**DIVISION 234**

**EMISSION STANDARDS FOR WOOD PRODUCTS  
INDUSTRIES**

**340-234-0010**

**Definitions**

The definitions in OAR 340-200-0020, 340-204-0010 and this rule apply to this division. If the same term is defined in this rule and 340-200-0020 or 340-204-0010, the definition in this rule applies to this division.

(1) "Baseline emissions rate" means a source's actual emissions rate during the baseline period, as defined in OAR 340-200-0020, expressed as pounds of emissions per thousand square feet of finished product, on a 1/8" basis.

(2) "BLS" means Black Liquor Solids, dry weight.

(3) "Continuous monitoring" means instrumental sampling of a gas stream on a continuous basis, excluding periods of calibration.

(4) "Daily Arithmetic Average" means the average concentration over the twenty-four hour period in a calendar day, as determined by continuous monitoring equipment or reference method testing. Determinations based on EPA reference methods in accordance with DEQ’s **Source Sampling Manual** consist of three separate consecutive runs having a minimum sampling time of sixty minutes each and a maximum sampling time of eight hours each. The three values for concentration (ppm or grains/dscf) are averaged and expressed as the daily arithmetic average which is used to determine compliance with process weight limitations, grain loading or volumetric concentration limitations and to determine daily emission rate.

(5) "Dry Standard Cubic Meter" means the amount of gas that would occupy a volume of one cubic meter, if the gas were free of uncombined water, at a temperature of 20° C. (68° F.) and a pressure of 760 mm of mercury (29.92 inches of mercury). The corresponding English unit is dry standard cubic foot. (6) "Kraft Mill" or "Mill" means any industrial operation which uses for a cooking liquor an alkaline sulfide solution containing sodium hydroxide and sodium sulfide in its pulping process.

(7) "Lime Kiln" means any production device in which calcium carbonate is thermally converted to calcium oxide.

(8) "Non-Condensables" mean gases and vapors, contaminated with TRS compounds, from the digestion and multiple-effect evaporation processes of a mill.

(9) "Operations" includes plant, mill, or facility.

(10) "Other Sources:"

(a) As used in OAR 340-234-0200 through 340-234-0270 means sources of TRS emissions in a kraft mill other than recovery furnaces, lime kilns, smelt dissolving tanks, sewers, drains, categorically insignificant activities and wastewater treatment facilities including but not limited to:

(A) Vents from knotters, brown stock washing systems, evaporators, blow tanks, blow heat accumulators, black liquor storage tanks, black liquor oxidation system, pre-steaming vessels, tall oil recovery operations; and

(B) Any vent which is shown to contribute to an identified nuisance condition.

(b) As used in OAR 340-234-0400 through 340-234-0430 means sources of sulfur oxide emissions including, but not limited to washers, washer filtrate tanks, digester dilution tanks, knotters, multiple effect evaporators, storage tanks, any operation connected with the handling of condensate liquids or storage of condensate liquids, and any vent or stack which may be a significant contributor of sulfur oxide gases other than those mentioned in emission standard limitations (340-234-0410).

(11) "Production" as used in OAR 340-234-0200 through 340-234-0270 means the daily amount of air-dried unbleached pulp, or equivalent, produced during the 24-hour period each calendar day, or Department approved equivalent period, and expressed in air-dried metric tons (admt) per day. The corresponding English unit is air-dried tons (adt) per day;

(12) "Recovery Furnace" means the combustion device in which dissolved wood solids are incinerated and pulping chemicals recovered from the molten smelt. For OAR 340-234-0200 through 340-234-0270, and where present, this term shall include the direct contact evaporator.

(13) "Recovery System" means the process by which all or part of the cooking chemicals may be recovered, and cooking liquor regenerated from spent cooking liquor, including evaporation, combustion, dissolving, fortification, and storage facilities associated with the recovery cycle.

(14) "Significant Upgrading of Pollution Control Equipment" means a modification or a rebuild of an existing pollution control device for which a capital expenditure of 50 percent or more of the replacement cost of the existing device is required, other than ongoing routine maintenance.

(15) "Smelt dissolving tank vent" means the vent serving the vessel used to dissolve the molten smelt produced by the recovery furnace.

(16) "Special Problem Area" means the formally designated Portland, Eugene-Springfield, and Medford AQMAs and other specifically defined areas that the Environmental Quality Commission may formally designate in the future. The purpose of such designation will be to assign more stringent emission limits as may be necessary to attain and maintain ambient air standards or to protect the public health or welfare.

(17) "Tempering Oven" means any facility used to bake hardboard following an oil treatment process.

(18) "Wigwam Waste Burner" means a burner which consists of a single combustion chamber, has the general features of a truncated cone, and is used for incineration of wastes.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: [DEQ 37, f. 2-15-72, ef. 3-1-72; DEQ 4-1993, f. & cert. ef. 3-10-93]; [DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 137, f. & ef. 6-10-77; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 22-1995, f. & cert. ef. 10-6-95]; [DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 22-1995, f. & cert. ef. 10-6-95]; [DEQ 26, f. 3-31-71, ef. 4-25-71; DEQ 132, f. & ef. 4-11-77; DEQ 7-1979, f. & ef. 4-20-79; DEQ 22-1991, f. & cert. ef. 11-13-91; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 4-1995, f. & cert. ef. 2-17-95]; [DEQ 32, f. 11-23-71, ef. 12-15-71; DEQ 15-1980, f. & ef. 5-23-80; DEQ 4-1993, f. & cert. ef. 3-10-93]; [DEQ 37, f. 2-15-72, ef. 3-1-72; DEQ 4-1993, f. & cert. ef. 3-10-93]; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0005, 340-025-0150, 340-025-0220, 340-025-0305, 340-025-0350, 340-025-0410; DEQ 8-2007, f. & cert. ef. 11-8-07

**Wigwam Waste Burners**

**340-234-0100**

**Wigwam Waste Burners**

(1) Operation of wigwam waste burners is prohibited.

(2) Emissions from wigwam waste burners included in a source's netting basis as of October 18, 2007 shall not be subtracted from the netting basis, except as provided in OAR 340-222-0055.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 37, f. 2-15-72, ef. 3-1-72; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0010; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0140**

**Existing Administrative Agency Orders**

The provisions of OAR 340-234-0100 supersede any specific existing agency orders directed against specific parties or persons to abate air pollution.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: SA 30 f. 6-7-68, ef. 8-1-68; DEQ 4-1993, f. & cert. ef. 3-10-93, Renumbered from 340-025-0080; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0027; DEQ 8-2007, f. & cert. ef. 11-8-07

**Kraft Pulp Mills**

[**NOTE**: Administrative Order DEQ 50 repealed previous OAR 340-025-0155 through 340-025-0195 (consisting of SA 38, filed 4-4-69).]

**340-234-0200**

**Statement of Policy and Applicability**

(1) Policy. Recent technological developments have enhanced the degree of malodorous emission control possible for the kraft pulping process. While recognizing that complete malodorous and particulate emission control is not presently possible, consistent with the meteorological and geographical conditions in Oregon, it is hereby declared to be the policy of DEQ to:

(a) Require, in accordance with a specific program and time table for all sources at each operating mill, the highest and best practicable treatment and control of atmospheric emissions from kraft mills through the utilization of technically feasible equipment, devices, and procedures. Consideration will be given to the economic life of equipment, which when installed, complied with the highest and best practicable treatment requirement.

(b) Require degrees and methods of treatment for major and minor emission points that will minimize emissions of odorous gases and eliminate ambient odor nuisances.

(c) Require effective monitoring and reporting of emissions and reporting of other data pertinent to air quality or emissions. DEQ will use these data in conjunction with ambient air data and observation of conditions in the surrounding area to develop and revise emission and ambient air standards, and to determine compliance therewith.

(d) Encourage and assist the kraft pulping industry to conduct a research and technological development program designed to progressively reduce kraft mill emissions, in accordance with a definite program, including specified objectives and time schedules.

(2) Applicability. OAR 340-234-0200 through 340-234-0270 apply to existing and new kraft pulp mills.

[**NOTE**: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040 with the exception of references to Total Reduced Sulfur.]

Stat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0155

**340-234-0210**

**Emission Limitations**

(1) Emission of Total Reduced Sulfur (TRS):

(a) Recovery Furnaces:

(A) The emissions of TRS from each recovery furnace placed in operation before January 1, 1969, shall not exceed 10 ppm and 0.15 Kg/metric ton (0.30 pound/ton) of production as daily arithmetic averages;

(B) TRS emissions from each recovery furnace placed in operation after January 1, 1969, and before September 25, 1976, or any recovery furnace modified significantly after January 1, 1969, and before September 25, 1976, to expand production shall be controlled such that the emissions of TRS shall not exceed 5 ppm and 0.075 Kg/metric ton (0.150 pound/ton) of production as daily arithmetic averages.

(b) Lime Kilns. Lime kilns shall be operated and controlled such that emissions of TRS shall not exceed 20 ppm as a daily arithmetic average and 0.05 Kg/metric ton (0.10 pound/ton) of production as a daily arithmetic average. This subsection applies to those sources where construction was initiated prior to September 25, 1976.

(c) Smelt Dissolving Tanks. TRS emissions from each smelt dissolving tank shall not exceed 0.0165 gram/Kg BLS (0.033 pound/ton BLS) as a daily arithmetic average.

(d) Non-Condensables. Non-condensables from digesters, multiple-effect evaporators and contaminated condensate stripping shall be continuously treated to destroy TRS gases by thermal incineration in a lime kiln or incineration device capable of subjecting the non-condensables to a temperature of not less than 650° C. (1,200° F.) for not less than 0.3 second. An alternate device meeting the above requirements shall be available in the event adequate incineration in the primary device cannot be accomplished. Venting of TRS gases during changeover shall be minimized but in no case shall the time exceed one-hour;

(e) Other Sources:

(A) The total emission of TRS from other sources shall not exceed 0.078 Kg/metric ton (0.156 pound/ton) of production as a daily arithmetic average;

(B) Miscellaneous Sources and Practices. If it is determined that sewers, drains, and anaerobic lagoons significantly contribute to an odor problem, a program for control shall be required.

(2) Particulate Matter:

(a) Recovery Furnaces. The emissions of particulate matter from each recovery furnace stack shall not exceed:

(A) 2.0 kilograms per metric ton (4.0 pounds per ton) of production as a daily arithmetic average;

(B) 0.30 gram per dry standard cubic meter (0.13 grain per dry standard cubic foot) as a daily arithmetic average; and

(C) Thirty-five percent opacity for a period or periods aggregating more than 30 minutes in any 180 consecutive minutes or more than 60 minutes in any 24 consecutive hours (excluding periods when the facility is not operating).

(b) Lime Kilns. The emissions of particulate matter from each lime kiln stack shall not exceed:

(A) 0.50 kilogram per metric ton (1.00 pound per ton) of production as a daily arithmetic average;

(B) 0.46 gram per dry standard cubic meter (0.20 grain per dry standard cubic foot) as a daily arithmetic average; and

(C) The visible emission limitations in section (4) of this rule.

(c) Smelt Dissolving Tanks. The emission of particulate matter from each smelt dissolving tank vent shall not exceed:

(A) A daily arithmetic average of 0.25 kilogram per metric ton (0.50 pound per ton) of production; and

(B) The visible emission limitations in section (4) of this rule.

(d) Replacement or Significant Upgrading of existing particulate pollution control equipment after July 1, 1988 shall result in more restrictive standards as follows:

(A) Recovery Furnaces:

(i) The emission of particulate matter from each affected recovery furnace stack shall not exceed 1.00 kilogram per metric ton (2.00 pounds per ton) of production as a daily arithmetic average; and

(ii) 0.10 gram per dry standard cubic meter (0.044 grain per dry standard cubic foot) as a daily arithmetic average.

(B) Lime Kilns:

(i) The emission of particulate matter from each affected lime kiln stack shall not exceed 0.25 kilogram per metric ton (0.50 pound per ton) of production as a daily arithmetic average; and

(ii) 0.15 gram per dry standard cubic meter (0.067 grain per dry standard cubic foot) as a daily arithmetic average when burning gaseous fossil fuel; or

(iii) 0.50 kilogram per metric ton (1.00 pound per ton) of production as a daily arithmetic average; and

(iv) 0.30 gram per dry standard cubic meter 0.13 grain per dry standard cubic foot) as a daily arithmetic average when burning liquid fossil fuel.

(C) Smelt Dissolving Tanks. The emissions of particulate matter from each smelt dissolving tank vent shall not exceed 0.15 kilogram per metric ton (0.30 pound per ton) of production as a daily arithmetic average.

(3) Sulfur Dioxide (SO2). Emissions of sulfur dioxide from each recovery furnace stack shall not exceed a three-hour arithmetic average of 300 ppm on a dry-gas basis except when burning fuel oil. The sulfur content of fuel oil used shall not exceed the sulfur content of residual and distillate oil established in OAR 340-228-0100 and 340-228-0110, respectively.

(4) Emissions from each kraft mill, with the exception of a kraft mill that is a recovery furnace, shall not equal or exceed 20 percent opacity as a six minute average.

(5) New Source Performance Standards. New or modified sources that commenced construction after September 24, 1976, are subject to each provision of this rule and the New Source Performance **Standards, 40 CFR 60** **subpart BB** as adopted under OAR 340-238-0060, whichever is more stringent.

**NOTE:** Except for OAR 340-234-0210(1), this rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 137, f. & ef. 6-10-77; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0165; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0220**

**More Restrictive Emission Limits**

DEQ may establish more restrictive emission limits than the numerical emission standards contained in OAR 340-234-0210 and maximum allowable daily mill site emission limits in kilograms or pounds per day for an individual mill upon a finding by DEQ that:

(1) The individual mill is located or is proposed to be located in a special problem area or an area where ambient air standards are exceeded or are projected to be exceeded or where the emissions will have a significant air quality impact in an area where the standards are exceeded; or

(2) An odor or nuisance problem has been documented at any mill, in which case the TRS emission limits may be reduced below the regulatory limits; or DEQ may require the mill to undertake an odor emission reduction study program; or

(3) Other rules which are more stringent apply.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040 with the exception of references to Total Reduced Sulfur.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 137, f. & ef. 6-10-77; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0170; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0240**

**Monitoring**

(1) Total Reduced Sulfur (TRS). Each mill shall continuously monitor TRS in accordance with the following:

(a) The monitoring equipment shall determine compliance with the emission limits and reporting requirements established by OAR 340-234-0200 through 340-234-0270, and shall continuously sample and record concentrations of TRS;

(b) The sources monitored shall include, but are not limited to individual recovery furnaces, and lime kilns. All sources shall be monitored down-stream of their respective control equipment, in either the ductwork or the stack, in accordance with DEQ **Continuous Monitoring Manual**;

(c) Unless otherwise authorized by DEQ or required by permit, at least once per year, vents from other sources as required in OAR 340-234-0210(1)(e), Other Sources, shall be sampled to demonstrate the representativeness of the emission of TRS using EPA Method 16, 16A, 16B or continuous emission monitors. EPA methods shall consist of three separate consecutive runs of one-hour each in accordance with DEQ’s Source Sampling Manual. Continuous emissions monitors shall be operated for three consecutive hours in accordance with DEQ’s **Continuous Monitoring Manual**. All results shall be reported to DEQ;

(d) Smelt dissolving tank vents shall be sampled for TRS quarterly except that testing may be semi-annual when the preceding six source tests were less than 0.0124 gram/Kg BLS (0.025 pound/ton BLS) using EPA Method 16, 16A, 16B or continuous emission monitors. EPA methods shall consist of three separate consecutive runs of one-hour each in accordance with DEQ’s **Source Sampling Manual**.

(2) Particulate Matter:

(a) Each mill shall sample the recovery furnace(s), lime kiln(s) and smelt dissolving tank vent(s) for particulate emissions as measured by EPA Method 5 or 17 in accordance with DEQ’s **Source Sampling Manual**. Particulate matter emission determinations by EPA Method 5 shall use water as the cleanup solvent instead of acetone, and consist of the average of three separate consecutive runs having a minimum sampling time of 60 minutes each, a maximum sampling time of eight hours each, and a minimum sampling volume of 31.8 dscf each.

(A) When applied to recovery furnace gases "dry standard cubic meter" requires adjustment of the gas volume to that which would result in a concentration of 8% oxygen if the oxygen concentration exceeds 8%.

(B) When applied to lime kiln gases "dry standard cubic meter" requires adjustment of the gas volume to that which would result in a concentration of 10% oxygen if the oxygen concentration exceeds 10%.

(C) The mill shall demonstrate that oxygen concentrations are below the values in (A) and (B) above or furnish oxygen levels and corrected data.

(b) Each mill shall provide continuous monitoring of opacity of emissions discharged to the atmosphere from each recovery furnace stack in accordance with DEQ’s **Continuous Monitoring Manual**.

(c) Recovery furnace particulate source tests shall be performed quarterly except that testing may be semi-annual when the preceding six source tests were less than 0.225 gram/dscm (0.097 grain/dscf) for furnaces subject to OAR 340-234-0210(2)(a) or 0.075 gram/dscm (0.033 grain/dscf) for furnaces subject to OAR 340-234-0210(2)(d)(A);

(d) Lime kiln source tests shall be performed semi-annually;

(e) Smelt dissolving tank vent source tests shall be performed quarterly except that testing may be semi-annual when the preceding six source tests were less than 0.187 kilogram per metric ton (0.375 pound per ton) of production.

(3) Sulfur Dioxide (SO2). Representative sulfur dioxide emissions from each recovery furnace shall be determined at least once each month by the average of three one-hour source tests in accordance with DEQ’s **Source Sampling Manual** or from continuous emission monitors. If continuous emission monitors are used, the monitors shall be operated for three consecutive hours in accordance with DEQ’s **Continuous Monitoring Manual**.

(4) Combined Monitoring. DEQ may allow the monitoring for opacity of a combination of more than one emission stream if each individual emission stream has been demonstrated with the exception of opacity to be in compliance with all the emission limits of OAR 340-234-0210. DEQ may establish more stringent emission limits for the combined emission stream.

(5) New Source Performance Standards Monitoring. New or modified sources that are subject to the New Source Performance Standards, 40 CFR Part 60, Subpart BB, shall conduct monitoring or source testing as required by Subpart BB. In addition, when it is more stringent than Subpart BB, DEQ may require some or all of the relevant monitoring in this section.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040 with the exception of references to Total Reduced Sulfur.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 137, f. & ef. 6-10-77; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0180; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0250**

**Reporting**

If required by DEQ or by permit, data shall be reported by each mill for each calendar month by the last day of the subsequent calendar month as follows:

(1) Applicable daily average emissions of TRS gases expressed in parts per million of H2S on a dry gas basis with oxygen concentrations, if oxygen corrections are required, for each source included in the approved monitoring program.

(2) Daily average emissions of TRS gases in pounds of total reduced sulfur per equivalent ton of pulp processed, expressed as H2S, for each source included in the approved monitoring program.

(3) Maximum daily three-hour average emission of SO2 based on all samples collected from the recovery furnace(s), expressed as ppm, dry basis.

(4) All daily average opacities for each recovery furnace stack where transmissometers are utilized.

(5) All six-minute average opacities from each recovery furnace stack that exceeds 35 percent.

(6) Daily average kilograms of particulate per equivalent metric ton (pounds of particulate per equivalent ton) of pulp produced for each recovery furnace stack.

(7) Unless otherwise approved in writing, all periods of non-condensable gas bypass shall be reported.

(8) Each kraft mill shall furnish, upon request of DEQ, such other pertinent data as DEQ may require to evaluate the mill's emission control program.

(9) Monitoring data reported shall reflect actual observed levels corrected for oxygen, if required, and analyzer calibration.

(10) Oxygen concentrations used to correct pollutant data shall reflect oxygen concentrations at the point of measurement of pollutants.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040 with the exception of references to Total Reduced Sulfur.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 132, f. & ef. 6-10-77; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0185; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0270**

**Chronic Upset Conditions**

If DEQ determines that an upset condition is chronic and correctable by installing new or modified process or control procedures or equipment, a program and schedule to effectively eliminate the deficiencies causing the upset conditions shall be submitted. Such reoccurring upset conditions causing emissions in excess of applicable limits may be subject to civil penalty or other appropriate action.

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040 with the exception of references to Total Reduced Sulfur.]

Stat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 50, f. 2-9-73, ef. 3-1-73; DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0205

**Neutral Sulfite Semi-Chemical (NSSC) Pulp Mills**

**340-234-0300**

RepealedStat. Auth.: ORS 468A  
Stats. Implemented: ORS 468 & ORS 468A  
Hist.: DEQ 14-1999, f. & cert. ef. 10-14-99

**340-234-0310**

Repealed Stat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0224

**340-234-0320**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0226

**340-234-0330**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0228

**340-234-0340**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0230

**340-234-0350**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0232

**340-234-0360**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468A.025  
Hist.: DEQ 2-1990, f. & cert. ef. 1-24-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0234

**Sulfite Pulp Mills**

**340-234-0400**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468.020 & ORS 468A.025  
Hist.: DEQ 32, f. 11-23-71, ef. 12-15-71; DEQ 15-1980, f. & ef. 5-23-80; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0355

**340-234-0410**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468.020 & ORS 468A.025  
Hist.: DEQ 32, f. 11-23-71, ef. 12-15-71; DEQ 15-1980, f. & ef. 5-23-80; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0360

**340-234-0420**

Repealed [Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]

Stat. Auth.: ORS 468 & 468A  
Stats. Implemented: ORS 468.020 & ORS 468A.025  
Hist.: DEQ 32, f. 11-23-71, ef. 12-15-71; DEQ 15-1980, f. & ef. 5-23-80; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0370

**340-234-0430**

RepealedStat. Auth.: ORS 468 & ORS 468A  
Stats. Implemented: ORS 468.020 & ORS 468A.025  
Hist.: DEQ 32, f. 11-23-71, ef. 12-15-71; DEQ 15-1980, f. & ef. 5-23-80; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0380

**Board Products Industries (Veneer, Plywood, Particleboard, Hardboard**

**340-234-0500**

**Applicability and General Provisions**

(1) OAR 340-234-0500 through 340-234-0530 establish minimum performance and emission standards for veneer, plywood, particleboard, and hardboard manufacturing operations.

(2) Emission limitations established herein are in addition to, and not in lieu of, general emission standards for visible emissions, fuel burning equipment, and refuse burning equipment, except as provided for in OAR 340-234-0510.

(3) Each affected veneer, plywood, particleboard, and hardboard plant shall proceed with a progressive and timely program of air pollution control. Each plant shall at the request of DEQ submit periodic reports in such form and frequency as directed to demonstrate the progress being made toward full compliance with OAR 340-234-0500 through 340-234-0530.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A

Stats. Implemented: ORS 468A.025

Hist.: DEQ 26, f. 3-31-71, ef. 4-25-71; DEQ 132, f. & ef. 4-11-77; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0500; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0510**

**Veneer and Plywood Manufacturing Operations**

(1) Veneer Dryers:

(a) Consistent with OAR 340-234-0500(1) through(4), it is the object of this section to control air contaminant emissions, including, but not limited to, condensable hydrocarbons such that visible emissions from each veneer dryer are limited to a level which does not cause a characteristic "blue haze" to be observable;

(b) No person shall operate any veneer dryer such that visible air contaminants emitted from any dryer stack or emission point exceed:

(A) 10 percent opacity of emissions, determined using EPA Method 9, on each of three days within a 12-month period which are separated from each other by at least 30 days, or

(B) 20 percent opacity of emissions at any time, determined using EPA Method 9.

(c) Particulate emissions from wood fired veneer dryers shall not exceed:

(A) 0.75 pounds per 1,000 square feet of veneer dried (3/8 inch basis) for units using fuel which has a moisture content equal to or less than 20 percent by weight on a wet basis as measured by ASTM D4442-84;

(B) 1.50 pounds per 1,000 square feet of veneer dried (3/8 inch basis) for units using fuel which has a moisture content greater than 20 percent by weight on a wet basis as measured by ASTM D4442-84;

(C) In addition to paragraphs(1)(c)(A) and(B) of this rule, 0.40 pounds per 1,000 pounds of steam generated in boilers which exhaust gases to the veneer dryer.

(d) Exhaust gases from fuel burning equipment vented to the veneer dryer are exempt from OAR 340-228-0210;

(e) Each veneer dryer shall be maintained and operated at all times such that air contaminant generating processes and all contaminant control equipment shall be at full efficiency and effectiveness so that the emission of air contaminants are kept at the lowest practicable levels;

(f) 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;

(g) Where effective measures are not taken to minimize fugitive emissions, DEQ 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;

(h) DEQ may require more restrictive emission limits than provided in subsections (1)(b) and(c) of this rule for an individual plant upon a finding by the Commission that the individual plant is located or is proposed to be located in a special problem area. The more restrictive emission limits for special problem areas 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.

(2) Other Emission Sources:

(a) The combined particulate emissions from veneer and plywood mill sources, including, but not limited to, sanding machines, saws, presses, barkers, hogs, chippers, and other material size reduction equipment, process or 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. The plant production capacity is the maximum production in terms of 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.

(b) Excepted from subsection (2)(a) of this rule are veneer dryers, fuel burning equipment, and refuse burning equipment.

(c) Compliance with the average hourly emission rate is determined by summing the emissions from the affected sources as determined by emission factor calculations or actual emissions data for a 24 hour period divided by 24.

(3) Monitoring and Reporting: DEQ may require any veneer dryer facility to establish an effective program for monitoring the visible air contaminant emissions from each veneer dryer emission point. The program shall be subject to review and approval by DEQ and shall consist of the following:

(a) A specified minimum frequency for performing visual opacity determinations on each veneer dryer emission point;

(b) All data obtained shall be recorded on copies of a "Veneer Dryer Visual Emissions Monitoring Form" which shall be provided by DEQ or on an alternative form which is approved by DEQ; and

(c) A specified period during which all records shall be maintained at the mill site for inspection by authorized representatives of DEQ.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468A.025   
Hist.: DEQ 26, f. 3-31-71, ef. 4-25-71; DEQ 37, f. 2-15-72, ef. 3-1-72; DEQ 43(Temp), f. & ef. 5-5-72 thru 9-1-72; DEQ 48, f. 9-20-72, ef. 10-1-72; DEQ 52, f. 4-9-73, ef. 5-1-73; DEQ 83, f. 1-30-75, ef. 2-25-75; DEQ 132, f. & ef. 4-11-77; DEQ 7-1979, f. & ef. 4-20-79; DEQ 10-1985, f. & ef. 8-8-85; DEQ 22-1991, f. & cert. ef. 11-13-91; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0510; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0520**

**Particleboard Manufacturing Operations**

(1) Truck Dump and Storage Areas:

(a) Every person operating or intending to operate a particleboard manufacturing plant 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 said person;

(b) The temporary storage of raw materials outside the regularly used areas of the plant site is prohibited unless the person who desires to temporarily store such raw materials first notifies DEQ and receives written approval for said storage:

(A) When authorized by DEQ, temporary storage areas shall be operated to prevent windblown particulate emissions from being deposited upon property not under the ownership of the person storing the raw materials;

(B) Any temporary storage areas authorized by DEQ shall not be operated in excess of six (6) months from the date they are first authorized.

(c) Any person who proposes to control windblown particulate emissions from truck dump storage areas other than by enclosure shall apply to DEQ for written authorization to utilize alternative controls. The application shall describe in detail the plan proposed to control windblown particulate emissions and indicate on a plot plan the nearest location of property not under ownership of the applicant.

(2) Other Emission Sources:

(a) The combined particulate emissions from particleboard plant sources including, but not limited to, hogs, chippers, and other material size reduction equipment, process or space ventilation systems, particle dryers, classifiers, presses, sanding machines, and materials handling systems must not exceed a plant specific average hourly emission rate (lbs/hr) determined by multiplying the plant production capacity by three pounds per 1000 square feet. The plant production capacity is the maximum production in terms of 1,000 square feet on a 3/4 inch basis of finished product for a typical operating shift divided by the number of hours in the operating shift.

(b) Excepted from subsection (2)(a) of this rule are truck dump and storage areas, fuel burning equipment, and refuse burning equipment.

(c) Compliance with the average hourly emission rate is determined by summing the emissions from the affected sources as determined by emission factor calculations or actual emissions data for a 24 hour period divided by 24.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468.020 & 468A.025   
Hist.: DEQ 26, f. 3-31-71, ef. 4-25-71; DEQ 130, f. & ef. 3-22-77; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 4-1995, f. & cert. ef. 2-17-95; DEQ 3-1996, f. & cert. ef. 1-29-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0320; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0530**

**Hardboard Manufacturing Operations**

(1) Truck Dump and Storage Areas:

(a) Every person operating or intending to operate a hardboard manufacturing plant 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 said person;

(b) The temporary storage of raw materials outside the regularly used areas of the plant site is prohibited unless the person who desires to temporarily store such raw materials first notifies DEQ and receives written approval:

(A) When authorized by DEQ, temporary storage areas shall be operated to prevent windblown particulate emissions from being deposited upon property not under the ownership of the person storing the raw materials;

(B) Any temporary storage areas authorized by DEQ shall not be operated in excess of six (6) months from the date they are first authorized.

(c) Alternative Means of Control. Any person who desires to control windblown particulate emissions from truck dump and storage areas other than by enclosure shall first apply to DEQ for written authorization to utilize alternative controls. The application shall describe in detail the plan proposed to control windblown particulate emissions and indicate on a plot plan the nearest location of property not under ownership of the applicant.

(2) Other Emission Sources:

(a) For hardboard plants that did not exist during the baseline period, the combined particulate emissions from all emissions sources at the plant must not exceed a plant specific hourly average emission rate (lbs/hr) determined by multiplying the plant production capacity by one pound per 1,000 square feet of production. The plant production capacity is the maximum production in terms of 1000 square feet on a 1/8 inch finished basis for a typical operating shift divided by the number of hours in the operating shift.

(b) For hardboard plants that existed during the baseline period, the combined particulate emissions from the plant must not exceed the lesser of:

(A) A plant specific hourly average emission rate (lbs/hr) determined by multiplying the plant production capacity by two pounds per 1,000 square feet of production. The plant production capacity is the maximum production in terms of 1,000 square feet on a 1/8 inch finished basis for a typical operating shift divided by the number of hours in the operating shift, or

(B) The sum of the baseline emissions rate (lbs/hr) of the press/cooling vent and the lesser of:

(i) The baseline emissions rate (lbs/hr) from all sources at the plant, excluding the press/cooling vents; or

(ii) A plant specific hourly average emission rate (lbs/hr) determined by multiplying the plant production capacity by one pound per 1,000 square feet of production. The plant production capacity is the maximum production in terms of 1,000 square feet on a 1/8 inch finished basis for a typical operating shift divided by the number of hours in the operating shift.

(c) Excepted from subsections (a) and (b) of this section are truck dump and storage areas, fuel burning equipment, and refuse burning equipment.

(d) Compliance with the average hourly emission rate is determined by summing the emissions from the affected sources as determined by emission factor calculations or actual emissions data for a 24 hour period divided by 24.

(3) Emissions from Hardboard Tempering Ovens:

(a) No person shall operate any hardboard tempering oven unless all gases and vapors emitted from said oven are treated in a fume incinerator capable of raising the temperature of said gases and vapors to at least 1500° F. for 0.3 seconds or longer except as allowed by paragraph (b);

(b) Specific operating temperatures lower than 1500° F. may be approved by DEQ in accordance with 40 CFR Part 63, Subpart DDDD, NESHAP for Plywood and Composite Wood Products.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.

Stat. Auth.: ORS 468 & 468A   
Stats. Implemented: ORS 468.020 & 468A.025   
Hist.: DEQ 26, f. 3-31-71, ef. 4-25-71; DEQ 130, f. & ef. 3-22-77; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 4-1995, f. & cert. ef. 2-17-95; DEQ 3-1996, f. & cert. ef. 1-29-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0325; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-234-0540**

**Testing and Monitoring**

All source tests must be done in accordance with DEQ’s Source Sampling Manual.

1. Veneer dryers, wood particle dryers, fiber dryers and press/cooling vents shall be tested using DEQ Method 7.
2. Air conveying systems shall be tested using DEQ Method 8.
3. Fuel burning equipment shall be tested using DEQ Method 5. When combusting wood fuel by itself or in combination with any other fuel, the emission results must be corrected to 12% CO2. When combusting fuels other than wood, the emission results must be corrected to 50% excess air.

**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-200-0040.