

## 10.15.21 DRAFT

### Permanent Rule on Protection from Wildfire Smoke

(1) Scope and application. These rules apply to public and private employers whose employees are or will be exposed to wildfire smoke where the ambient air concentration for fine particulate matter (PM2.5) is at or above 35.5 ug/m<sup>3</sup> (Air Quality Index value of 101 for PM2.5).

*Note: As with all Oregon OSHA rules, the provisions of this standard represent minimum requirements, not best practices. Employers who have implemented more protective measures than required by this rule are strongly encouraged to leave those more protective measures in place.*

*Note: Oregon OSHA recognizes that smoke exposures represent particularly dynamic situations. Employers must address such hazards based on the information available to them or that could have been available to them through the exercise of reasonable diligence.*

*Note: Employees are protected from discrimination and retaliation under ORS 654.062(5). This includes protections for actions against employees for opposing any practice forbidden under the Oregon Safe Employment Act and related statutes and rules (including this smoke rule), making a complaint or causing any proceeding to be instituted under the Oregon Safe Employment Act, or exercising any rights under the law, including those conferred by this rule.*

(a) The following workplaces and operations are exempt from these rules:

(A) Enclosed buildings and structures in which the air is filtered by a mechanical ventilation system ~~and that the employer ensures will maintain indoor ambient air concentration for PM2.5 below 35.5 ug/m<sup>3</sup> (AQI 101) in employee occupied areas, and when that windows, doors, bays, and other exterior openings are kept closed, except when it is~~ strictly necessary to briefly open doors to enter or exit;

(B) Enclosed vehicles in which the air is filtered by a cabin air filter and the employer ensures that windows, doors, and other openings are kept closed, ~~except when it is~~ strictly necessary to briefly open doors to enter and or exit. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and deboard passengers are NOT exempt from these rules;

(C) Work activities involving intermittent employee exposures to wildfire smoke of less than 15 minutes within an hour for a maximum of:

- (i) Two hours total within a single 24-hour period where ambient air concentration for PM2.5 is below 150.5 ug/m<sup>3</sup> (AQI 201); ~~and~~
- (ii) One hour total within a single 24-hour period where ambient air concentration for PM2.5 is is-at or above between 150.5 ug/m<sup>3</sup> (AQI 201) and 500.4 ug/m<sup>3</sup> (AQI 501); and-
- (iii) 15 minutes total within a single 24-hour period where the ambient concentration for PM2.5 is above 500.4 ug/m<sup>3</sup> (AQI 501).

(D) When the employer predetermines that operations involving-affected by wildfire smoke will be suspended ~~before and as long as needed~~ to prevent employee exposure to an ambient air concentration for PM2.5 at or above 35.5 ug/m<sup>3</sup> (AQI 101); and

(E) Employees working from home.

(b) The following specific workplaces and operations are only subject to the *information and training* requirements under section (4)(a) through (f) and the *control by voluntary use of respirators* under section (7)(ab) of these rules when feasible, and when compliance would not expose employees to a greater hazard:

(A) Wildland firefighting and associated support activities such as fire camp services and fire management; and

(B) [Structural firefighting](#), [evacuation](#), rescue, utilities, communications, [law enforcement](#), and medical operations that are directly involved in or aiding emergency operations ~~or firefighting operations~~.

## (2) Definitions.

(a) Air Quality Index – The Air Quality Index (AQI) was developed by the US Environmental Protection Agency (EPA) as an indicator of overall air quality and is based on the five criteria pollutants regulated under the Clean Air Act: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

(b) Feasibility – The ability of an employer to implement any requirement in a rule. Oregon OSHA rules never prohibit work. Whether feasibility is mentioned in a provision of the rule or not, if the employer can demonstrate that it is functionally impossible to comply or if doing so would prevent completion of the work, the employer need not comply, but must take any available reasonable alternative steps to protect the employees involved.

(c) Greater Hazard – The ability of an employer to demonstrate that compliance with the requirements of the rule would expose an employee to a hazard associated with a substantially more serious injury or illness, thereby providing a narrow exception to the rule to the degree that the greater hazard exists. An example of a greater hazard in relation to the use of non-flame resistant filtering facepiece respirators would include potential facial burns to a qualified employee working within the minimum approach distance (MAD) of an energized high voltage electrical system where flame resistant clothing is required.

(d) NIOSH – The National Institute for Occupational Safety and Health of the United States Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

(e) PM<sub>2.5</sub> – Solid particles and liquid droplets suspended in air, known as fine particulate matter, with an aerodynamic diameter of 2.5 micrometers or smaller and measured in micrograms per cubic meter (ug/m<sup>3</sup>).

(f) Sensitive Groups – People with pre-existing health conditions and those who are sensitive to air pollution who are among those likely to experience health problems from exposure to wildfire smoke. Examples of sensitive groups include: people with lung disease such as asthma or chronic obstructive pulmonary disease (COPD), including bronchitis and emphysema, and those who smoke; people with respiratory infections, such as pneumonia, acute bronchitis, bronchiolitis, cold, flu, or those with or recovering from COVID-19; people with existing heart or circulatory problems, such as irregular heart beat, congestive heart failure, coronary artery disease, angina, and those who have had a heart attack or stroke; children under 18 years old, and adults over age 65; pregnant women; people with diabetes; and people with other medical or health conditions which can be exacerbated by exposure to wildfire smoke as determined by a physician or other licensed health care provider.

(g) Wildfire Smoke – Emissions from unplanned fires in wildlands, which may include adjacent developed and cultivated areas to which the fire spreads or from where it originates.

(h) Wildlands – Uncultivated and sparsely populated geographical areas covered primarily by grass, brush, trees, slash, or a combination thereof.

(3) Exposure assessment. Employers must determine and monitor employee exposure to wildfire smoke where ambient air concentration for PM<sub>2.5</sub> is at or above 35.5 ug/m<sup>3</sup> (AQI 101). Such assessments must be conducted at the start of each shift and as needed to identify and implement appropriate exposure controls under section (7), by using one or more of the following means and methods:

- (a) Check the current and forecasted AQI value for PM<sub>2.5</sub> from the Oregon Department of Environmental Quality, U.S. EPA AirNow or Interagency Wildland Fire Air Quality Response Program websites, or equivalent source;
- (b) Check notifications of air quality advisories due to wildfire smoke issued by the Oregon Department of Environmental Quality or local government health agencies when the AQI value for PM<sub>2.5</sub> is above 151;
- (c) Directly measure the work ~~place location~~ ambient air concentration for PM<sub>2.5</sub> in accordance with the testing device manufacturer's user instructions ~~for the testing device used~~; or
- (d) If the employer determines and can demonstrate that none of the previous methods are all of the previous methods are not practical, use the 5-3-1 Visibility Chart to estimate the current air quality and corresponding AQI risk category.

*NOTE: For indoor work environments that are not exempt from these rules under section (1)(A)(a), the method used for exposure assessment must directly measure indoor air concentration for PM<sub>2.5</sub> as covered under section (3)(c) unless the employer may chooses to use the means under (3)(a) or and (3)(b) to estimate indoor PM<sub>2.5</sub> concentrations to determine and implement appropriate exposure control measures under section (7) to protect exposed employees if a ~~when~~ direct measurement method covered under section (3)(c) is not used applicable.*

(4) Information and training. The employer must ensure that employees who may be exposed to an ambient air concentration for PM<sub>2.5</sub> at or above 35.5 ug/m<sup>3</sup> (AQI 101) have been trained. The training must be provided to all exposed employees annually, before exposure, in a manner and language they readily understand, and provide an opportunity for feedback and questions. The training must include at least the following information:

- (a) Symptoms of wildfire smoke exposure, including:
  - (A) Eyes: burning sensations, redness, and tearing of the eyes caused by irritation and inflammation of the eyes that can temporarily impair one's vision;
  - (B) Respiratory system: runny nose, sore throat, cough, difficulty breathing, sinus irritation, wheezing, shortness of breath; and
  - (C) Fatigue, headache, irregular heartbeat, chest pain;
- (b) The potential acute and chronic health effects ~~of from~~ wildfire smoke exposure, including increased risk of health effects to sensitive groups. Health effects from long-term exposures may include increased risk of cardiovascular disease and increase severity of asthma;
- (c) The definition of *sensitive groups* as defined under section (2)(f);
- (d) The employee's right to report health issues related to wildfire smoke exposure and obtain medical treatment for workplace exposure to wildfire smoke without fear of retaliation;
- (e) How employees can obtain the current and forecasted ambient air concentration for PM<sub>2.5</sub> and equivalent AQI value;
- (f) The importance, limitations, and benefits of using an N95 filtering facepiece respirator provided by the employer for both voluntary and/or mandatory use, wildfire smoke; when to replace them according to

the ~~respirator manufacturer's recommendations~~ user instructions; and how to properly put them on and perform a seal check ~~as explained in the Appendix to this standard section (B)~~;

(g) The employer's methods to protect employees from wildfire smoke covered under section (7), including how ~~NIOSH-approved~~ filtering facepiece respirators are required to be made readily available to employee for voluntary use when workplace ambient air concentration for PM<sub>2.5</sub> is at or above 35.5 ug/m<sup>3</sup> (AQI 101), and how employees can obtain such respirators before exposure and replace them according to section (7)(b) and the manufacture's user instructions; recommendations and specifications.

(h) How to effectively operate and interpret any air quality monitoring device provided by the employer to comply with these rules, for each employee designated by the employer to operate such devices;

(i) ~~The procedures the supervisor must follow when an employee reports or exhibits health symptoms which could necessitate medical attention such as, but not limited to, asthma attacks, difficulty breathing, and chest pain an employee exhibits severe symptoms of wildfire smoke exposure, including appropriate emergency response procedures; and~~

(j) The employer's two-way communication system for wildfire smoke hazards covered under section (6).

*Note: Oregon OSHA provides a Wildfire Smoke Online Course in English and Spanish materials employers can use to address training elements under (4)(a) through (f).*

~~(5) Certification Training documentation of training. The employer must verify employee compliance training under with section (4) by preparing a written or electronic certification record that . The written certification record must includes contain the name or identification of each employee trained, the date(s) of the training, and the name of the person who conducted the training. The most recent training record Such written certification must be maintained for at least three years.~~

(6) Employer two-way communication. Before employees are exposed to current ~~or forecasted~~ ambient air concentration for PM<sub>2.5</sub> at or above 35.5 ug/m<sup>3</sup> (AQI 101), the employer must develop, and implement whenever feasible, a system to communicate wildfire smoke hazards that must include the following:

(a) Notifying employees when current and forecasted work location ambient air concentration for PM<sub>2.5</sub>:

(A) Is at or above 35.5 ug/m<sup>3</sup> (AQI 101);

~~(B) Is at or above 150.5 ug/m<sup>3</sup> (AQI 201);~~

(C) Is at or above 500.4 ug/m<sup>3</sup> (AQI 501); and

(D) Drops below levels requiring exposure control.

(b) Enabling and encouraging employees to inform the employer any of the following:

(A) When air quality improves and worsens to verify ~~AQI-current AQI value~~ level;

~~(B) Availability issues of appropriate exposure control measures required under section (7); and~~

~~(B)C~~ Health symptoms which may be the result of wildfire smoke exposure that could necessitate medical attention such as, but not limited to, asthma attacks, difficulty breathing, and chest pain.

(7) Exposure controls.

~~(b)a~~ Engineering and administrative controls. Employers must use engineering or administrative controls to reduce employee PM<sub>2.5</sub> exposure to less than ~~35.5 ug/m<sup>3</sup> (AQI 101)~~ 55.5 ug/m<sup>3</sup> (AQI 151) unless the employer can demonstrate that such controls are not ~~whenever practical~~ feasible.

(A) Engineering controls which may include providing enclosed buildings, structures, and vehicles where the air is adequately filtered.

(B) Administrative controls which may include relocating work and changing work schedules ~~to an outdoor location where the current ambient air concentration of PM<sub>2.5</sub> is less than 55.5 ug/m<sup>3</sup> (AQI 151) or changing work schedules to a time when ambient air concentration of PM<sub>2.5</sub> is less than 55.5 ug/m<sup>3</sup> (AQI 151).~~

~~(ab)~~ Control by voluntary use of respirators. Whenever employee exposure to PM<sub>2.5</sub> is at or above 35.5 ug/m<sup>3</sup> (AQI 101), even after the ~~application~~ implementation of engineering and administrative controls, the employer ~~must ensure~~ must maintain a sufficient number and selection of sizes of NIOSH-approved filtering facepiece respirators that effectively protect wearers from PM<sub>2.5</sub> are provided to exposed employees to use voluntary at their own discretion when such use would not expose the wearer to a greater hazard. Employers must ensure such respirator are:

(A) Provided and replaced as needed at no cost to employees;

(B) Provided directly to each exposed employee, regardless if the employee requested them for voluntary use; or the employer must establish and maintain a sufficient number and size selection at each work location where employees are exposed. Such respirator supplies must be made known, and be readily accessible, to all exposed employees in a manner that does not restrict or hinder employee access to obtain and replace them when needed; and

~~(A)(C)~~ Stored, maintained, used, and replaced according to the manufacturer's user instruction so that they do not present a health hazard to users.

(c) Control by required use of respirators. Whenever employee exposure to PM<sub>2.5</sub> is at or above 150.5 ug/m<sup>3</sup> (AQI 201) ~~55.5 ug/m<sup>3</sup> (AQI 151)~~, even after the ~~application~~ implementation of engineering and administrative controls, the employer must ensure that employees wear NIOSH-approved filtering facepiece that effectively protect wearers from PM<sub>2.5</sub> when such use would not expose the wearer to a greater hazard. ~~respirators when use would not expose the wearer to a greater hazard.~~ For such respirators used exclusively to protect employees from wildfire smoke, the employer must ensure they are:

(A) Provided and replaced as needed at no cost to employees; and

(B) Provided by following the Wildfire Smoke Respiratory Protection Program described in the Appendix to this standard, in lieu of conducting medical evaluations and fit testing in accordance with 1910.134, Respiratory Protection, ~~the employer need not implement a full Respiratory Protection Program provided that the Wildfire Smoke Respiratory Protection Program described in the Appendix to this standard is followed.~~

*Note: The requirements of section (7)(c) do not apply to residents of employer-provided housing while they are in the housing.*

(d) Control by required use of NIOSH-approved respirators. Whenever employee exposure to PM<sub>2.5</sub> is at or above 500.4 ug/m<sup>3</sup> (AQI 501), even after the application implementation of engineering and administrative

controls, the employer must ensure that employees wear NIOSH-approved respirators. For respirators used exclusively to protect employees from wildfire smoke, the employer must implement [and maintain](#) a complete Respiratory Protection Program, in compliance with 1910.134.

*NOTE: Elastomeric respirators, such as half facepiece or full facepiece tight-fitting respirators are not included for use under section (7)(a) and (c). Use of such respirators [when used exclusively for wildfire smoke protection at any PM2.5 concentration,](#) must comply with all applicable requirements under 1910.134, Respiratory Protection.*

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**Appendix**  
**Mandatory Workplace Guidance for**  
**THE USE OF FILTERING FACEPIECE RESPIRATORS TO ADDRESS WILDFIRE SMOKE**

This appendix applies only to employers that require NIOSH-approved filtering facepiece respirators, including N95, P95, and R95, to be used by their workers for protection exclusively for wildfire smoke exposures when workplace ambient air concentrations of PM<sub>2.5</sub> is at or above 150.5 ug/m<sup>3</sup> (AQI 201)~~55.5 ug/m<sup>3</sup> (AQI 151)~~ but below 500.4 ug/m<sup>3</sup> (AQI 501).

*Note: KN-95s previously approved under the FDA's Emergency Use Authorization can be used to substitute for NIOSH-approved filtering facepiece respirators for exposures under 500.4 ug/m<sup>3</sup> (AQI 500) when only if N95s are not available.*

Filtering facepiece respirators are disposable, negative-pressure, air purifying respirators where an integral part of the facepiece or the entire facepiece is made of air contaminant filtering material. This appendix does not apply to other types of respirators, including but not limited to elastomeric tight-fitting respirators, nor does it apply to situations where workers use filtering facepiece respirators for protection against air contaminants other than PM<sub>2.5</sub> from wildfire smoke.

Employers whose workers are required to wear filtering facepiece respirators to protect against wildfire smoke exposures when workplace ambient air concentrations of PM<sub>2.5</sub> is at or above 150.5 ug/m<sup>3</sup> (AQI 201)~~55.5 ug/m<sup>3</sup> (AQI 151)~~ must develop either a respiratory protection program in accordance with the Respiratory Protection Standard (29 CFR 1910.134); *or* a Wildfire Smoke filtering facepiece respiratory protection program in accordance with the following requirements when workplace ambient air concentrations of PM<sub>2.5</sub> are-is under 500.4 ug/m<sup>3</sup> (AQI 501):

- (A) Employee training.** Employers must ensure that employees wearing filtering facepiece respirators are trained in the proper use of the respirators, including putting them on and removing them, any limitations on their use, how to care for the respirator, and the ability to demonstrate a seal check as described in (B) below.
- (B) Filtering facepiece respirator user seal check.** Each employee who uses a filtering facepiece respirator must perform a user seal check to ensure that the respirator is properly sealed to the face is achieved each time the respirator is put on. Either the positive or negative pressure checks listed in this appendix or the respirator manufacturer's recommended user seal check method must be used.
1. Instructions for positive pressure user seal check. Once you have properly donned the respirator, place your hands over the facepiece, covering as much surface area as possible. Exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure is being built up inside the facepiece without any evidence of outward leakage of air at the seal. Examples of evidence that it is leaking could be the feeling of air movement on your face along the seal of the facepiece, fogging of your glasses, or a lack of pressure being built up inside the facepiece. If the particulate respirator has an exhalation valve, then performing a positive pressure check may not be possible. In such cases, a negative pressure check must be performed.
  2. Instructions for negative pressure user seal check. Negative pressure seal checks are typically conducted on particulate respirators that have exhalation valves. To conduct a negative pressure user seal check, cover the filter surface with your hands as much as possible and then inhale. The facepiece should collapse on your face and you should not feel air passing between your face and the facepiece.

Correcting problems discovered during the seal check. In the case of either type of seal check (positive or negative), if air leaks around the nose, use both hands to readjust the nosepiece by placing your fingertips at the top of the metal nose clip. Slide your fingertips down both sides of the metal strip to more efficiently mold the nose area to the shape of your nose. Readjust the straps along the sides of your head until a proper seal is achieved.

**(C) Filtering facepiece respirator replacement.** Replaced as needed according to the manufacturer's user instructions.

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