



State of Oregon
Department of
Environmental
Quality

GENERAL AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Air Quality Program
811 SW Sixth Avenue Portland, OR 97204-1390
Telephone: 503-229-5359

This permit is issued in accordance with the provisions of ORS 468A.040 and incorporated into OAR 340-216-0060 by the Environmental Quality Commission on October 17, 2007 for the following source category:

Sawmill, planing mill, or millwork (including kitchen cabinets and structural members), 25,000 or more bd.ft./shift finished product and plywood manufacturing and/or veneer drying. SIC 2421, 2426, 2431, 2434, 2435, 2436, 2439, or 4961

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1.0 PERMIT ASSIGNMENT

- 1.1 Qualifications** All of the following conditions must be met in order to qualify for assignment to this General Air Contaminant Discharge Permit (ACDP):
- a. The permittee is performing activities listed on the cover page, including sawing, planing, sanding, chipping, kiln drying, plywood pressing and surface coating along with supporting activities such as material conveyors (mechanical and pneumatic), veneer dryers, and boilers.
 - b. A Simple or Standard ACDP is not required for the source.
 - c. The source is not having ongoing, recurring or serious compliance problems.
- 1.2 Assignment** The Department will assign qualifying permittees to this permit that have and maintain a good record of compliance with the Department's Air Quality regulations and that the Department determines would be appropriately regulated by a General ACDP. The Department may rescind assignment if the permittee no longer meets the requirements of OAR 340-216-0060 and the conditions of this permit.
- 1.3 Permitted Activities** The permittee is allowed to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, revoked or rescinded as long as conditions of this permit are complied with. If there are other emissions activities occurring at the site besides those listed on the cover page of this permit, the permittee may be required to obtain a Standard Permit or additional General Permits, if applicable.

2.1 EMISSION STANDARDS AND LIMITS

- 2.1 Visible Emissions** The permittee must comply with the following visible emission limits, as applicable:
- a. Emissions from any air contaminant source installed on or before June 1, 1970 and not located in a special control area must not equal or exceed 40% opacity for a period aggregating more than 3 minutes in any one hour.
 - b. Emissions from any air contaminant source installed, constructed, or modified after June 1, 1970 or located in a special control area must not equal or exceed 20% opacity for a period aggregating more than 3 minutes in any one hour.
 - c. In Clackamas, Columbia, Multnomah, or Washington Counties, emissions from any air contaminant source other than fuel burning equipment must not equal or exceed 20% opacity for a period aggregating more than 30 seconds in any one hour.
 - d. In all areas of the state except the Medford-Ashland Air Quality Maintenance Area (AQMA) and Grants Pass Urban Growth Area (UGA), visible emissions from veneer dryers must not exceed:
 - i. An average operating opacity of 10 percent; and
 - ii. A maximum opacity of 20 percent.
 - e. In the Medford-Ashland AQMA and Grants Pass UGA, visible emissions from veneer dryers must not exceed:
 - i. An average operating opacity of five percent; and
 - ii. A maximum opacity of ten percent.
- 2.2 Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:
- a. Particulate matter emissions from any fuel burning equipment installed on or before June 1, 1970 must not exceed 0.2 grains per dry standard cubic foot, corrected to 12% CO₂ or 50% excess air.
 - b. Particulate matter emissions from any fuel burning equipment installed, constructed, or modified after June 1, 1970 must not exceed 0.1 grains per dry standard cubic foot, corrected to

12% CO₂ or 50% excess air.

- c. Particulate matter emissions from any air contaminant source, other than fuel burning equipment and fugitive emission sources, installed on or before June 1, 1970, must not exceed 0.2 grains per dry standard cubic foot.
- d. Particulate matter emissions from any air contaminant source, other than fuel burning equipment and fugitive emission sources, installed after June 1, 1970, must not exceed 0.1 grains per dry standard cubic foot.
- e. The combined particulate matter emissions from all veneer and plywood mill sources within the plant site, including, but not limited to, sanding machines, saws, presses, barkers, hogs, chippers, and other material size reduction equipment, process and space ventilation systems, and truck loading and unloading facilities, , must not exceed a plant specific average hourly emission rate (lbs/hr) determined by multiplying the plant production capacity by one pound per 1,000 square feet on a 3/8 inch basis of finished product for a typical operating shift divided by the number of hours in the operating shift. Excluded from this standard are veneer dryers, fuel burning equipment, and refuse burning equipment.
- f. In all areas of the state, except the Medford-Ashland AQMA and Grants Pass UGA, particulate emissions from veneer dryers must not exceed:
 - i. 0.75 lb/1000 square feet (MSF) on a 3/8" basis for direct wood-fired dryers when using fuel with less than or equal to 20% moisture;
 - ii. 1.50 lb/MSF on a 3/8" basis for direct wood-fired dryers when using fuel with greater than 20% moisture;
 - iii. In addition to i and ii, 0.40 lb/1000 pounds of steam generated in boilers that exhaust combustion gases to the veneer dryer;
 - iv. Exhaust gases from fuel-burning equipment vented to the veneer dryer are exempt from Conditions 2.2.a. and 2.2.b.
- g. In the Medford-Ashland AQMA and Grants Pass UGA,

particulate emissions from veneer dryers must not exceed:

- i. 0.30 lb/MSR on a 3/8" basis for direct natural gas or propane-fired veneer dryers;
- ii. 0.30 lb/MSR on a 3/8" basis for steam heated veneer dryers;
- iii. 0.40 lb/1000 square feet (MSF) on a 3/8" basis for direct wood-fired dryers when using fuel with less than or equal to 20% moisture;
- iv. 0.45 lb/MSF on a 3/8" basis for direct wood-fired dryers when using fuel with greater than 20% moisture;
- v. In addition to iii and iv, 0.20 lb/1000 pounds of steam generated in boilers that exhaust combustion gases to the veneer dryer;
- vi. Exhaust gases from fuel-burning equipment vented to the veneer dryer are exempt from Conditions 2.2.a. and 2.2.b.

2.3 Fugitive Emissions The permittee must take reasonable precautions for preventing fugitive dust emissions from becoming a nuisance, such as but not limited to:

- a. Treating vehicular traffic areas of the plant site under the control of the permittee.
- b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
- c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.

2.4 Particulate Matter Fallout The permittee must not cause or permit the emission 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. The Department will verify

that the deposition exists and will notify the permittee that the deposition must be controlled.

- 2.5 Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.
- 2.6 Fuels and Fuel Sulfur Content** The permittee must not use any fuel other than wood, natural gas, propane, butane, ASTM grade fuel oils, or on-specification used oil.
- ε. Fuel oils must not contain more than:
 - i. 0.3% sulfur by weight for ASTM Grade 1 distillate oil;
 - ii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil;
 - iii. 1.75% sulfur by weight for residual oil (ASTM Grades 3 through 6);
 - t. The permittee is allowed to use on-specification used oil that contains no more than 0.5% sulfur by weight. The permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, so that it can be demonstrated that the used oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1.
- 2.7 Veneer Dryers**
- a. No person shall 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 this rule;
 - b. Where effective measures are not taken to minimize fugitive emissions, the Department may require that the equipment or structures in which processing handling, and storage are done, be tightly closed, modified, or operated in such a way that air contaminants are minimized, controlled, or removed before discharge to the open air;

- c. The Department may require more restrictive emission limits than provided in Conditions 2.1d and 2.2 f for an individual plant upon a finding by the Commission that the individual plant is located in or is proposed to be located in the Medford-Ashland Air Quality Maintenance Area or the Grants Pass Urban Growth Area. The more restrictive emission limits may be established on the basis of allowable emissions expressed in opacity, pounds per hour, or total maximum daily emissions to the atmosphere, or a combination thereof.

3.0 NEW SOURCE PERFORMANCE STANDARDS

- 3.1 **Applicability** Federal requirements apply to boilers for which construction, modification, or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of 100 million Btu per hour (Btu/hr) or less, but greater than or equal to 10 million Btu/hr. These requirements are in addition to requirements listed elsewhere in the permit. The full text of the federal standards are found in 40 CFR 60, Subpart Dc.
- 3.2 **Definitions**
 - a. **Construction** means fabrication, erection, or installation of an affected facility.
 - b. **Modification** means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.
- 3.3 **Visible emissions limit** If oil is burned in the boiler and the heat input is greater than 30 million Btu/hr, visible emissions must not exceed 20% opacity as a 6-minute average, except for one 6-minute period per hour of not more than 27% opacity.
- 3.4 **Visible emissions monitoring** If residual oil is burned in the boiler and the heat input is greater than 30 million Btu/hr, visible emissions must be monitored with a continuous opacity monitoring system (COMS) installed, operated, and maintained in accordance with 40 CFR §60.13.

- 3.5 Sulfur Limits** The sulfur content of fuel oil burned in the boiler must not exceed 0.5% by weight.
- 3.6 Fuel sulfur monitoring** Unless an approved alternate monitoring frequency is obtained from the EPA Administrator, the permittee must record and maintain records of the amounts of each fuel combusted during each day in each subject boiler.
- a. If oil is burned, the permittee must maintain records of the sulfur content of the fuel oil either by obtaining fuel supplier certifications or sampling and analyzing the fuel oil in accordance with ASTM procedures.
 - b. If relying on fuel samples for demonstrating compliance with the fuel sulfur content limits, a sample must be collected and analyzed after each shipment of fuel is added to the storage tank.
- 3.7 NSPS boiler Reporting Requirement** Unless an approved alternate monitoring frequency is obtained from the EPA Administrator, the permittee must submit semi-annual reports for periods during which oil was burned that include the following information:
- a. The calendar dates covered in the reporting period;
 - b. Each 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; including:
 - i. reasons for any noncompliance with the emission standards; and
 - ii. a description of corrective actions taken.
 - c. If fuel supplier certifications are used to demonstrate compliance, records of fuel supplier certifications that include:
 - i. For distillate oil:
 - The name of the oil supplier; and
 - A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR §61.41c.
 - ii. For residual oil:

- The name of the oil supplier;
- The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;
- The sulfur content of the oil from which the shipment came (or of the shipment itself); and
- The method used to determine the sulfur content of the oil.

Note: If using ASTM grade 3, include the most relevant information depending on whether the blend exhibits the characteristics of a distillate or residual oil

- d. If residual oil is burned in the boiler and the heat input is greater than 30 million Btu/hr, the semi-annual report must include a summary of any excess visible emissions recorded by the COMS.
- e. The initial semi-annual report must be postmarked by the 30th day of the third month following the actual date of startup. Each subsequent semi-annual report must be postmarked by the 30th day following the end of the reporting period.

3.8 Recordkeeping The permittee must maintain on-site, records of the amount and type of fuels burned each day, unless an alternate frequency is obtained from EPA for a period of at least two (2) years.

3.9 Construction or Modification In addition to the Notice of Intent to Construct (NC) requirement in Condition 8.6, the permittee must notify the Department and the EPA when equipment becomes subject to NSPS as summarized below:

If	Notification of	Due Date
Constructing or installing a new affected NSPS boiler	The date construction began	Within 30 days of commencing construction
	Actual start-up date	Within 15 days after start-up
Modifying existing equipment	The nature of the change, present and future emissions, productive capacity differences, expected completion date of change	60 days prior to expected completion date

3.10 EPA Submittal Address All submittals to the EPA must be sent to the following address:

Director
 Air and Waste Management Division
 EPA Region X
 Mail Stop OAQ-107
 1200 Sixth Avenue
 Seattle, WA 98101-3123

4.0 OPERATION AND MAINTENANCE REQUIREMENTS

4.1 Work practices The permittee must perform a maintenance service on each boiler at least once in every 2-year period. As a minimum, the service must include an inspection of the burners and refractory chamber; cleaning, adjustment, and repair as necessary. For water tube boilers, the service must include flushing the tubes.

4.2 Fugitive Emissions Control Plan While operating in the Medford-Ashland AQMA, the permittee must prepare and implement site-specific plans for the control of

fugitive emissions in accordance with OAR 340-240-0180. While operating in the Lakeview Urban Growth Area (UGA), the permittee must prepare and implement site-specific plans for the control of fugitive emissions in accordance with OAR 340-240-0410.

4.3 O&M plan

While operating in the Medford-Ashland AQMA, the permittee must prepare and implement an operation and maintenance (O&M) plan in accordance with OAR 340-240-0190. While operating in the Lakeview UGA, the permittee must prepare and implement an O&M plan in accordance with OAR 340-240-0420.

4.4 Veneer Dryers

Each veneer dryer and associated pollution control equipment must be maintained and operated at full efficiency and effectiveness so that the emissions of air contaminants is kept at the lowest practicable levels.

5.0 PLANT SITE EMISSION LIMITS

5.1 Plant Site Emission Limits (PSEL)

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
PM	24	tons per year
PM ₁₀	14	tons per year
SO ₂	39	tons per year
NO _x	39	tons per year
CO	99	tons per year
VOC	39	tons per year
Single HAP	9	tons per year
Combined HAPs	24	tons per year

5.2 PM₁₀ PSEL for Medford-Ashland AQMA

For sources operating in the Medford-Ashland AQMA, plant site missions of PM₁₀ must not exceed the following:

Pollutant	Limit	Units
PM ₁₀	4.5	tons per year
	49	pounds per day

- 5.3 Annual Period** The annual plant site emissions limits apply to any 12-consecutive calendar month period.

6.0 COMPLIANCE DEMONSTRATION

- 6.1 PSEL Compliance Monitoring for PM, PM₁₀, SO₂, NO_x, CO, VOC and HAP** Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant for all processes other than surface coating operations:

$$E = \Sigma(EF \times F)/2000$$

where,

E = pollutant emissions (tons/yr);

EF = pollutant emission factor (see Condition 6.3);

F = fuel combustion or material throughput (see Condition 7.1.d)

- 6.2 VOC and HAP PSEL Compliance Monitoring for Surface Coating Operations** Compliance with the VOC or HAP PSEL is determined for each 12-consecutive calendar month period based on the following calculation plus the emissions calculated in Condition 6.1:

$$E_{\text{VOC or HAP}} = [\Sigma(C_X * D_X * K_X) - W] \times 1 \text{ ton}/2000 \text{ lb.}$$

where,

E_{VOC} = VOC or HAP emissions (tons/yr);

C = Material usage for the period in gallons;

D = Material density in pounds per gallon;
if K is in units of lb/lb, otherwise D = 1.

K = VOC or HAP content of the material (lb/lb);

X = Subscript X represents a specific material;

W = Weight of VOC or HAP shipped offsite (lbs).

- 6.3 Emission Factors** The permittee must use the default emission factors provided in Section 12 for calculating pollutant emissions, unless alternative emission factors are approved by the Department. The permittee may request or the Department may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by the Department.

- 6.4 Medford/Ashland AQMA** If the source is located in the Medford/Ashland AQMA, the permittee must also maintain daily records and calculate the daily maximum emissions for the reporting period.
- 6.5 Source Test requirement** During the permit term, the permittee must demonstrate that each wood fired boiler is capable of operating at its maximum operating capacity in compliance with Condition 2.2 by conducting a source test for particulate matter emissions using EPA Methods 1-4 and DEQ Method 5.
- a. The following parameters must be monitored and recorded during the source test:
 - i. visible emissions as measured by EPA Method 9 for a minimum period of 6 minutes during or within 30 minutes before or after each DEQ Method 5 test run;
 - ii. boiler steam rate (pounds per hour);
 - iii. O₂ and CO₂ concentration in the stack gas as measured by EPA Method 3 or 3A, (% , dry basis);
 - iv. pollution control device operating parameters;
 - v. fuel characteristics (e.g., species, ratio of bark and white wood, moisture content, and percent less than 1/8"); and
 - vi. and other information requested in the source test plan approval.
 - b. All tests must be conducted in accordance with the Department's Source Sampling Manual and with the pretest plan submitted at least 15 days in advance and approved by the Regional Source Test Coordinator. Test data and results must be submitted for review to the Regional Source Test Coordinator within 45 days unless otherwise approved in the pretest plan.
 - c. Only regular operating staff may adjust the combustion system or production processes and emission control parameters during the source test and within 2 hours prior to the tests. Any operating adjustments made during the 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.

- 6.6 Veneer Dryers**
- a. a. The Department may require any veneer dryer facility to establish an effective program for monitoring the visible air contaminant emissions from each veneer dryer emission point.
- 6.7**
- a. b. The program shall be subject to review and approval by the Department and must consist of a specified minimum frequency for performing visual opacity determinations on each veneer dryer emission point and a specified period during which all records shall be maintained at the mill site for inspection by authorized representatives of the Department.
- 6.8**
- a. c. All data obtained must be recorded on copies of a “Veneer Dryer Visible Emissions Monitoring Form” which shall be provided by the Department or on an alternative form which is approved by the Department.

7.0 RECORDKEEPING REQUIREMENTS

- 7.1 Operation and Maintenance** The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:
- a. Maintenance log and operation and maintenance plan as required in Section 4.3; and

- b. Sulfur content from vendor certification of each shipment of fuel oil, if used at the plant.

Daily (Medford/Ashland AQMA only), monthly and annual operating parameters as shown in the table below:

Emissions Unit	Process Parameter	Units
Natural gas-fired boilers or heaters	fuel combusted	cubic feet (ft ³)
Propane, butane, or oil-fired boilers or heaters	fuel combusted	gallons
Wood-fired boilers	steam production	pounds of steam
Cyclones	material throughput by type of material	bone dry ton (BDT)
Kiln	material throughput	thousand board feet (MBF)
Veneer Dryer	material throughput	thousand square feet (MSF)
Surface Coating VOCs	material usage	gallons or pounds
	VOC content	pounds per gallon or weight %
	HAP content (single and combined)	pounds per gallon or weight %

7.2 Excess Emissions

The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. One example of excess emissions is when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period.

- 7.3 Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 7.4 Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

8.0 REPORTING REQUIREMENTS

- 8.1 Excess Emissions** The permittee must notify the Department by telephone or in person of any excess emissions which are of a nature that could endanger public health.
- a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 9.3.
 - b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
 - c. The permittee must also submit follow-up reports when required by the Department.
- 8.2 Complaint log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

- 8.3 Annual Report** The permittee must submit to the Department by **February 15** of each year this permit is in effect, two (2) copies of the following information for the preceding calendar year:
- a. Annual emissions as calculated according to Conditions 6.1 and 6.2, including the supporting process parameter and emission factor information.
 - b. Records of all planned and unplanned excess emissions events.
 - c. Summary of complaints relating to air quality received by permittee during the year.
 - d. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
 - e. List major maintenance performed on pollution control equipment.
- 8.4 Initial Startup Notice** The permittee must notify the Department in writing of the date a new facility is started up. The notification must be submitted no later than seven (7) days after startup.
- 8.5 Notice of Change of Ownership or Company Name** The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:
- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
 - b. Sale or exchange of the activity or facility.
- 8.6 Construction or Modification Notices** The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:
- a. Constructing or installing any new source of air contaminant emissions, including air pollution control equipment;
 - b. Modifying or altering an existing source that may significantly affect the emission of air contaminants;
 - c. Making any physical change which increases emissions;

- d. Changing the method of operation, the process, or the fuel use, or increasing the normal hours of operation that result in increased emissions.

8.7 Where to Send Reports and Notices The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 9.2.

9.0 ADMINISTRATIVE REQUIREMENTS

9.1 Reassignment to the General Permit A complete application for reassignment to this permit is due within 60 days after the permit is reissued. The Department will notify the permittee when the permit is reissued. The application must be sent to the appropriate regional office.

- a. If the Department is delinquent in renewing the permit, the existing permit will remain in effect and the permittee must comply with the conditions of the permit until such time that the permit is reissued and the source is reassigned to the permit.
- b. The permittee may submit an application for either a Simple or Standard ACDP at any time, but the permittee must continue to comply with the General ACDP until the Department takes final action on the Simple or Standard ACDP application.
- c. If a complete application for reassignment to the general permit or Simple or Standard ACDP is filed with the Department in a timely manner, the permit will not be deemed to expire until final action has been taken on the application.

9.2 Permit Coordinator Addresses All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator addresses are as follows:

Counties	Permit Coordinator Address and Telephone
Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington	Department of Environmental Quality Northwest Region 700 NE Multnomah Street, Suite 600 Portland, OR 97232 Telephone: (503) 229-5582
Benton, Coos, Curry, Douglas, Jackson, Josephine, Lincoln, Linn, Marion, Polk, and Yamhill	Department of Environmental Quality Western Region 4026 Fairview Industrial Drive Salem, OR 97302 Telephone: (503) 378-8240 ext. 225
Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler	Department of Environmental Quality Eastern Region 475 NE Bellevue, Suite 110 Bend, OR 97701 Telephone: (541) 388-6146 ext. 223

9.3 Department Contacts

Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us. All inquiries about this permit should be directed to the regional office for the area where the source is located. The Department's regional offices are as follows:

Counties	Office Address and Telephone
Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington	Department of Environmental Quality Northwest Region 700 NE Multnomah Street, Suite 600 Portland, OR 97232 Telephone: (503) 229-5263
Benton, Lincoln, Linn, Marion, Polk, and Yamhill	Department of Environmental Quality Salem Office 4026 Fairview Industrial Drive Salem, OR 97302 Telephone: (503) 378-8240
Coos, Curry, and Western Douglas	Department of Environmental Quality Coos Bay Office 381 N Second Street Coos Bay, OR 97420 Telephone: (541) 269-2721
Eastern Douglas, Jackson, and Josephine	Department of Environmental Quality Medford Office 221 Stewart Avenue, Suite 201 Medford, OR 97501 Telephone: (541) 776-6010
Crook, Deschutes, Harney, Hood River, Jefferson, Sherman, Wasco, and Wheeler	Department of Environmental Quality Bend Office 475 NE Bellevue, Suite 110 Bend, OR 97701 Telephone: (541) 388-6146
Baker, Gilliam, Grant, Malheur, Morrow, Umatilla, Union, and Wallowa	Department of Environmental Quality Pendleton Office 800 SE Emigrant Avenue, Suite 330 Pendleton, OR 97801 Telephone: (541) 276-4063
Klamath and Lake	Department of Environmental Quality Klamath Falls Office 317 South 7 th Street, Suite 231 Klamath Falls, OR 97601 Telephone: (541) 273-7002

10.0 FEES

- 10.1 Annual Compliance Fee** The Annual Compliance Determination Fee specified in OAR 340-216-0090, Table 2, Part 2(c) for a Class Three General ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.
- 10.2 Change of Ownership or Company Name Fee** The non-technical permit modification fee specified in OAR 340-216-0090, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company of a source assigned to this permit.
- 10.3 Where to Submit Fees** Fees must be submitted to:
Department of Environmental Quality
Business Office
811 SW Sixth Avenue
Portland, Oregon 97204-1390

11.0 GENERAL CONDITIONS AND DISCLAIMERS

- 11.1 Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
- 11.2 Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 11.3 Masking of Emissions** The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions 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.

- 11.4 Department Access** The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
- 11.5 Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 11.6 Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
- 11.7 Asbestos** The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
- 11.8 Property Rights** The issuance of this 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.
- 11.9 Termination, Revocation, or Modification** The Commission may modify or revoke this permit pursuant to OAR 340-216-0060(3) and (4).

12.0 EMISSION FACTORS

This section contains emission factors for both criteria pollutants and hazardous air pollutants (HAPs). Because many HAP emission factors remain under development, the emission factors provided in Condition 12 represent the best available data at the time of permit renewal. The use of HAP emission factors in Condition 12 do not guarantee that facilities will be in compliance with federal requirements for major sources of HAPs. Facilities should use the most reliable

emission factors as they become available in the future, or provide emission source test results that demonstrate actual emissions for their specific emission unit.

12.1 Emission Factors (EF) for Boilers

a. PM, PM10, SO2, NOX, CO and VOC

Fuel type	Boiler type or controls	EF units	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Natural Gas	Uncontrolled	lb/million cubic feet	2.5	2.5	1.7	100	84	5.5
	“Low NO _x ” burners	lb/million cubic feet	2.5	2.5	1.7	50	84	5.5
	Flue gas recirculation	lb/million cubic feet	2.5	2.5	1.7	32	84	5.5
Propane	All	lb/1000 gallons	0.6	0.6	0.10S ⁽¹⁾	19	3.2	0.5
Butane	All	lb/1000 gallons	0.6	0.6	0.09S ⁽¹⁾	21	3.6	0.6
#1 distillate oil	All	lb/1000 gallons	3.3	1.7 ⁽²⁾	142S ⁽¹⁾	18	5	0.2 ⁽³⁾
#2 distillate oil	All	lb/1000 gallons	3.3	1.7 ⁽²⁾	142S ⁽¹⁾	20	5	0.2 ⁽³⁾
#4 residual oil	All	lb/1000 gallons	8.5	7.3 ⁽⁴⁾	150S ⁽¹⁾	20	5	0.2 ⁽³⁾
#5 & #6 residual oil	All	lb/1000 gallons	11.5	9.9 ⁽⁴⁾	157S ⁽¹⁾	55	5	0.28 ⁽³⁾
Wood	Dutch oven – uncontrolled	lb/1000 lb of steam	0.4 ⁽⁵⁾	0.2 ⁽⁵⁾	0.014	0.31	3.0	0.13

Fuel type	Boiler type or controls	EF units	PM	PM₁₀	SO₂	NO_x	CO	VOC
	Spreader/stoker – uncontrolled	lb/1000 lb of steam	0.4 ⁽⁵⁾	0.2 ⁽⁵⁾	0.014	0.31	2.0	0.13
	Fuel cell - uncontrolled	lb/1000 lb of steam	0.4 ⁽⁵⁾	0.2 ⁽⁵⁾	0.014	0.31	1.0	0.13

(1) The sulfur dioxide emission factor is based on the sulfur content of the fuel expressed as a percent by weight.

For example, if the sulfur content of #1 distillate oil is 0.3%, the emission factor is $142 \times 0.3 = 42.6$ lb/1000 gallons of oil burned.

(2) PM₁₀ is 50% of total PM. Total PM is the sum of filterable PM and condensible PM. [AP-42 tables 1.3-1, 1.3-2, and 1.3-6]

(3) VOC reported as non-methane total organic carbon (NMTOC).

(4) PM₁₀ is 86% of total PM. Total PM is the sum of filterable PM and condensible PM. [AP-42 tables 1.3-1, 1.3-2, and 1.3-5]

(5) Emission factors for boilers with PM control devices can be determined using the procedures in Condition 12.2.

b. HAPS

Pollutant	Emission Factor lb/MMlbSteam⁽¹⁾	Reference
Acrolein	4.40	AP-42; 9/03
Formaldehyde	1.43	NCASI TB 858; 2/03
Acetaldehyde	0.91	AP-42; 9/03
Benzene	3.63	NCASI TB 858; 2/03
Styrene	2.09	AP-42; 9/03
Toluene	1.01	AP-42; 9/03
Methanol	0.91	NCASI TB 858; 2/03

⁽¹⁾ Assumes 1100 Btu per pound of steam

12.2 Wood fired boiler PM control efficiencies and PM₁₀ fractions:

Use the following information to make adjustments to the PM emission factors given in Condition 12.1 for wood-fired boilers. For example, the PM and PM₁₀ emission factors for a Dutch Oven boiler with a high pressure multiclone would be:

$$EF_{PM} = 0.40 \times (1 - 70\%/100) = 0.12 \text{ lb}/1000 \text{ lb of steam}$$

$$EF_{PM_{10}} = 0.12 \times 95\%/100 = 0.11 \text{ lb}/1000 \text{ lb of steam}$$

Control Device	Estimated Efficiency (%)	PM ₁₀ Fraction (%)
Uncontrolled	NA	50
Multiclone (low pressure)	50	50
Multiclone (high pressure)	70	95
Wet scrubber (low pressure)	70	80
Wet scrubber (medium to high pressure)	80	95
Electrostatic precipitator (wet or dry)	95	100

12.3 Emission Factors for Cyclones and Target Boxes

Process Equipment	Type	Description	Units	PM (lb/BDT)	PM ₁₀ (lb/BDT)
Cyclone	Medium Efficiency	Dry & Green Chips, Shavings, Hogged Fuel/Bark, Green Sawdust	Bone Dry Tons (BDT)	0.5	0.25
	High Efficiency			0.2	0.16
	Baghouse Control			0.001	0.001

Process Equipment	Type	Description	Units	PM (lb/BDT)	PM ₁₀ (lb/BDT)
	Medium Efficiency	Sanderdust		NA	NA
	High Efficiency			2.0	1.6
	Baghouse Control			0.04	0.04
Target Box	Medium Efficiency	Sanderdust	Bone Dry Tons (BDT)	0.1	0.05

12.4 Emission Factors for Steam and Electric Heated Kilns (lb/1000 board feet)¹

Wood species	PM/PM ₁₀	VOC ⁽²⁾	Methanol	Formaldehyde	Acetaldehyde
Ponderosa Pine	0.02 ⁽³⁾	1.7 ⁽⁴⁾	0.07 ⁽⁴⁾	0.003 ⁽⁴⁾	0.113 ⁽¹⁰⁾
Lodgepole Pine	0.02 ⁽³⁾	1.3 ⁽⁴⁾	0.06 ⁽⁴⁾	0.004 ⁽⁴⁾	0.113 ⁽¹⁰⁾
Douglas Fir	0.02 ⁽⁵⁾	0.6 ⁽⁶⁾	0.02 ⁽⁴⁾	0.001 ⁽⁴⁾	0.057
White Fir	0.05 ⁽⁷⁾	0.33 ⁽⁴⁾	0.12 ⁽⁴⁾	0.003 ⁽⁴⁾	0.113 ⁽¹⁰⁾
Hemlock	0.05 ⁽⁵⁾	0.39 ⁽⁸⁾	0.128 ⁽⁸⁾	0.003 ⁽⁹⁾	0.113 ⁽¹¹⁾

- (1) Use source specific date, if available
- (2) VOC emissions factors are based on propane, using the carbon based results from the cited studies and multiplying by 44/36.
- (3) No data, use Douglas Fir
- (4) Oregon State University (OSU) kiln study, 2000 (NCASI)
- (5) OSU kiln study, 1998 (WI)
- (6) University of Idaho kiln study, 1996 (NCASI), average of heart and sap results
- (7) No data, use Hemlock
- (8) Emissions from Western Hemlock lumber during drying, Milota & Mosher (2006)

- (9) No data, use White Fir
- (10) No data, use Hemlock
- (11) Average of Rosboro and Hampton tests at OSU

12.5 Emission Factors for Veneer Dryers (lb/1000 square feet, 3/8" basis)

a. PM/PM₁₀, NO_x, and CO:

Process Equipment	Description	PM/PM ₁₀	NO _x	CO
Veneer Dryer - Gas heat	Douglas Fir (uncontrolled)	0.52	0.12	0.02
	(Burley or 45% control)	0.29		
	Hemlock, White Fir (uncontrolled)	0.15		
	(Burley or 45% control)	0.10		
Veneer Dryer - Steam heat	Douglas Fir (uncontrolled)	1.01	none	
	(Burley or 45% control)	0.56		
	Hemlock, White Fir (uncontrolled)	0.25		
	(Burley or 45% control)	0.15		

- b. VOC and Hazardous Air Pollutants: These factors are based on recent studies performed on **softwoods** by NCASI. EPA incorporated NCASI's data into AP-42, but did not distinguish between southern and northwest softwood species. Therefore, the highest average test result is included in this permit as a conservative estimate of emissions. The VOC emission factors have been adjusted to a propane basis by the multiplying the carbon basis by a factor of 44/36. All emission factors are in units of pounds per 1000 square feet on a 3/8" basis (lb/MSF).

Dryer type/activity	Pollutant	Steam heated	Direct Wood-Fired	Direct Natural Gas-Fired
Veneer Dryers	VOC	1.8	1.0	3.1
	Acetaldehyde	0.022	ND ⁽¹⁾	0.062
	Acrolein	0.001	ND	0.0009
	Formaldehyde	0.03	0.045	0.064
	Methanol	0.04	ND	0.036
	Phenol	0.003	ND	0.006
	Propionaldehyde	0.0044	ND	0.0016
	Benzene	0.0012		
	Toluene	0.0032	ND	ND
	m, p-xylene	0.0012	ND	ND
Cooling Section	VOC	0.08	ND ⁽¹⁾	0.05
	Acetaldehyde	0.004	ND	0.003
	Acrolein	0.008	ND	BDL
	Formaldehyde	0.002	ND	0.002
	Methanol	0.005	ND	0.006
	Phenol	0.0003	ND	BDL
	Propionaldehyde	0.002	ND	0.002
Fugitives	VOC	0.06	ND	0.046
	Acetaldehyde	0.005	ND	0.003
	Formaldehyde	0.001	ND	0.002
	Methanol	0.01	ND	0.006
	Phenol	0.006	ND	0.01

(1) ND = No Data

12.6 Plywood Presses (lb/MSF⁽¹⁾)

Pollutant	Softwood Emission Factor
VOC	0.07
Acetaldehyde	0.007
Formaldehyde	0.002
Methanol	0.04
Phenol	0.006
Propionaldehyde	0.003

(1) MSF = 1000 ft²**12.7 Miscellaneous Plywood Activities**

Pollutant	I-J CC ⁽¹⁾ (lbs/MLF)	I-J Saw ⁽²⁾ (lbs/MLF)	Log Vats (lbs/MSF 3/8")	Trim Chip (lbs/MLF 3/8")	Sander (lbs/MSF)	Skin Saw (lbs/MSF)
VOC	0.003	0.11	ND ⁽³⁾	0.068	0.18	0.088
Acetaldehyde	BDL ⁽⁴⁾	BDL	0.005	BDL	0.003	0.0009
Formaldehyde	0.0002	BDL	BDL	BDL	0.002	0.0003
Methanol	0.0006	0.016	0.007	0.008	0.012	0.012

(1) I-Joist Conditioning Chamber

(2) I-Joist Saw

(3) ND=No Data

(4) BDL=Below Detection Limits

12.8 Emission Factors for Surface Coating Operations

Consult manufacturer or Material Safety Data Sheet for required information needed to calculate emissions.

13.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
APCD	air pollution control device	O ₂	oxygen
ASTM	American Society for Testing and Materials	OAR	Oregon Administrative Rules
AQMA	Air Quality Maintenance Area	ORS	Oregon Revised Statutes
bbl	barrel (42 gal)	O&M	operation and maintenance
calendar year	The 12-month period beginning January 1st and ending December 31st	Pb	Lead
CFR	Code of Federal Regulations	PBS	packed bed scrubber
CO	carbon monoxide	PCD	pollution control device
CMP	composite mesh pad	PM	particulate matter
date	mm/dd/yy	PM ₁₀	particulate matter less than 10 microns in size
DEQ	Oregon Department of Environmental Quality	ppm	part per million
dscf	dry standard cubic foot	ppmv	part per million by volume
EPA	US Environmental Protection Agency	PSD	Prevention of Significant Deterioration
FCAA	Federal Clean Air Act	PSEL	Plant Site Emission Limit
gal	gallon(s)	PTE	Potential to Emit
gr/dscf	grains per dry standard cubic foot	RACT	Reasonably Available Control Technology
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	scf	standard cubic foot
ID	identification number	SER	Significant Emission Rate
I&M	inspection and maintenance	SERP	Source Emission Reduction Plan
lb	pound(s)	SIC	Standard Industrial Code
MMBtu	million British thermal units	SIP	State Implementation Plan
NA	not applicable	SO ₂	sulfur dioxide
NESHAP	National Emissions Standards for Hazardous Air Pollutants	Special Control Area	as defined in OAR 340-204-0070
NO _x	nitrogen oxides	VE	visible emissions
NSPS	New Source Performance Standard	VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months

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