



PPS Protection from Wildfire Smoke Plan

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Purpose

The purpose of this plan is to protect Portland Public School District (PPS) staff from wildfire smoke and comply with Oregon OSHA's Protection from Wildfire Smoke rule [OAR 437-002-1081](#) which became effective July 01, 2022. This standard applies whenever an employee performs outdoor work activities when the Air Quality Index (AQI) is at or above 101.

In work environments where there is a risk of environmental hazards such as wildfire smoke, we must exercise greater caution and employ greater protective measures as needed to protect our employees.

Employees can exercise their rights under this standard without fear of retaliation. This includes reporting health issues and obtaining medical treatment for suspected wildfire smoke exposure.

A copy of this plan shall be made publicly available to all employees on the PPS website.

Scope

This policy will apply when it is expected that our employees may be exposed to wildfire smoke where the ambient air concentration for fine particulate matter (PM2.5) is at or above 35.5 µg/m3 (Air Quality Index value of 101 for PM2.5)

This policy does not apply to the following:

- Enclosed buildings where windows, doors, and other openings are kept closed and the air is filtered by mechanical ventilation.
- Enclosed vehicles where windows, doors, and other openings are kept closed and the air is filtered by a cabin air filter.
- Where worksite measurements of PM2.5 show that the current AQI does not equal or exceed 101; or that operations will be suspended when air quality reaches that concentration.
- Employees working at home.

Mandatory Training

PPS's Protection from Wildfire Smoke (OAR 437-002-1081) compliant [Protection from Wildfire Smoke training](#) can be found on PPS's internal training system, PepperPD. Staff training compliance is tracked through PepperPD.

- How PPS will communicate harmful AQI and protective measures available
- How employees should inform PPS of worsening air quality or if they are experiencing any symptoms due to the air quality.
- The methods that will be used to protect employees from wildfire smoke

Particulate Measuring

Air quality is described using the US EPA's Air Quality Index (AQI) – the higher the number, the more polluted and hazardous the air. The current AQI is divided into the six categories shown in Table 1 below. Small particulates, known as PM2.5, pose the greatest health hazard because they can be inhaled deep into the lungs. Therefore, PM2.5 is the pollutant to monitor when working outdoors during wildfire activity.

Air Quality Index (AQI) - Categories for PM2.5	
Index Value	Description of Air Quality
0 to 50	Good
51 to 100	Moderate
101 to 150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

Table 1 – AQI Categories, Title 40 of Federal Regulations, Part 58, Appendix G

PPS will monitor air quality throughout the workday to determine the potential of employee exposure to hazardous air quality levels by one or more of the following methods:

- Check AQI forecasts and current AQI for PM2.5 by consulting the following online resources: [Oregon DEQ](#), [US EPA AirNow](#), [US Forest Service Wildland Air Quality Response Program](#), local air pollution control district, or local air quality management district.
- Obtain AQI forecasts and current AQI for PM2.5 directly from the EPA, local air pollution control district, or local air quality management district by phone, email, text, or other effective method.
- Measure AQI manually onsite while work is being conducted.

All employees should additionally download the Air Quality App [OregonAir](#) on their mobile device for real-time air particulate (AQI) information. Downloadable at: [Apple App Store](#), [Google Play](#)

Communication

Wildfire smoke hazards will be communicated through district channels including email, phone, and in-person verbal notification. These notifications may include the announcement of site closures.

Employees are encouraged to immediately inform supervisors of worsening air quality and any adverse symptoms they may be experiencing due to wildfire smoke exposure such as asthma attacks, chest pain, nausea, or difficulty breathing.

- Employees can contact a supervisor at any time, when necessary. Preferably in-person, or by cell phone if reception in the area is constant and reliable.
- Supervisors must be in regular communication with employees, especially if said employee is working alone.

Exposure Control

Information provided to employees will include protective measures available to reduce wildfire smoke exposure. PPS will use the following controls to reduce employee exposure to PM2.5:

- Engineering controls will be used **first** to reduce employee exposure.
 - Enclosed buildings, structures, or vehicles where the air is mechanically filtered—air that is forced by a fan through a filtering material that traps particles and removes them from the air—will be provided when feasible to reach the goal of reducing exposure to an AQI of 101 or less.
- Administrative controls may be implemented if engineering controls are unable to reduce PM2.5 exposure to less than a current AQI of 101, such as:
 - Relocating work activities to a location where the current AQI for PM2.5 is lower, such as buildings or vehicles with filtered air,

- Changing work schedules,
- Lowering work intensity to reduce breathing and heart rate,
- Providing rest areas with filtered air,
- Allowing extended or additional rest periods.

Site Closures

When the AQI increases past 101, PPS has set parameters for when wildfire smoke risks the health and safety of staff and students.

Thresholds

The School Closure Team will meet when:

- AQI is ≥ 101 Outdoor activities and sports should be moved indoors
- AQI is ≥ 250 All schools are closed; Outdoor activities and sports should be moved indoors or canceled

Decision Considerations

- PPS will work with external partners, including public health organizations, when making determinations on school closures or canceling any planned outdoor activities due to hazardous air quality.

Extended parameters can be found in the PPS [School Closure Plan](#).

Health Hazards

Smoke from wildfires contains gasses, chemicals, and fine PM2.5 particles that can have adverse health effects even in the healthy. Illness caused by wildfire smoke exposure, and especially inhalation of PM2.5 particulates, can be subtle and become life threatening quickly. Employees must learn the common signs and symptoms of illnesses related to wildfire smoke exposure and report them immediately if they or their co-workers show symptoms.

Signs and symptoms of wildfire smoke exposure include but are not limited to:

- **Eyes:** burning sensations, redness, and tearing of the eyes caused by irritation and inflammation that can temporarily impair one's vision;
- **Respiratory system:** runny nose, sore throat, cough, asthma attacks, difficulty breathing, sinus irritation, wheezing, shortness of breath, reduced lung function; and
- **Body:** fatigue, headache, irregular heartbeat, chest pain, heart attacks.

Short and long-term exposures to wildfire smoke can increase the risk of cardiovascular disease, stroke and can exacerbate an individual's asthma.

Personal Risk Factors

When AQI levels rise, environmental and personal risk factors impact the employee's health. Individuals 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. Employees are responsible for knowing and educating themselves about their own comorbidities and personal risk factors that may increase their chance for suffering smoke-related illnesses.

Examples of high personal risk factors include:

- Those with lung disease, ie. asthma, chronic obstructive pulmonary disease (COPD), bronchitis, or emphysema;
- Respiratory infections, ie. pneumonia, acute bronchitis, bronchiolitis, cold, flu, or recovering from respiratory illness;
- Existing heart or circulatory problems, ie. 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;
- Those who smoke, are pregnant, or diabetic;
- and those with other medical or health conditions which may be exacerbated by exposure to wildfire smoke as determined by a physician or other licensed healthcare provider.

Respiratory Protection- Voluntary Use

Oregon OSHA's Protection from Wildfire Smoke rule [OAR 437-002-1081](#) requires NIOSH-approved filtering facepiece respirators to be made accessible to employees for voluntary use when workplace ambient air concentration of fine air particulates (PM2.5) is at or above 35.5 µg/m³ (AQI 101). PPS approved N95's (not KN95's) may be procured for free through your site's custodian before wildfire smoke exposure.

Voluntary use under this rule does not approve or cover usage of any other kind of filtering facepiece respirator beyond PPS and NIOSH-approved N95's, nor does it apply to situations where workers use filtering facepiece respirators for protection against air contaminants other than PM2.5 from wildfire smoke.

Employees who are required for their position to wear filtering facepiece respirators to protect against respiratory hazards outside of wildfire smoke conditions must instead follow PPS's [Respiratory Protection Plan](#). Medical clearance, fit testing, and approval from PPS Environmental Health and Safety is *required* when wearing respirators more restrictive than NIOSH N95's.

See [Resources](#) for OSHA's Voluntary Use statement- Appendix D.

N95 Filtering Facepiece Limitations and Hazards

Filtering facepiece respirators are disposable, negative-pressure, air purifying respirators where the facepiece is partially or wholly made of air contaminant filtering material. When worn correctly, NIOSH-approved filtering facepiece respirators may provide some protection from wildfire smoke by filtering out fine particulates.

Filtering facepiece respirator usage may expose the wearer to serious injury or illness. Due to this risk, voluntary usage of filtering facepiece respirators is *strictly restricted* to the prevention of wildfire smoke exposure in AQI ≥101 environments; and only when such use would not expose the wearer to hazards associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure. Please consult your doctor before using a filtering facepiece respirator under voluntary use.

Respirator use in excessive heat and/or hard physical activity may increase the risk of heat exhaustion and/or heat stroke. Take breaks often and drink plenty of water

Respirator use in excessive heat or hard physical activity may increase risk of heat-related illnesses such as heat exhaustion or heat stroke. Symptoms may include difficulty breathing or dizziness. Illnesses such as heart or lung disease may also increase risk of injury working under these conditions. When wearing a filtering facepiece respirator, take breaks often and drink water.

If symptoms occur while wearing a respirator;

- Remove the respirator.
- Notify your supervisor.
- Find shade or a cooler environment.

N95 Respirator Use Procedures

Employees must review all information provided regarding filtering facepiece respirator use, care, and limitations before voluntarily wearing a filtering facepiece respirator under wildfire smoke AQI ≥101 conditions.

Donning and Doffing

Putting on a filtering facepiece respirator properly ensures the best fit and protection from wildfire smoke particulate exposure. Removing it properly helps avoid getting contaminants on skin, clothes, and other entry points to the body where irritation or more serious illness may occur.

Donning a Respirator:

1. Position the filtering facepiece respirator in your hands with the nose piece at your fingertips.
2. Cup the respirator in your hand allowing the headbands to hang below your hand. Hold the respirator under your chin with the nosepiece up.
3. The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears. Do not crisscross straps.
4. Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.

Doffing a Respirator:

1. Do not touch the front of the respirator. It may be contaminated.
2. Remove by pulling the bottom strap over the back of the head, followed by the top strap, without touching the respirator.
3. Discard in a waste container. Wash hands.

User Seal Check

Perform a positive and negative pressure user seal check every time a filtering facepiece respirator is put on to ensure it is properly sealed to the face.

Positive Pressure user Seal Check:

1. After donning, place your hands over the facepiece, covering as much surface area as possible.
2. Exhale gently into the facepiece.
3. The fit is considered satisfactory if a slight positive pressure (swelling) is being built up in the facepiece without any evidence of outward leakage of air at the seal.

Negative Pressure User Seal Check:

1. Cover the filter surface with your hands as much as possible and then inhale.
2. The facepiece should collapse on your face and you should not feel air passing between your face and the facepiece.

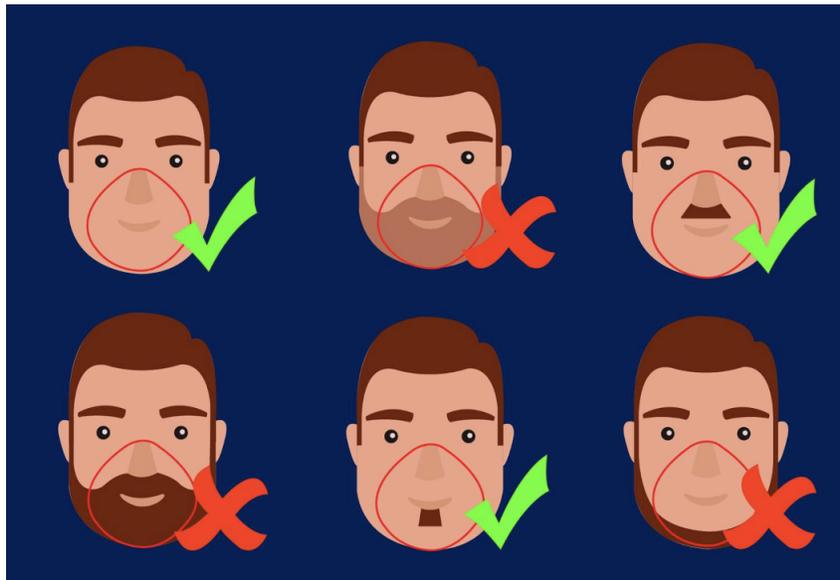


During a seal check feeling air movement on your face along the seal of the facepiece, fogging glasses, or a lack of pressure buildup inside the facepiece could indicate the facepiece is leaking.

Correcting Problems Discovered During Seal Checks:

1. 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.
2. Readjust the straps along the sides of your head until a proper seal is achieved.

Facial hair can prevent filtering facepiece respirators from creating a tight seal to properly filter particulates. Tight seals are made by shaving facial hair so that all sides of the respirator make contact with skin.



Respirator Care and Maintenance

Unopened N95 filtering facepiece respirators will be stored unbent in their box or plastic wrapping, in a clean, dry, safe environment to assure peak fit and filtration when worn.

Dispose and replace the respirator when it becomes damaged, deformed, or increases breathing resistance. N95 facepiece respirators should be replaced after every shift, or 8hr period.

Emergency Medical Plan

Employees must immediately report signs and symptoms of illness caused by smoke inhalation seen in themselves or in others to their supervisor.

Implementation

School Sites:

- Administrators are trained in emergency preparedness annually.
- Emergency phone numbers are posted in each staff room and classroom at school sites.
- Access to first aid kits and/or nurses offices in all main building school sites.

Mobile and Outdoor:

- Emergency numbers and first aid kits exist in all vehicles
- Always carry a cell phone, radio, or other method of contacting emergency services or a supervisor.
- Ensure roadways are not blocked on site to allow emergency vehicles access to employee's location, or;
- Ensure a vehicle is always available to carry an affected person to the nearest medical facility.

In case of an emergency:

- **Call emergency services (911)**- Do not leave the affected person alone.
- Do your best to calm and remove the affected person from immediate danger and further exposure.
- Ensure that emergency vehicles are able to locate and get to the affected person's location.

Responsibilities

All employees are responsible for protecting themselves from wildfire smoke by following these guidelines for prevention and immediately reporting any signs or symptoms of illness to their supervisor.

Resources

Rule:

<https://osha.oregon.gov/OSHARules/adopted/2022/ao4-2022-text-smoke-exposure.pdf>

1910.134 Appendix D - Mandatory Information for Employees Using Respirators When not Required Under the Standard:

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134AppD>

Training:

https://docs.google.com/presentation/d/1wFSwmejDRPPIF5vpQc4ghJFEk3gzqNfC/edit#slide=id.g13b1651736b_0_101

Respiratory Protection:

Voluntary use: <https://www.youtube.com/watch?v=a4PjrR3zHEo>

Put on and use a facepiece respirator: https://www.youtube.com/watch?v=ucmx_hj1SW8