

SMOKE MANAGEMENT RULE PROPOSAL

In order to implement recommended changes to the Oregon Smoke Management Plan, the following administrative rules are proposed for adoption, amendment and deletion:

ADOPT

OAR Chapter 629, Division 48 – Smoke Management

629-048-0001

Title and Scope

(1) OAR 629-048-0001 through 629-048-0500 are known as the Smoke Management Rules.

(2) The Smoke Management Rules apply to prescribed burning of forest fuels for forest management purposes within any forest protection district in Oregon as described by OAR 629-041-0500 to 629-041-0575.

629-048-0005

Definitions

Unless otherwise defined below, terms used in this rule division shall have the meaning provided in ORS 477.001:

(1) “Board” means the State Board of Forestry.

(2) “Burn boss” means the person, authorized by the owner (may include the owner) or a federal land management agency to conduct and make decisions regarding the practices involved in conducting a prescribed burning operation and whom is responsible for compliance with all requirements under this rule division and related laws.

(3) “Burn registration” means the act or product of notifying the forester to the required level of detail, of intent to conduct a prescribed burning operation as required by OAR 629-048-0300.

(4) “Class I Area” means Crater Lake National Park and certain wilderness areas designated by Congress as federal Class I Areas that are subject to visibility protection under the Environmental Protection Agency’s Regional Haze Rule and the federal Clean Air Act.

(5) “Class 1 forestland” has the same meaning as given in ORS 526.324 to “timber class” and includes all forestland primarily suitable for the production of timber.

(6) “Class 2 forestland” has the same meaning as given in ORS 526.324 to “timber and grazing class” and includes all forestland primarily suitable for joint use for timber production and the grazing of livestock, as a permanent or semi-permanent joint use, or as a temporary joint use during the interim between logging and reforestation.

(7) “Class 3 forestland” has the same meaning as given in ORS 526.324 to “agricultural class” and includes all forestland primarily suitable for grazing or other agricultural use.

(8) "Department" means the State Forestry Department.

(9) "Eastern Oregon" means the eighteen Oregon counties lying east of Multnomah, Clackamas, Marion, Linn, Lane, Douglas, and Jackson Counties.

(10) "Emissions" means the gaseous and particulate combustion products in smoke resulting from burning forest fuels.

(11) "Federal land management agency" means the United States Department of Agriculture's Forest Service; the United States Department of the Interior's Bureau of Land Management, National Park Service, Fish and Wildlife Service, or Bureau of Indian Affairs; or any other federal agency that may conduct prescribed burning within a forest protection district.

(12) "Field administrator" means an employee of the State Forestry Department, a forest protective association, or federal land management agency who has, among other responsibilities, an official role in determining whether a prescribed burn should proceed, continue or be suspended.

(13) "Forester" means the State Forester or authorized representative including but not limited to fire wardens appointed under ORS 477.355.

(14) "Forest fuels" means any flammable woody material, grass or other plant matter that may constitute a wildfire hazard or that is intended for disposal by prescribed burning, but not including products that have had secondary processing such as boards, posts or paper.

(15) "Forest protection district" means an area of forestland designated by the State Forester for protection from fire pursuant to ORS 477.225. Detailed descriptions of the forest protection districts may be found in OAR 629-041-0500 to 629-041-0575.

(16) "Ground level" means at or close to the surface of the earth such that smoke at "ground level" could be inhaled by persons going about their normal business, in or out of doors. It does not include smoke that passes overhead when prescribed burning is conducted in accordance with the smoke management forecast and instructions.

(17) "Level 1 regulation" means the program of requirements that apply to all lands managed by a federal land management agency statewide, and all class 1 forestland in western Oregon within a forest protection district (OAR 629-048-0100(2)). These requirements include burn registration at least seven days in advance (OAR 629-048-0300), fee administration (OAR 629-048-0310), compliance with smoke management forecast instructions (OAR 629-048-0230), and reporting of accomplishments (OAR 629-048-0320).

(18) "Level 2 regulation" means the program of requirements that apply to all non-federal forestlands in eastern Oregon, and all class 3 forestland in western Oregon within a forest protection district (OAR 629-048-0100(3)). These requirements include burn registration (OAR 629-048-0300) and reporting of accomplishments (OAR 629-048-0320).

(19) "Mop-up" means action, usually involving the application of water or other means to eliminate heat, remove fuel or reduce the supply of oxygen, sufficient to make a fire safe or reduce residual smoke.

(20) "Other areas sensitive to smoke" means specific recreation areas not listed as SSRAs in OAR 629-048-0145 but that are intended to receive consideration for focused forecasting attention for limited times during periods of heavy use by the public such as coastal beaches on holidays, Class I Areas during peak summer use, and other areas

during special events. All Oregon and Washington Class I areas shall be considered as areas sensitive to smoke during the visibility protection period (July 1 to September 15), defined in Section 5.2 of the Oregon Visibility Protection Plan, OAR 340-020-0047.

(21) "Prescribed burning" means the use of fire ignited as a planned management activity on forestland to meet specific objectives involving the reduction or removal of forest fuels. Prescribed burning does not include impromptu fires ignited for purposes such as warming fires, burn-out or backfire operations used in wildfire suppression, or lightning ignited "wildland fire use" as practiced by federal land management agencies.

(22) "Regional haze" means air pollution transported over long distances into Class I Areas that reduces visibility in those areas.

(23) "Residual smoke" means smoke produced after the initial fire has passed through the fuel.

(24) "Smoke intrusion" means the verified entrance of smoke from prescribed burning into a smoke sensitive receptor area at ground level.

(25) "Smoke management forecast unit" means any or all of the persons appointed or assigned by the State Forester to develop and interpret weather forecasts and produce smoke management instructions, usually operating from the department headquarters in Salem.

(26) "Smoke sensitive receptor area or SSRA" means an area designated for the highest level of protection under the smoke management plan, as described and listed in OAR 629-048-0140.

(27) "Underburning" means low intensity prescribed burning to maintain forest health through reduction of fuels in the understory of a forest stand while maintaining the overstory stand characteristics.

(28) "Verified smoke incident" means an entrance of prescribed burning smoke into a community, other than an SSRA, investigated by the forester to:

(a) Validate claims that smoke did, in fact, enter the area described, at ground level;

(b) Determine if the smoke or a portion of it, in fact, derived from forest management prescribed burning from a legally conducted operation; and

(c) If (a) and (b) of this section were affirmed, determine the intensity and approximate duration of the smoke incident as described in OAR 629-048-0110.

(29) "Western Oregon" means the eighteen Oregon counties lying west of Hood River, Wasco, Jefferson, Deschutes and Klamath Counties.

629-048-0010

Purpose

(1) ORS 477.013 requires the State Forester and the Department of Environmental Quality to approve a plan for managing smoke in areas that they are to designate, for the purpose of maintaining air quality. The plan must designate areas within which all burning must comply with the plan.

(2) The Smoke Management Rules are intended to establish the areas required by ORS 477.013; describe the objectives of the smoke management plan; establish procedures to be followed in administering prescribed burning; educate the public as to the necessity of prescribed burning and the measures being taken to protect air quality,

public health and visibility; and to provide enforceable mechanisms to ensure the requirements of the smoke management plan are met.

(3) The Smoke Management Rules, promulgated by the State Forester, together with department directive 1-4-1-601, *Operational Guidance for the Oregon Smoke Management Program*, shall comprise the smoke management plan upon approval by the Department of Environmental Quality and filing with the Secretary of State.

(4) The objectives of the smoke management plan are to:

(a) Prevent smoke resulting from prescribed burning on forestlands from being carried to or accumulating in smoke sensitive receptor areas or other areas sensitive to smoke, and to provide maximum opportunity for essential forestland burning while minimizing emissions;

(b) Coordinate with other state smoke management programs;

(c) Comply with state and federal air quality and visibility requirements;

(d) Protect public health; and

(e) Promote the reduction of emissions by encouraging cost effective utilization of forestland biomass, alternatives to burning and alternative burning practices.

629-048-0020

Necessity of Prescribed Burning

(1) All of Oregon's forestlands are flammable under the right conditions of fuel dryness, heat and wind.

(2) As a part of the natural ecology of forestlands, wildfire is neither necessarily good nor bad, however, there are a number of characteristics of unplanned, uncontrolled fires that are usually regarded by humans as undesirable. Among these are threats to public safety, destruction of natural resources, destruction of property and the adverse health effects that can occur from breathing a significant amount of fine particulate matter associated with wildfire smoke.

(3) When areas do not experience fire or other means of reducing forest fuels for extended periods, there is a greater wildfire hazard and the likelihood increases that if unplanned ignitions occur, through whatever means, that the resulting wildfire will burn at greater intensity and be more difficult to suppress.

(4) Because wildfires typically burn during hotter, drier conditions than those usually planned for prescribed fires, forest fuels are more completely consumed, producing more emissions. Also, wildfires often occur during periods of atmospheric stability and thus air stagnation, trapping smoke close to the ground where it is more likely to impact humans and less likely to be quickly carried away by higher altitude transport winds.

(5) Prescribed burning is used as a management technique to reduce forest fuels either as the primary mechanism such as in grass and brush areas for maintenance of grazing, and underburning of open forest stands for forest health purposes; or as a secondary fuel reduction method following thinning or final harvesting. It is typically conducted at a time and under planned fuel and weather conditions whereby the fine fuels that more readily ignite and carry fire across the landscape are consumed but the larger fuels are consumed to a lesser degree than in a wildfire. Resulting emissions are both reduced overall, and more likely carried into higher altitudes and dissipated by high level winds, away from concentrations of people.

(6) When adequate forest fuel reduction can be achieved economically without the use of prescribed burning, because of other fire associated risks, that choice is usually favored. Even so, there are often silvicultural or agricultural advantages to prescribed burning such as site preparation, nutrient cycling and reduction of pests and disease that may not be achieved by simply removing the forest fuels. For all of the reasons described above, the Legislative Assembly (ORS 477.552) and the Board of Forestry have found it necessary to maintain the viability of prescribed burning as a forest management practice.

629-048-0100

Regulated Areas

(1) All lands classified as “forestland” under ORS 526.305 to 526.370 and all forestland managed by a federal agency regardless of whether or not classified, within a forest protection district, are subject to regulation of prescribed burning pursuant to ORS 477.013. The level of regulation may vary according to specific classification; e.g., Class 1, 2 or 3 forestland as described in ORS 526.305 to 526.370.

(2) Class 1 forestland in western Oregon, and all forestland managed by a federal land management agency statewide, within a forest protection district, is subject to burn registration at least seven days in advance (OAR 629-048-0300), fee administration (OAR 629-048-0310), compliance with smoke management forecast instructions (OAR 629-048-0230), and reporting of accomplishments (OAR 629-048-0320). The forestlands and applicable regulations listed in this section may be referred to as “level 1 regulation.”

(3) All other non-federal forestland within a forest protection district, including, but not limited to, private forestlands in eastern Oregon and Class 3 private forestland in western Oregon is subject to burn registration (OAR 629-048-0300) and reporting of accomplishments (OAR 629-048-0320) but is not subject to fee administration or compliance with smoke management forecast instructions. The forestlands and applicable regulations listed in this section may be referred to as “level 2 regulation.”

(4) All prescribed burning on forestland within a forest protection district is subject to suspension of burning by the forester under ORS 477.520 due to conditions such as air stagnation or fire danger.

629-048-0110

Characterization of Smoke Incidents

(1)(a) When investigating or collecting information on smoke incidents or intrusions, the department will attempt to characterize the incident or intrusion in terms of its intensity (light, moderate or heavy) and its duration in hours or minutes. To the extent it can reasonably do so, the department may also attempt to determine the amount of populated area affected (in square miles or acres) and an estimate of the number of people present during the incident or intrusion.

(b) As used in the smoke management rules, “smoke intrusion” refers only to prescribed burning smoke that enters a smoke sensitive receptor area at ground level. Nonetheless, the methods and descriptions described in this rule may be applied to the measurement of any smoke incident relevant to the smoke management plan.

(2) When measurements or observations are available, incidents or intrusions are characterized in the following manner based on nephelometer values (averaged over a one hour period) above the clean air background:

- (a) A light intensity incident or intrusion is characterized by a light scattering measurement of less than 1.8×10^{-4} B-scat (Beta scatter);
- (b) A moderate intensity incident or intrusion is characterized by a light scattering measurement of greater than or equal to 1.8×10^{-4} B-scat but less than or equal to 4.9×10^{-4} B-scat; and
- (c) A heavy intensity incident or intrusion is characterized by a light scattering measurement of greater than 4.9×10^{-4} B-scat.
- (3) The clean air background is the average nephelometer reading for the three hours prior to the incident or intrusion.
- (4) When no nephelometer data are available, incident or intrusion intensity is characterized based on reduction in visibility (also averaged over a one hour period) using standard National Weather Service visibility observation criteria and a table of reductions keyed to various background visibility levels as displayed in department directive 1-4-1-601, *Operational Guidance for the Oregon Smoke Management Program*. As an example, on a day when background visibility has been greater than 50 miles, a light intensity incident or intrusion has reduced visibility that is still greater than or equal to 11.4 miles; a moderate intensity incident or intrusion has reduced visibility to less than 11.4 miles, but greater than or equal to 4.6 miles; and a heavy intensity incident or intrusion has reduced visibility to less than 4.6 miles.

629-048-0120

Air Quality Maintenance Objectives

- (1) When prescribed burning is conducted in proximity to, but outside communities or areas designated as smoke sensitive receptor areas, the objective of the smoke management plan is no smoke intrusions into the SSRA.
- (2) When prescribed burning is conducted inside a smoke sensitive receptor area, the smoke management plan objective is to use best burn practices and prompt mop-up, as appropriate, along with tight parameters for burn site conditions that are intended to vent the main smoke plume up and out of the SSRA and minimize residual smoke.
- (3) In all other instances of prescribed burning it is the intent under the smoke management plan to minimize the amount and duration of smoke that comes in contact with humans at their places of residence or at other places where they normally gather in numbers such as to work, conduct commerce or participate in public events.
- (4) The first element in minimizing smoke contact is encouraging forestland owners to burn only those units which cannot otherwise meet forest management objectives in cost effective alternative ways such as wood or biomass utilization.
- (5) When prescribed burning is used, owners are further encouraged to employ the emission reduction techniques described in OAR 629-048-0210 to ensure the least emissions practicable.
- (6) In addition to compliance with smoke management instructions issued in the daily forecast and compliance with all conditions of the burn permit required under ORS 477.515, burn bosses and field administrators are encouraged to closely observe local conditions at the burn site and to light, manage, suspend lighting if necessary, and mop-up burns, when appropriate, in a manner that takes into consideration the possible smoke effects from the main smoke plume or significant residual smoke on residences or businesses that may be in close proximity to the burn site.

629-048-0130

Visibility Objectives

(1) It is the intent under the smoke management plan to comply with Section 5.5 of the Oregon State Implementation Plan for Visibility Protection (OAR 340-200-0040).

(2) It is the intent under the smoke management plan to operate in a manner consistent with the Oregon Regional Haze Plan, including the Enhanced Smoke Management Program (ESMP) criteria contained in the plan, for the purpose of protecting Class I Area visibility. These ESMP criteria include:

- (a) Actions to minimize emissions;
- (b) Evaluation of smoke dispersion;
- (c) Alternatives to fire;
- (d) Public notification;
- (e) Air quality monitoring;
- (f) Surveillance and enforcement;
- (g) Program evaluation;
- (h) Burn authorization; and
- (i) Regional coordination.

(3) When prescribed burning is conducted outside any Class I Area during the visibility protection period (July 1 to September 15), an objective of the smoke management plan is to minimize any smoke that impairs visibility inside the Class I Area.

(4) When prescribed burning is conducted inside a Class I Area, the smoke management plan objective is to use best practices along with tight parameters for burn site conditions that will vent the main smoke plume up and out of the Class I Area and minimize residual smoke.

(5) When prescribed burning is conducted outside the visibility protection period in proximity to, but outside and upwind of Class I Areas, in addition to compliance with smoke management instructions issued in the daily forecast and compliance with all conditions of the burn permit required under ORS 477.515, burn bosses and field administrators are encouraged to closely observe local conditions at the burn site to avoid the main smoke plume entering a Class I Area at ground level.

(6) The Class I Areas in Oregon include Crater Lake National Park, Diamond Peak Wilderness, Eagle Cap Wilderness, Gearhart Mountain Wilderness, Hells Canyon Wilderness, Kalmiopsis Wilderness, Mountain Lakes Wilderness, Mount Hood Wilderness, Mount Jefferson Wilderness, Mount Washington Wilderness, Strawberry Mountain Wilderness and Three Sisters Wilderness.

629-048-0140

Smoke Sensitive Receptor Areas

A smoke sensitive receptor area is an area designated by the board, in consultation with the Department of Environmental Quality, that is provided the highest level of protection under the smoke management plan because of its past history of smoke incidents, density of population or other special legal status related to visibility such as the Columbia River Gorge Scenic Area.

The following are smoke sensitive receptor areas:

(1) The area within the State of Oregon commonly understood to be the Willamette Valley that:

(a) Specifically lies east of the forest protection district boundaries of the Northwest Oregon, West Oregon and Western Lane Forest Protection Districts, west of the forest protection district boundaries of the North Cascade and South Cascade Forest Protection Districts and north of where the Western Lane and South Cascade Forest Protection Districts come together in southern Lane County (for detailed district boundary descriptions, see OAR 629-041-0500 to 629-041-0575);

(b) Notwithstanding the actual location of the forest protection district boundaries, includes the area within the city limits of the following cities that straddle, or are within but immediately adjoin, the forest protection district boundary:

- (A) Carlton
- (B) Corvallis
- (C) Cottage Grove
- (D) Eugene
- (E) McMinnville
- (F) Portland
- (G) Sheridan
- (H) Silverton
- (I) Springfield
- (J) St. Helens
- (K) Stayton
- (L) Sublimity
- (M) Veneta
- (N) Willamina
- (O) Yamhill

(2) Within the acknowledged urban growth boundaries of the following cities:

- (a) Astoria;
- (b) Baker City;
- (c) Bend;
- (d) Burns;
- (e) Coos Bay;
- (f) Enterprise;
- (g) Grants Pass;
- (h) John Day;
- (i) Klamath Falls;
- (j) LaGrande;
- (k) Lakeview;

- (l) Lincoln City;
- (m) Newport;
- (n) North Bend;
- (o) Oakridge;
- (p) Pendleton;
- (q) Redmond;
- (r) Roseburg;
- (s) The Dalles; and
- (t) Tillamook;

(3) The area within the Bear Creek and Rogue River Valleys described in OAR 629-048-160, including the cities of Ashland, Central Point, Eagle Point, Jacksonville, Medford, Phoenix and Talent; and

(4) The area within the Columbia River Gorge Scenic Area (as described in 16 U.S.C. Section 544b, 2003).

629-048-0150

Criteria for Future Listing of Smoke Sensitive Receptor Areas

To ensure continued accomplishment of the smoke management plan objectives, additional smoke sensitive receptor areas may be listed according to the following procedures:

(1) Not more than once per calendar year, the board must consider additional SSRA listings if:

(a) The department recommends consideration of a community for SSRA listing based on observations of repeated verified smoke incidents as described in section (5) of this rule;

(b) The Department of Environmental Quality recommends consideration of a community for SSRA listing based on evidence of airborne particulate concentrations in the community at levels that make periodic exceedance of ambient air quality standards a significant possibility; or

(c) The governing body of a city, or county for an unincorporated area, requests by official action consideration of a community for SSRA listing, and cites the reasons for its request upon:

(A) The occurrence of a verified smoke incident lasting more than four hours;

(B) More than one verified smoke incident in the same calendar year; or

(C) Repeated verified smoke incidents as described in section (5) of this rule that have occurred within the five years immediately preceding the request.

(2) When considering whether to list a community as an SSRA, the Board shall evaluate the evidence presented to it, including any information received at one or more public meetings.

(a) Specifically, the board shall consider information regarding:

(A) The frequency, duration and intensity of verified smoke incidents;

(B) Population of the community;

(C) The results, if any, of mechanical or systematic monitoring of airborne particulate concentrations, or other verifiable information regarding existing air quality problems in the community under consideration;

(D) The nature and performance of any local programs addressing airborne particulate concentrations;

(E) Recent trends in, and future plans for, prescribed burning activity on surrounding forestlands;

(F) Any local topographic or meteorological effects that may influence the frequency, duration or intensity of smoke incidents;

(G) Evaluation of the local and regional effect that listing the community as an SSRA will have on the smoke management plan's objectives of maintaining air quality and accomplishing necessary prescribed burning;

(H) The reasons cited in a request received under subsection (1)(c) of this rule;

(I) The joint recommendations of the department and the Department of Environmental Quality regarding whether the community should be listed and why; and

(J) Any other information that is relevant to accomplishing the objectives of the smoke management plan.

(b) If joint recommendations are not achieved under paragraph (2)(a)(I) above, the department shall prepare a report for the board detailing any differences in recommendations and its explanations for the differences.

(3) After considering the evidence presented to it, except as provided in section (4) of this rule, the board may take any one of the following actions:

(a) Reject the recommendation or request;

(b) Acknowledge that smoke incidents have occurred, but direct the department to pursue an alternate course of further information gathering, monitoring, operational modifications or other efforts aimed at reducing the likelihood of continuing smoke incidents; or

(c) Accept the recommendation or request by defining the applicable boundaries of the community to be listed, directing the department to begin treating the community as an SSRA and following a timely process to amend OAR 629-048-0140 accordingly.

(4)(a) The board's choice of actions shall be limited to those described in either subsections (b) or (c) of this section, if it finds that all of the following circumstances exist:

(A) The community proposed for listing has incurred repeated verified smoke incidents as described in section (5) of this rule, that have occurred within the five years immediately preceding the request or recommendation in section (1) above;

(B) The community is a city with a population in excess of 10,000 within the incorporated city limits, according to the most recently published population estimate of the Population Research Center, Portland State University; and

(C) There is a likelihood of continuing frequent use of prescribed burning as a forest management activity on forestland within 30 miles of the city limits.

(b) For communities with no air quality monitoring data, the board may delay a final action determining whether to list the community as an SSRA if monitoring equipment is installed in the community to gather information leading to a final determination; or

(c) The board may define the applicable boundaries of the community to be listed, direct the department to begin treating the community as an SSRA and follow a timely process to amend OAR 629-048-0140 accordingly.

(5) "Repeated verified smoke incidents" as used in this rule refers to any of the following combinations of verified smoke incidents resulting from lawfully conducted prescribed burning on forestland in any continuous period of three years or less:

(a) One heavy intensity smoke incident and one moderate or light intensity smoke incident, the latter lasting at least one hour;

(b) Two moderate intensity smoke incidents, both lasting at least one hour; or

(c) Three or more smoke incidents of any combination of intensity for a combined duration of at least three hours (using the intensity parameters described in OAR 629-048-0110 for all of the above).

629-048-0160

Bear Creek/Rogue River Valley SSRA

The Bear Creek and Rogue River Valley smoke sensitive receptor area listed in OAR 629-048-0140 (3) is defined as beginning at a point approximately one mile NE of the town of Eagle Point, Jackson County, Oregon, at the NE corner of Section 36, T35S, R1W; thence south along the Willamette Meridian to the SE corner of Section 25, T37S, R1W; thence SE to the SE corner of Section 9, 39S, R2E; thence SSE to the SE corner of Section 22, T39S, R2E; thence south to the SE corner of Section 27, T39S, R2E; thence SW to the SE corner of Section 33, T39S, R2E; thence west to the SW corner of Section 31, T39S, R2E; thence NW to the NW corner of Section 36, T39S, R1E; thence west to the SW corner of Section 26, T39S, R1E; thence NW to the SE corner of Section 7, T39S, R1E; thence west to the SW corner of Section 12, T39S, R1W; thence NW to the SW corner of Section 20, T38S, R1W; thence west to the SW corner of Section 24, T38S, R2W; thence NW to the SW corner of Section 4, T38S, R2W; thence west to the SW corner of Section 5, T38S, R2W; thence NW to the SW corner of Section 31, T37S, R2W; thence north to the Rogue River, thence north and east along the Rogue River to the north boundary of Section 32, T35S, R1W; thence east to the point of beginning.

629-048-0200

Alternatives to Burning

(1) When planning forest management prescriptions and particularly final harvests (prior to reforestation), owners are encouraged to use practices that will eliminate or significantly reduce the volume of prescribed burning necessary to meet their management objectives. Some practices to consider include, but are not limited to:

(a) Maximizing the cost-effective use of woody material for manufacture of products;

(b) Where cost-effective, using wood or other biomass for energy production or mulch;

(c) Lopping and scattering limbs and other woody material, or operating heavy machinery over the wood to maximize contact with the soil in order to speed its breakdown; or

(d) Re-arranging woody materials, as necessary to accomplish reforestation through the slash (from a fire prevention standpoint, this may not be desirable in areas of heavy fuel concentrations or where soil moistures are not conducive to breakdown of fuels).

(2) When prescribed burning is determined to be necessary to achieve forest management objectives, owners are encouraged to use emission reduction techniques as described in OAR 629-048-0210.

(3) The following publications are recommended reading for forestland managers who frequently engage in prescribed burning:

(a) "Non-burning Alternatives to Prescribed Fire on Wildlands in the Western United States" (Western Regional Air Partnership, February, 2004); and

(b) "Annual Emission Goals for Fire Policy" (Western Regional Air Partnership, April, 2003).

629-048-0210

Best Burn Practices; Emission Reduction Techniques

(1) "Best burn practices" as used in this rule refers to those practices designed to minimize emissions from prescribed burning or accomplish burning at times and under such conditions as to minimize the likelihood that emissions will have adverse effects to the air quality maintenance or visibility objectives (OAR 629-048-0120 and 629-048-0130). Additional practices not described in this rule may be necessary to ensure against the escape of fire or protection of forest resources.

(2) In general, best burn practices involve methods that ensure the most rapid and complete combustion of forest fuels while nearby, "non-target" fuels are prevented from burning, such as:

(a) Physical separation of "target" and "non-target" fuels;

(b) Burn prescriptions, particularly for broadcast burns, that recognize and utilize the natural differences in fuel moistures of larger and smaller pieces of woody material; or

(c) Covering of piles sufficient to facilitate ignition and complete combustion, and then burning them at times of the year when all other fuels are damp, when it is raining or there is snow on the ground.

(3) Rapid combustion is well served by rapid ignition which may involve the use of petroleum accelerants (with appropriate safety precautions) and by maintaining an adequate air supply to the forest fuels being burned. Piles and windrows should be mostly free of soil, rocks and other non-combustible materials and should be loosely stacked to promote aeration. Where practicable, re-stacking or "feeding" the burn pile is encouraged to complete combustion and avoid smoldering.

(4) When piles are covered as a best burn practice and the covers are to be removed before burning, any effective materials may be used, as long as they are removed for re-use or properly disposed of. When covers will not be removed and thus will be burned along with the piled forest fuels, the covers must not consist of materials prohibited under OAR 340-264-0060(3), except that polyethylene sheeting that complies with the following may be used:

(a) Only polyethylene may be used. All other plastics are prohibited;

(b) The size of each polyethylene cover must not exceed 100 square feet. For small piles, covering only an area necessary to achieve rapid ignition and combustion, instead of the entire pile, is encouraged;

(c) The thickness of the polyethylene cover must not exceed 4 mil; and

(d) Layering or multiple covers (exceeding 100 square feet combined) within a pile is prohibited, unless authorized in writing by the forester to meet ignition and combustion needs.

(5) The use of petroleum accelerants and polyethylene covers as “best burn practices” described in this rule is expressly intended as an exception to OAR 340-264-0060(3) as allowed by OAR 340-264-0060.

(6) In general, rapid mop-up of prescribed burning is not needed to meet the objectives of the prescribed burn and protect air quality, however, in instances of prescribed burning within an SSRA or when conditions change significantly from those forecasted or present at the time of ignition, rapid mop-up may become necessary to prevent excessive residual smoke or entry of smoke into an SSRA or other area sensitive to smoke. Burn plans required under OAR 629-043-0026(4), prescribed fire plans required by federal land management agency policy, or burn permits required under ORS 477.515, when appropriate, should address conditions that may require mop-up of the prescribed burn and to what extent.

(7) When local conditions for smoke dispersal appear to be better than forecasted, burn bosses and field administrators are encouraged to communicate such information to the smoke management forecast unit, to further the objective of accomplishing burning during the most favorable conditions.

629-048-0220

Forecast Procedures

(1) There are several concepts and procedural steps involved in accomplishing the smoke management plan objectives, designed to maximize opportunities for accomplishing burning while minimizing the likelihood of public health effects or visibility impairment in Class I Areas. The following sections of this rule attempt to explain some of these concepts.

(2) The basic underlying mechanism in smoke management is the use of an understanding of atmospheric dynamics and combustion processes, in concert with current weather forecasts, to ensure that the bulk of emissions from prescribed burning are transported to areas of low or no adverse effect by:

(a) In the case of broadcast or large pile burning, generating heat rapidly so that the fuel is quickly consumed and emissions rise sufficiently above ground level to either:

(A) Become diluted, and dispersed in the atmosphere via transport winds to areas of minimal impact; or

(B) Mix with the moisture in clouds and fall back to earth as precipitation; or

(b) In the case of low intensity underburning or small piles under the forest canopy, managing the volume of material burned per unit of time and paying careful attention to surface winds to keep total emissions low and disperse the smoke to unpopulated areas.

(3) For each day that prescribed burning is planned on forestland with level 1 regulation, a weather forecast is prepared by meteorologists specializing in smoke management. By examining the atmospheric conditions predicted for the burn day, such as vent heights, mixing layers, wind speed and direction, as well as information about what level of pollutants may already be present in a given area, the meteorologists determine if and where conditions will be favorable to accomplish burning.

(4) In addition to the weather forecast, specific information is required on the location of planned burns, and the tonnage of fuel that is expected to be consumed in a burn. This information is provided on a per unit basis at the time that burns are registered and planned with the forester (see OAR 629-048-0300).

(5) With knowledge of the information described above, and based on dispersion models that have been developed through time and experience, forecasters are able to reasonably predict how much smoke, and at what locations, can be put into the atmosphere without likelihood of threat to air quality objectives. This information is then converted into instructions to field administrators and burn bosses as to what tonnages, in what weather zones and at what distances from SSRAs prescribed burning may be permitted.

(6) The forecast and instructions are made available to field administrators and any interested parties by 3:15 p.m. each day, as necessary. Locally, planned burns are compared against the forecast and instructions, as well as any local prioritization of burns, to determine which burns, if any, will be permitted on the following day. If there are any changes in the forecast for the day of the burn, the smoke management forecast unit will make every effort to place a message on an automatic answering phone by 8:00 a.m.

629-048-0230

Burn Procedures

(1) Before any prescribed burning is initiated, burn bosses should have a well thought out plan that takes into account:

(a) How weather will be monitored and changes in conditions will be communicated;

(b) Resources necessary to accomplish ignition and ignition sequences;

(c) Resources and methodology necessary to contain and control the fire and prevent its escape, including communications to access additional resources, if necessary; and

(d) How the burn will be conducted to avoid smoke entering smoke sensitive receptor areas or other areas sensitive to smoke and to minimize smoke effects on other communities.

(2) The forester may require that a written burn plan be prepared for approval under OAR 629-043-0026 (4), prior to issuance of a burn permit. A prescribed fire plan is required under federal policy for all prescribed burning on federal lands.

(3) Prescribed burn operations with large tonnages (2000 tons or more) or burns that will occur over multiple days should be adequately planned to provide opportunities to cease lighting and hold the existing burn within smaller compartments to mitigate undesirable smoke effects or changes in the actual burn conditions from those that were forecasted.

(4) For prescription burn units on forestland subject to level 1 regulation, burn bosses must provide specific information to be transmitted to the smoke management forecast unit in a standard format acceptable to the forester, regarding unit location, method of burning, and fuel loading tonnages by 5:00 p.m. the day prior to the burn.

(5) (a) Prior to ignition of any prescribed burning in a fire season (ORS 477.505), the burn boss must obtain a permit to burn from the forester as required by ORS 477.515

(not required for federal land management agencies). Federal land management agencies must follow agency policies that provide for an affirmative “go-no go decision” prior to ignition of any prescribed burning prior to ignition of any prescribed burning as documented and approved by the federal land management agency’s line officer.

(b) A permit to burn from the forester is also required for all prescribed burning on non-federal Class 1 forestland in western Oregon at any time of the year.

(c) Under ORS 477.515 (1)(a), the forester may waive the requirement for a burn permit in instances of burning other than described in subsections (a) and (b) of this section, so burn bosses should check with the forester locally to determine whether permits are required outside fire season.

(6) Prior to ignition of any prescribed burning on forestland subject to level 1 regulation, the burn boss must obtain the current smoke management forecast and instructions and must conduct the burning in compliance with the instructions. Burn bosses must make provisions to be informed if the forecast or instructions are subsequently changed. Through communication among the burn boss, field administrator and the smoke management forecast unit, based on information specifically relevant to the burn location, a burn boss may obtain a variance from the instructions, but must document the time and method of communication and adhere strictly to the conditions of the variance.

(7) For prescribed burn operations with large tonnages (greater than 2000 tons) or burns that will occur over multiple days, burn bosses may request at least two days in advance that a special forecast and instructions be issued to ensure adequate attention to meeting smoke management plan objectives. Issuance of a special forecast and instructions will be solely within the discretion of the smoke management forecast unit based on workload and sufficient local information to support the forecast.

(8) The smoke management forecast unit, in developing instructions, and each field administrator issuing burn permits are directed to manage the prescribed burning on forest land in connection with the management of other aspects of the environment in order to maintain a satisfactory atmospheric environment in smoke sensitive receptor areas. This direction is to be applied to situations in which prescribed burning may impact SSRAs or other areas sensitive to smoke.

(9) Each burn boss or field administrator must validate that forecasted weather conditions are consistent with actual on-site conditions prior to ignition of burns.

(10) A burn boss is required to terminate ignition, in a manner that does not compromise worker safety or the ability to prevent escape of the burn, if either of the following occurs:

(a) The burn boss determines, or is advised by a field administrator, that an SSRA, or other area sensitive to smoke is already adversely affected by the burn or would likely become so with additional burning; or

(b) The burn boss receives notice from the forester, through the smoke management forecast unit, or following consultation with the Department of Environmental Quality, that air in the entire state or portion thereof is, or would likely become adversely affected by smoke.

(11) Upon termination of ignition required by section (10) of this rule, any burning already under way should be completed, residual burning should be extinguished

as soon as practicable, and no additional burning may be attempted until approval has been received from the forester.

629-048-0300

Registration of Intent to Burn

(1) In all instances of prescribed burning on forestland within a forest protection district, the operator, federal land manager, landowner, or timber owner must first register with the forester all forestland that is intended to be burned. For forestland subject to level 1 regulation, burn registration must be completed at least seven days prior to the first day of ignition.

(2) The forester may waive the seven day waiting period required in section (1) of this rule contingent upon the forester's approval of a burn plan or conditions of federally prescribed fire policies having already been met.

(3) Information provided for burn registration must be complete and recorded in a standard format approved by the forester.

(4) No operator, federal land management agency, landowner or timber owner shall be allowed to register additional forestland for burning if payment for their previous registration or burning, when required pursuant to OAR 629-048-0310, is more than 90 days past due.

629-048-0310

Fees for Prescribed Burning

(1) Any prescribed burning on forestland subject to level 1 regulation (OAR 629-048-0100) requires payment of a non-refundable registration fee of \$.50/acre and upon accomplishment (see section (3) of this rule), a burn fee as further described in sections (2), (3), (5), (6) and (8) below.

(2) Burn fees for all forms of prescribed burning, including but not limited to, broadcast burning, burning of piles whether in-unit, on landings, or from rights-of-way, shall be assessed (where required) against the total acres in the unit from which the forest fuels were accumulated, as described in the burn registration.

(3) The first time that fire is applied to a prescribed burn unit, regardless of actual accomplishment, payment of a burn fee is required. Burn fees shall be charged according to the following schedule:

(a) If only landing or right-of-way piles are burned, the burn fee shall be \$.50 per acre. Subsequent attempts to improve accomplishment only in landing or right-of-way piles in the same unit, in the same calendar year or the two following calendar years, shall not incur additional fees.

(b) If subsequent to burning only landing or right-of-way piles, the first time fire is applied to any other portion of a unit (typically broadcast or in-unit pile burning), an additional burn fee of \$2.60 per acre shall be required.

(c) If the first application of fire to the registered unit includes other than landing or right-of-way piles, the burn fee shall be \$3.10 per acre regardless of whether landing or right-of-way piles are burned. Subsequent attempts to improve accomplishment in any portion of the same unit, in the same calendar year or the two following calendar years, shall not incur additional fees.

(4) (a) As used in this rule, "landing" means any location logs are yarded to for processing (trimming ends or limbs and tops remaining after yarding) and assembling for forwarding or loading onto trucks, including each loading site that may occur along a road. Consequently, a landing pile contains only those residues resulting from the processing, and not additional forest fuels accumulated from growth on the site or the felling process.

(b) As used in this rule, "right-of-way piles" means any accumulated forest fuels that come only from the area cleared in the pioneering stage of road construction after appropriate utilization.

(5) Areas burned as a result of escaped fires that are outside the description of the registered burn area shall not be assessed fees if the fire outside of the described area is immediately attacked for wildfire suppression. If the fire outside of the described area is managed as a prescribed fire then every additional acre burned shall incur a registration fee of \$.50 per acre and a burn fee of \$3.10 per acre.

(6) Notwithstanding section (3) of this rule, forest health maintenance burning on forestland subject to level 1 regulation, where significant fuel reduction has been accomplished through underburning within the last five years and where there are no piled forest fuels on the site, shall be charged a burn fee of \$.50 per acre.

(7) The forester shall prepare monthly billings to collect the appropriate registration and burn fees from the operator, federal land manager, landowner or timber owner whose name is recorded on the registration form for billing purposes.

(8) Notwithstanding sections (1) and (3) of this rule, each burn unit requires a minimum combined registration and burn fee of \$30.00. To reduce processing costs, the forester may elect to collect both registration and burn fees prior to accomplishment, for units less than 20 acres on one combined billing.

(9) Notwithstanding sections (1), (3) and (7) of this rule, in accordance with ORS 477.562 (6) (as amended by Chapter 213, Oregon Laws, 2007; enrolled HB 2973), a federal land management agency may enter into a cooperative agreement with the forester for payment of registration and burn fees at an annual flat rate. The rate shall be based on estimated acres to be treated as a percentage of total acres on all ownerships, applied against the overall annual estimated operating cost of the smoke management plan. Any such agreement shall have a provision that allows for periodic adjustment of the rate based on actual experience.

(10) Notwithstanding section (7) of this rule, any person or entity described in ORS 477.406 (1) with a prior record of timely payment may, at the discretion of the forester, enter into a cooperative agreement for the efficient administration and payment of registration and burn fees provided all payments equal no less than the registration rate described in section (1) of this rule times the number of acres registered plus the burn fee rate in sections (3) or (6) of this rule, as appropriate, times the number of acres accomplished.

629-048-0320

Reporting of Accomplishments

(1) Accomplishment information for all prescribed burning that takes place on forestland within the regulated area described in OAR 629-048-0100 must be recorded in a manner that details the amount of burning and emissions produced for each day of burning and must be reported to the department according to the schedule described below and in standard formats prescribed by the forester.

(2) Prescribed burning on forestland subject to level 1 regulation must be reported the next business day following each day's ignition as described in department directive 1-4-1-601, *Operational Guidance for the Oregon Smoke Management Program*, Appendix 1.

(3) Prescribed burning on forestland subject to level 2 regulation must be reported by the first business day of the week following ignition as described in department directive 1-4-1-601, *Operational Guidance for the Oregon Smoke Management Program*, Appendix 1.

629-048-0330

Emission Inventories

(1) In addition to the emissions information collected from prescribed burning under OAR 629-048-0320, the forester will annually estimate, using appropriate models and the best available information on acres burned and fuel type, the emissions produced by wildfires in Oregon. At a minimum, the forester will attempt to collect information about wildfires that burn on forestlands within a forest protection district.

(2) Emissions information from prescribed burning and from wildfires will be maintained as distinct inventories, in appropriate forms, for analysis and distribution to improve the overall understanding of the relationships of wildfire versus prescribed fire emissions.

(3) The forester may include as much information on wildfires as may be readily available from the various protection agencies and other cooperators, provided that gathering of such information does not create an unfunded cost to the smoke management program.

629-048-0400

Coordination with Other Regulating Jurisdictions and for Other Pollutants

(1) In order to meet the air quality maintenance and visibility objectives (OAR 629-048-0120 and 629-048-0130) of the smoke management plan, it is important that the forester, field administrators and other cooperators be well informed as to the existence of, or potential for smoke or other airborne pollutants other than that which will be produced by any planned prescribed burning in the affected airshed. Local field administrators are encouraged to maintain working relationships with other local jurisdictions that authorize open burning or monitor air quality so that all parties may be adequately informed of planned burns or conditions that cumulatively might exceed standards or objectives.

(2) The forester is required to report the weather forecast, planned and accomplished burning and smoke intrusions, if any, to the Department of Environmental Quality for each applicable day, on a timely basis.

(3) Any wildfire that has the potential for smoke input into an SSRA or other area sensitive to smoke must be reported immediately by the local unit of the state or federal agency with jurisdiction for fire suppression to the State Forester's office.

(4) The smoke management forecast unit will communicate periodically with appropriate prescribed burning regulators in the surrounding states for the purpose of coordination and information sharing, as appropriate.

629-048-0450

Periodic Evaluation and Adaptive Management

(1) The department is responsible for analysis and evaluation of the prescribed burning operations conducted under the smoke management plan.

(2) Reports summarizing annual activities of the program shall be published by the department addressing:

(a) The level of burning activity;

(b) Results with regard to avoiding entrance of smoke into SSRAs and other areas sensitive to smoke and reports of any smoke intrusions;

(c) Accomplishment of alternatives to burning and the use of emission reduction techniques;

(d) Evaluation of overall smoke management plan accomplishment;

(e) Evaluation of adequacy of listed SSRAs and protection measures;

(f) Any other pertinent information related to smoke management plan evaluation and improvement; and

(g) Revenues generated from burn fees and related smoke management plan costs.

(3) Copies of the reports described in section (2) of this rule will be made available to all interested parties.

(4) Upon publication of a report in accordance with section (2) of this rule, the forester will consult at least annually with the Smoke Management Advisory Committee created under ORS 477.556. Topics will include, but are not limited to, smoke management plan implementation, status of the Oregon Forest Smoke Management Account (ORS 477.560), and any fee changes that may be appropriate based on the balance in this account.

629-048-0500

Enforcement

(1) Violations of the smoke management plan may be enforced either as violations of the fire prevention statutes and rules (ORS 477.980 to 477.993) or as violations of the forest practice rules (ORS 527.680 to 527.690 and 527.990).

(2) (a) When, in the judgment of the forester, a violation is related primarily to an act or omission that has caused or might cause fire to burn uncontrolled, enforcement under the provisions of the fire prevention statutes and rules is appropriate.

(b) When, in the judgment of the forester, a violation is related primarily to an act or omission that has caused or might cause deterioration of air quality, enforcement under the provisions of the Forest Practices Act and rules (specifically, OAR 629-615-0300) is appropriate.

(3) Enforceable standards within the smoke management plan include requirements to:

- (a) Register burns prior to ignition (OAR 629-048-0230(4) and OAR 629-048-0300);
- (b) Obtain approval for and follow a burn plan (OAR 629-048-0230(2) and OAR 629-043-0026(4));
- (c) Obtain a burn permit and comply with any conditions included therein (OAR 629-048-0230(5) and ORS 477.515) ;
- (d) Obtain and comply with daily smoke management instructions and updates (OAR 629-048-0230(6));
- (e) Comply with restrictions regarding use of polyethylene covers on burn piles (OAR 629-048-0210(4));
- (f) Cease burning when directed by the forester (OAR 629-048-0100(4) and OAR 629-048-0230(10));
- (g) Report accomplishments (OAR 629-048-0320); and
- (h) Pay fees (OAR 629-048-0310).

(4) Section 118 of the federal Clean Air Act provides for enforcement of state air quality regulations against federal agencies. It will be the policy of the Board of Forestry, in the event of a failure of a federal land management agency to comply with the smoke management plan, that the forester will first inform the responsible agency of the failure and coordinate efforts to ensure timely correction of any breakdowns in procedure that may have resulted in the failure. However, if this method does not appear in the judgment of the State Forester to result in necessary correction of procedures, or under other circumstances that in the judgment of the State Forester warrants, enforcement action may be taken as with any other responsible party.

AMEND

OAR Chapter 629, Division 43 – Fire Prevention

629-043-0040

Burn Permits

- (1) Pursuant to ORS 477.515, holders of permits for burning must:
 - (a) Prior to burning, clear the area immediately around and above the burn site of material that may carry fire;
 - (b) When burning in a barrel or similar container, completely cover the container openings with a screen constructed of not less than 14-gauge wire and that has openings which are no larger than one-fourth inch in diameter;
 - (c) Not allow the uncontrolled spread of fire away from the permitted burn site;
 - (d) Not burn on a day when burning has been prohibited by the forester because of increased fire danger or because of air quality conditions;
 - (e) Not burn without complying with all conditions, hours and dates set forth on the permit; and
 - (f) Not burn without complying with the open burning prohibitions set forth in OAR 340-264-0050 to 340-264-0170.

(2) The requirements of this rule do not apply to prescribed burning conducted in compliance with ORS 477.013, OAR 629-043-0026(4) and OAR 629-048-0001 to 629-048-0500.

(3) The forester may, in a written order, reduce or waive any requirement of this rule if:

(a) In the judgment of the forester, conditions so warrant; and

(b) The burning complies with the requirements of ORS 477.515, ORS chapter 468, ORS chapter 468A and OAR chapter 340 division 264.