs/MSF)	Emissions (tons/year)
	VOC	0.25	
	Acetaldehyde	0.0042	
	Formaldehyde	0.0019	
	Methanol	0.14	
	Phenol	0.0014	
	Total HAP	0.1475	

b. Miscellaneous Plywood Activities: **I-Joist Conditioning Chamber**

I-Joist Conditioning Chamber (MLF/year)	Pollutant	Emission Factor (lbs/MLF)	Emissions (tons/year)
	VOC	0.0035	
	Formaldehyde	0.0002	
	Methanol	0.0006	

c. Miscellaneous Plywood Activities: **I-Joist Saw**

I-Joist Saw (MLF/year)	Pollutant	Emission Factor (lbs/MLF)	Emissions (tons/year)
	VOC	0.11	
	Methanol	0.016	

d. Miscellaneous Plywood Activities: **Log Vats**

Log Vats (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
	Acetaldehyde	0.0047	
	Methanol	0.007	

e. Miscellaneous Plywood Activities: **Trim Chip**

Trim chip (MSF-3/8" basis/year)	Pollutant	Emission Factor (lbs/MSF - 3/8" basis)	Emissions (tons/year)
	VOC	0.068	
	Methanol	0.008	

f. Miscellaneous Plywood Activities: **Sander**

Sander (MSF/year)	Pollutant	Emission Factor (lbs/MSF)	Emissions (tons/year)
	VOC	0.18	
	Acetaldehyde	0.0028	
	Formaldehyde	0.002	
	Methanol	0.012	

g. Miscellaneous Plywood Activities: **Skin Saw**

Skin Saw (MSF/year)	Pollutant	Emission Factor (lbs/MSF)	Emissions (tons/year)
	VOC	0.086	
	Acetaldehyde	0.0009	
	Formaldehyde	0.0003	
	Methanol	0.012	

MSF = 1000 Square Feet
MLF = 1000 Linear Feet

ATTACHMENT 6: Surface Coating and Wood Treatment

a. VOC (Consult manufacturer or Safety Data Sheet for required information needed to calculate emissions):

Material	Annual Usage (gallons/year)	Density (lbs/gallon)	VOC content (lbs/gal or % wt)	Emissions (tons/year)

b. HAP (Consult manufacturer or Safety Data Sheet for required information needed to calculate emissions):

Material	Annual Usage (gallons/year)	Density (lbs/gallon)	HAP Name	HAP content (lbs/gal or % wt)	Emissions (tons/year)

VOC = Volatile Organic Compound
HAP = Hazardous Air Pollutant

ATTACHMENT 7: TOTAL Annual Plant Site Emissions:

Pollutant	Emissions (tons/year)	Limit (tons/year)
Particulate matter (PM)		24
Small particulate matter (PM_{10})		14
Fine particulate matter ($PM_{2.5}$)		9
Sulfur dioxide (SO_2)		39
Nitrogen oxides (NO_X)		39
Carbon monoxide (CO)		99
Volatile organic compounds (VOC)		39
Highest single hazardous air pollutant (HAP) Single HAP Name:_____		9
Combined hazardous air pollutants (HAPs)		24

SUBMISSION INSTRUCTIONS:

Email this completed form to the Environmental Coordinator at **permitting@lrapa-or.gov**

Call (541) 736-1056 with any questions.