



WILDFIRE SMOKE PROTECTION PLAN

1. Purpose

The purpose of this plan is to protect City employees from the hazards of wildfire smoke exposure.

2. Scope

The standards and guidelines of this policy apply whenever an employee performs work activities and the air quality index (where the ambient air concentration for PM_{2.5} is at or above 35.5 ug/m³) is above 101. It does not apply when an employee performs work activity in:

(A) Enclosed buildings and structures in which the air is filtered by a mechanical ventilation system and the windows, doors, bays, and other exterior openings are kept closed, except when it is necessary to open doors to enter or exit.

(B) Enclosed vehicles in which the air is filtered by a cabin air filter and the windows, doors, and other openings are kept closed, except when it is necessary to open doors to enter and exit.

Employees driving or operating buses and other enclosed vehicles used for transit systems where doors are frequently opened to board and de-board passengers are *NOT* exempt from these rules.

When any other applicable standard addresses other hazards that may be present, both standards shall be followed. Where the requirements of one standard are more restrictive than the other, the more stringent requirements shall be followed.

3. Definitions

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:

- 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
- Obtain the current concentration in ambient air for PM2.5 directly from the U.S. EPA (via AirNow app), the Interagency Wildland Fire Air Quality Response Program, or the Oregon Department of Environmental Quality’s air quality website; or
- Directly measure the work location ambient air concentration for PM2.5 in accordance with the manufacturer’s instructions for the testing device used; or
- If all of the previous methods are not practical, use the 5-3-1 Visibility Chart below to estimate the current air quality and corresponding AQI risk category

Distance you can see*	You are:		OR	You have
	<ul style="list-style-type: none"> • An adult • A teenager • An older child 	<ul style="list-style-type: none"> • Age 65 and over • Pregnant • A young child 		<ul style="list-style-type: none"> • Asthma • Respiratory illness • Lung or heart disease
5 miles	check visibility	minimize outdoor activity		minimize outdoor activity
3 miles	minimize outdoor activity	stay inside		stay inside
1 mile	stay inside	stay inside		stay inside

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 face piece 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.

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.

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 (ug/m³).

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 heartbeat, 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.

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.

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

4. Policy

It is the policy of the City of Woodburn to follow and adhere to Oregon OSHA rules addressing employee exposure to wildfire smoke. Therefore, the City implements the following smoke-related practices to help prevent employees from suffering from exposure to wildfire smoke while at their work site(s).

5. General Guidelines

5.1. Monitoring and Communicating Air Quality

Supervisors shall monitor air quality and communicate wildfire smoke hazards when the concentrations in ambient air for PM2.5 is at or above 35.5 ug/m³ (AQI 101), before employees are exposed to it. This means, supervisors shall notify employees:

When work location ambient air concentration for PM2.5 is at or above

- 35.5 ug/m³ (AQI 101);
- 150.5 ug/m³ (AQI 201);

- 500.4 ug/m³ (AQI 501); or
- drops below levels requiring protective measures

Supervisors shall also enable and encourage employees to inform the City if the air quality improves or worsens; and if they experience severe health symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain occur.

5.2. Exposure Controls

Whenever employee exposure to PM_{2.5} is at or above 35.5 ug/m³ (AQI 101), the supervisor 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 shall be provided at no cost and be readily available for voluntary use to all exposed workers at their request.

City shall also 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 work in 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).

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, employees must wear 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, employees must wear NIOSH-approved respirators.

KN95s can be substituted for NIOSH-approved filtering face piece respirators for exposures below AQI 499. For exposures at AQI 500 and above, NIOSH-approved filtering face piece respirators must be worn.

The attached Appendix A includes workplace guidance on the proper use of- and fitting for filtering face piece respirators.

6. Training

All employees, including new employees, supervisory, and non-supervisory employees will be trained in the following topics, before employees begin work that can reasonably be

anticipated to expose employees to a workplace ambient air concentration for PM2.5 at or above 35.5 ug/m3 (AQI 101).

Training shall include at least the following elements:

(a) Symptoms of wildfire smoke exposure, including:

Eyes: burning sensations, redness, and tearing of the eyes caused by irritation and inflammation of the eyes that can temporarily impair one's vision.

Respiratory system: runny nose, sore throat, cough, difficulty breathing, sinus irritation, wheezing, shortness of breath;

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 (3);

(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 PM2.5 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 (5.1); and

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

7. References

[Administrative order 9-2021, OR-OSHA Temporary Rule – Protection from Wildfire Smoke](#)

8. Review of Policy and Procedures

This policy will be reviewed annually or as state and federal regulations are revised and necessitate a change in the policy or procedures.

Adopted: August 2021

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 face piece 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} is 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 face piece respirators for exposures under 500.4 ug/m³ (AQI 500).

Filtering face piece respirators are disposable, negative-pressure, air purifying respirators where an integral part of the face piece or the entire face piece 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 face piece respirators for protection against air contaminants other than PM_{2.5} from wildfire smoke.

Employers whose workers are required to wear filtering face piece 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 face piece 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 face piece 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 face piece respirator user seal check. Each employee who uses a filtering face piece 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 face piece, covering as much surface area as possible. Exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure is being built up inside the face piece 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 face piece, fogging of your glasses, or a lack of pressure being built up inside the face piece. 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 face piece should collapse on your face and you should not feel air passing between your face and the face piece.

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.