

Adoption of Rules to Address Employee Exposure to Wildfire Smoke

Temporary Rulemaking Text of Changes

August 2021

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Text added is in **bold and underline**.

OAR 437-002-1080 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 PM_{2.5} is at or above 35.5 ug/m³ (Air Quality Index 101). Unless otherwise stated, these rules will be effective August 9, 2021.

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.

(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 the employer ensures that windows, doors, bays, and other exterior openings are kept closed, except when it is necessary to open doors to enter or exit; and

(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 necessary to open doors to enter and exit. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and disembark passengers are NOT exempt from these rules.

(b) The following specific workplaces and operations are subject to information and training requirements under section (3)(a) through (d) of these rules when feasible, but are not subject to the requirements of sections (4) and (5).

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

(B) Evacuation, rescue, utilities, communications, 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 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. For the purposes of this rule, they AQI can be determined by the following means:

(A) Check the current ambient air concentration for PM2.5 from the U.S. EPA [AirNow](#) website, the Oregon Department of Environmental Quality's air quality [website](#), or equivalent source; or

(B) Obtain the current concentration in ambient air for PM2.5 directly from the U.S. EPA (via AirNow), the [Interagency Wildland Fire Air Quality Response Program](#), or the Oregon Department of Environmental Quality's air quality website; or

(C) Directly measure the work location ambient air concentration for PM2.5 in accordance with the manufacturer's instructions for the testing device used; or

(D) If 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.

(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) PM2.5 – 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 ($\mu\text{g}/\text{m}^3$).

(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.

(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) Information and training. Beginning August 16, 2021, and unless the employer predetermines that operations involving wildfire smoke exposure will be suspended before employees are exposed to a workplace ambient air concentration for PM_{2.5} at or above 35.5 ug/m³ (AQI 101), the employer must ensure that employees who may be exposed to such levels have been trained. The information and training must be provided to all affected employees in a manner and language they readily understand. Employers must ensure that such training includes at least the following elements:

(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;

(C) Fatigue, headache, irregular heartbeat, chest pain;

(b) The potential health effects of wildfire smoke, including increased risk of health effects to sensitive groups;

(c) The definition of sensitive groups as defined under section (2);

(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) The procedures the supervisor must follow if an employee exhibits severe symptoms of wildfire smoke exposure, including appropriate emergency response procedures;

(f) How employees can obtain the current and forecasted ambient air concentration for PM_{2.5} and equivalent AQI level;

(g) 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;

(h) The employer's methods to protect employees from wildfire smoke;

(i) The employer's communication system for wildfire smoke hazards covered under section (4); and

(j) The importance, limitations, and benefits of using a filtering facepiece respirator when provided by the employer, and how to properly put them on.

Note: On or before August 6, 2021, Oregon OSHA will identify and/or create training materials employers can use to address those training elements reflected by (3)(a) through (d), (f), and (j).

(4) Before employees are exposed to concentrations in ambient air for PM_{2.5} is at or above 35.5 ug/m³ (AQI 101), the employer must develop and implement a system to communicate wildfire smoke hazards that must include the following:

(a) Notifying employees when work location ambient air concentration for PM_{2.5} is at or above 35.5 ug/m³ (AQI 101);

(b) Notifying employees when work location ambient air concentration for PM_{2.5} is at or above 150.5 ug/m³ (AQI 201);

(c) Notifying employees when work location ambient air concentration for PM_{2.5} is at or above 500.4 ug/m³ (AQI 501);

(d) Notifying employees when ambient air concentration for PM_{2.5} drops below levels requiring protective measures; and

(e) Enabling and encouraging employees to inform the employer if any of the following occurs:

(A) When air quality improves and worsens; and

(B) Severe health symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain.

(5) Exposure controls.

(a) Control by voluntary use of respirators. Whenever employee exposure to PM_{2.5} is at or above 35.5 ug/m³ (AQI 101), the employer must maintain a sufficient number and sizes of NIOSH-approved respirators that effectively protect wearers from PM_{2.5} at each work location where employees are exposed. Such respirators must be provided at no cost and be readily available for voluntary use to all exposed workers at their request.

(b) Engineering and administrative controls. Employers must use engineering or administrative controls to reduce employee PM_{2.5} exposure to less than 150.5 ug/m³ (AQI 201) whenever feasible. Engineering controls include providing enclosed buildings, structures, or vehicles where the air is adequately filtered. Administrative controls include relocating work to an outdoor location where the current ambient air concentration of PM_{2.5} is less than 150.5 ug/m³ (AQI 201) or changing work schedules to a time when ambient air concentration of PM_{2.5} is less than 150.5 ug/m³ (AQI 201).

(c) Control by required use of respirators. Whenever employee exposure to PM_{2.5} is at or above 150.5 ug/m³ (AQI 201) even after the application of engineering and administrative controls, the employer must ensure that employees wear NIOSH-approved respirators. For filtering facepiece respirators used exclusively to protect employees from wildfire smoke, 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.

The requirements of section (5)(c) do not apply to residents of employer-provided housing while they are in the housing.

Note: For the 2021 wildfire season, 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/m³ (AQI 501).

(d) Control by required use of NIOSH-approved respirators. Whenever employee exposure to PM_{2.5} is at or above 500.4 ug/m³ (AQI 501), even after the application of engineering and administrative controls, the employer must ensure that employees wear NIOSH-approved respirators. For filtering facepiece respirators used exclusively to protect employees from wildfire smoke, the employer must implement a complete Respiratory Protection Program, in compliance with 29 CFR 1910.134.

Appendix

Temporary 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_{2.5} are at or above 150.5 ug/m³ (AQI 201) but below PM_{2.5} 500.4 ug/m³ (AQI 501).

Note: For the 2021 wildfire season, 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/m³ (AQI 500).

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_{2.5} 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_{2.5} is at or above 150.5 ug/m³ (AQI 201) 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_{2.5} are under 500.4 ug/m³ (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 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 of 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.