

## Chapter 28 Wildfire/Outdoor Smoke

### A. References

- [WAC 296-62-085 Wildfire Smoke](#)
- [EH&S Wildfire Smoke website](#)
- [Wildfire Smoke – A Guide for Public Health Officials, July 2008](#)
- [United States Department of Labor – OSHA Wildfires website](#)

### B. Scope

This chapter specifically applies to “outdoor workers” spending one or more hours outdoors during the wildfire smoke season and supports worker safety during wildfire/smoke events. Smoke from wildfires and other sources contain a mixture of gases and fine particulates that can be harmful to your health. Fine particles and gases can be inhaled deep into your lungs.

The Washington State Department of Health (DOH) identifies people who are most likely to be affected by smoke: <https://doh.wa.gov/community-and-environment/air-quality/smoke-fires>.

The Washington State Department of Ecology (Ecology) identifies sensitive groups and recommends precautions based upon Ecology air quality categories and measured respirable particulate (PM 2.5) concentrations:

[http://www.ecy.wa.gov/programs/air/Air\\_Monitoring\\_Data/WAQA\\_Intro\\_Page.html](http://www.ecy.wa.gov/programs/air/Air_Monitoring_Data/WAQA_Intro_Page.html)

Wildfires present hazards to workers both during and after the fire. The OSHA Response/Recovery link, <https://www.osha.gov/dts/wildfires/response.html> gives information and guidance on what to do during a wildfire as well as after the event.

### C. Public and University Hazards

During the late summer and fall, wildfires and weather inversions increase the likelihood that smoke will create adverse health effects. During those seasons and conditions, the local WSU Environmental Health and Safety office (EH&S) will monitor the Ecology Air Monitoring Network and Washington Air Quality Advisory system.

EH&S maintains access to current PM 2.5 concentrations for the Pullman campus via their [AirQ webpage](#). Air quality information for Washington State is available on [Ecology's Air Monitoring Network](#). EH&S will work with WSU News Service and WSU Emergency Management to make applicable announcements and notifications for WSU students, employees, event participants, guests and visitors should air quality substantially deteriorate.

### D. Responsibilities

#### Supervisors:

- Identify employees that work outside for an hour or more per work shift aka “outdoor workers”;
- Ensure outdoor workers receive the training identified in this chapter;
- Encourage employees self-identifying as sensitive to smoke work with HRS Disability Services to obtain an accommodation for work during wildfire smoke events;

- Alert employees when PM 2.5 concentrations reach or exceed 55 ug/m<sup>3</sup>, notifying personnel via personal communication, telephone, radio and/or electronic mail; and
  - Allow employees to voluntarily wear their own respirators i.e. KN95s or N95s at concentrations less than 55 ug/m<sup>3</sup> PM<sub>2.5</sub> if it improves their comfort,
  - Provide KN95 (2021 Smoke Season Only) or N95 respirators to their employees when PM<sub>2.5</sub> concentrations reach 55 ug/m<sup>3</sup> or greater, and/or
  - Assign or rotate employees to indoor work locations with improved air quality including vehicles with filtered air.
- Allow employees suffering adverse health effects from smoke exposure to seek medical treatment.

#### Employees:

- Participate in wildfire smoke training;
- Work with HRS Disability Services to establish a workplace accommodation in advance of smoke events if personal health conditions contribute to smoke sensitivity;
- Elect to wear a respirator when PM<sub>2.5</sub> concentrations might affect their health;
- Contact their supervisor when experiencing adverse health effects due to smoke exposure.

#### EH&S:

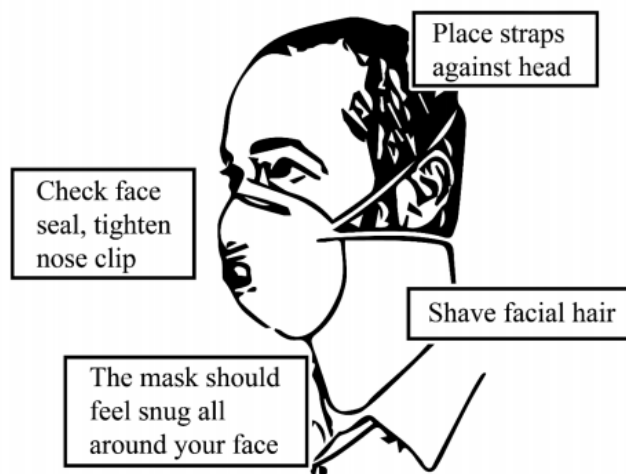
- Monitors PM 2.5 concentrations and contacts CAHNRS leadership and Emergency Management (WSU Notifications) when PM 2.5 concentrations could approach or exceed 55 ug/m<sup>3</sup>.

### **E. Training**

Wildfire smoke training shall include the following elements:

- Particulate matter can irritate the lungs and cause persistent coughing, phlegm, wheezing, or difficulty breathing. Particulate matter can also cause more serious problems, such as reduced lung function, bronchitis, worsening of asthma, heart failure, and early death;
- Greater concentrations of PM<sub>2.5</sub> create more of a hazard than lesser concentrations;
- People with preexisting health conditions and those who are sensitive to air pollution who are among those most likely to experience health problems from exposure to wildfire smoke. Examples of sensitive groups include:
  - People with lung diseases 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, colds, flu, or those with, or recovering from COVID-19; [ 6 ] OTS-3201.2
  - 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 eighteen years old, and adults over age sixty-five;
  - Pregnant women;
  - People with diabetes;

- People with other medical or health conditions which can be exacerbated by exposure to wildfire smoke as determined by a physician.
- Employee's right to seek medical treatment without fear of reprisal;
- The 55 ug/m<sup>3</sup> PM<sub>2.5</sub> action level and actions to reduce exposure including:
  - Voluntary respirator use;
  - Indoor work or inside a vehicle with filtered air.
- The following information concerning voluntary respirator use:
  - Respirators protect against airborne hazards when properly selected and used. Respirator usage that is required by DOSH or your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in this chapter. DOSH recommends voluntary use of respirators when exposure to substances is below DOSH permissible exposure limits (PELs) because respirators can provide you an additional level of comfort and protection.
  - If you choose to voluntarily use a respirator (whether it is provided by you or your employer) be aware that **respirators can create hazards for you**, the user. You can avoid these hazards if you know how to use your respirator properly AND how to keep it clean. Take these steps:
    - Read and follow all instructions provided by the manufacturer about use, maintenance (cleaning and care), and warnings regarding the respirator's limitations.
    - Choose respirators that have been certified for use to protect against the substance of concern. The National Institute for Occupational Safety and Health (NIOSH) certifies respirators. If a respirator is not certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use.
    - A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides.
    - Keep track of your respirator so you do not mistakenly use someone else's.
- **DO NOT** wear your respirator into:
  - Required use situations when you are only allowed voluntary use.
  - Atmospheres containing hazards that your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke or oxygen deficiency.
- How to properly put on and fit a respirator:



- The contents of this APP chapter.

## **F. Strategies To Reduce Smoke Exposure**

<https://ww2.arb.ca.gov/protecting-yourself-wildfire-smoke>

- Stay indoors
- Reduce activity
- Reduce other sources of indoor air pollution
- Air conditioners and filters
- Room air cleaners
- Ozone generators – a choice to avoid
- Create a clean room at home
- Humidifiers
- Inside vehicles
- Respiratory protection
- Cleaner air shelters
- Closures
- Evacuation

If employees or Shops would like to pursue any of these strategies, please work those requests up through your Supervisor and develop these plans before the air quality indexes degrade.