

 <b>Portland Community College</b> <b>Health &amp; Safety Manual</b>	<b>Dept: Environmental Health and Safety (EH&amp;S)</b>	
	<b>Topic: Chapter 25: Wildfire Smoke Protection Plan</b>	
	<b>Board Policy: B507</b>	<b>Revised Date: July 2024</b>

<b>Authority</b>	<b>PCC Board Policy—B507</b>
	<b>Portland Community College is committed to providing a safe and healthy work and educational environment for our employees, students and visitors.</b>

<b>Summary</b>	<b>This Wildfire Smoke Protection Plan establishes safe work practices that will prevent the exposure to wildfire smoke and its health effects to employees at Portland Community College (PCC) whenever they perform outdoor work activities and when the concentration of particulate matter less than 2.5 micrometers in size, resulting from wildfire smoke, equals or exceeds a concentration of 35.5 ug/m<sup>3</sup>, which corresponds to an Air Quality Index (AQI) of 101. This Plan is intended to allow PCC to maintain compliance with Oregon Occupational Safety and Health’s (OR-OSHA) Protection from Wildfire Smoke Standard.</b>
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## I. PURPOSE

The purpose of this Wildfire Smoke Protection Plan (the Plan) is to establish procedures that protect PCC employees that are required to work in conditions in which they are exposed to particulate matter less than 2.5 micrometers in diameter (PM2.5), in concentrations of 35.5 ug/m<sup>3</sup> or higher, in ambient air resulting from wildfire smoke. The Plan applies to all operations performed by PCC employees and contractors which expose them to such concentrations and sources of PM2.5 unless exempted by Section IV.A.

## II. AUTHORITY

PCC Board Policy B507  
OR OSHA 437-002-1081 Protection from Wildfire Smoke

## III. RESPONSIBILITY

### A. Department Managers:

- Remain aware of local air quality advisories and wildfire notifications
- Download, use, and monitor the OregonAir or EPA AirNow mobile apps
- Communicate PM2.5 and AQI values with affected employees when concentrations of PM2.5 equal, exceed, or fall below the levels shown in section IV.C. *Communications System*
- Purchase and provide NIOSH-approved filtering facepiece respirators (e.g., N95, P95, R95, etc.) and/or other NIOSH-approved respiratory protection to employees strictly for use when AQI is equal or greater than 101 (PM2.5 of 35.5 ug/m<sup>3</sup>) as a result of wildfire smoke
- Limit the availability and use of such respiratory protection to wildfire smoke exposures
- Implement engineering and administrative controls to reduce wildfire smoke exposures
- Implement the required components of this Plan when ambient air concentrations of PM2.5 reach or exceed levels in Section IV. D. or *Appendix C: Exposure Controls*
- Require affected employees to sign-up for Alert Notifications on the Public Safety website
- Ensure affected employees receive district-level training on wildfire smoke exposure
- Develop and deliver department-level training to employees
- Implement alternative work schedules or relocate work as needed
- Be alert to signs and symptoms of wildfire smoke exposure
- Complete the online *Injury or Property Incident Report* when exposed employees experience health effects of wildfire smoke exposure

### B. Affected Employees:

- Receive training on the topics listed in section IV.D.3, *Exposure Controls*, and section V. *Training*
- Sign-up for Alert Notifications on the Public Safety website
- During wildfire events with elevated AQI levels, seek shelter inside buildings or vehicles unless required to work outdoors

- Adhere to the requirements of the Plan whenever receiving alerts from their management and/or Public Safety regarding ambient air concentrations of PM2.5
- Be alert to signs and symptoms of wildfire smoke exposure and poor outdoor air quality
- Notify Public Safety or 911 in the event of observing/exhibiting any serious signs of wildfire smoke exposure
- Complete the online *Injury or Property Incident Report* after experiencing health effects of wildfire smoke exposure
- Keep track of, properly maintain (clean, inspect, store), and read/comply with the provided filtering facepiece respirator manufacturer's instructions for use, including warnings and limitations

**C. Environmental Health & Safety (EH&S):**

- Provide subject matter and regulatory expertise regarding wildfire smoke protection at PCC
- Maintain and modify the Plan to reflect current regulatory requirements, industry standards and best management practices
- Develop district-level training and guidance to comply with the OR-OSHA Wildfire Smoke Protection Standard and the requirements of this Plan

**D. Facilities Management Services (FMS):**

- Monitor local ambient air concentrations of PM2.5 daily by means of the AirNow app or the Department of Environmental Quality (DEQ) Air Quality Index website (see Section IV.B. *Monitoring*)
- Maintain the ability to monitor indoor air quality at PCC campuses and centers
- Assess extent of power or ventilation disruptions
- Coordinate with applicable and/or affected departments to convey temporary working conditions
- FMS Director to advise Public Safety leadership of any negative impact to the function of a building's mechanical ventilation system or any risks to the PCC community due to wildfire smoke exposure

**E. Planning and Capital Construction (P&CC)**

- Communicate the requirements of the Plan with contractors
- Monitor contractor operations to ensure that the Plan requirements are being implemented

**F. Public Relations**

- Provide communications to PCC staff and students regarding wildfire smoke closures

**G. Public Safety**

- Receive notifications from FMS Director and determine the effect of wildfire smoke and its potential effects to PCC's operations
- Advise the Vice President of Finance and Operations about PCC's continued ability to optimize the overall health of employees due to extreme wildfire smoke, extreme heat or other competing risks

- Use the On-Campus Emergency Alert Notification System (OCEANS) to communicate building or site-specific emergency alerts to all personnel in a building or at a location

#### H. Vice President of Finance and Administration

- Make decisions regarding PCC's continued ability to optimize the overall health of employees due to wildfire smoke, extreme heat or other competing risks based on input received from Public Safety leadership
- Communicate decisions to Public Relations

### IV. PROCEDURES

**A. Applicability & Exemptions** – This Plan is applicable to all PCC work locations where employees are or will be exposed to wildfire smoke where the ambient air concentration for fine particulate matter (PM<sub>2.5</sub>) or less is 35.5 ug/m<sup>3</sup>. This concentration is the equivalent in the U.S. Environmental Protection Agency's Air Quality Index (AQI) of 101. These terms are further explained in *Appendix A: Definitions*.

**Exemptions:** The following workplaces and operations are exempt from this Plan:

- Enclosed buildings and structures in which the air is filtered by a mechanical ventilation system and windows, doors, bays, and other exterior openings are kept closed, except when it is necessary to briefly open doors to enter or exit;
- Enclosed vehicles in which the air is filtered by a properly maintained cabin air filter system, and when the windows, doors, and other exterior openings are kept closed, except when it is necessary to briefly open doors to enter and exit. Buses and other enclosed vehicles where doors are frequently opened to board and deboard passengers are NOT exempt from this Plan;
- When PCC predetermines that work operations will be suspended to prevent employee exposure to wildfire smoke at an ambient air concentration for PM<sub>2.5</sub> of 35.5 ug/m<sup>3</sup> (AQI 101) or higher; and
- Employees working at home.

The following workplaces and operations are partially exempt from this Plan and need only comply with those sections pertaining to section IV.D.2. *Voluntary Use of Respirators* and V. *Training*:

- Emergency operations that are directly involved in the protection of life or property, public safety power shutoffs, or restoration of essential services, such as evacuation, rescue, medical, structural firefighting, law enforcement, utilities, and communications; and
- Work activities involving only intermittent employee exposure of less than 15 minutes in an hour to an ambient air concentration for PM<sub>2.5</sub> at or above 35.5 ug/m<sup>3</sup> (AQI 101), for a total exposure of less than one hour in a single 24-hour period.

**B. Monitoring** – Managers will monitor employee exposure to wildfire smoke when employees are, or are likely to 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). Monitoring is to be performed at the beginning of each shift, and as needed, by one of the following methods:

- Check the current average and forecasted AQI value for PM2.5 from DEQ, U.S. EPA AirNow or Interagency Wildland Fire Air Quality Response Program websites, or equivalent source. Resources include:
  - OregonAir app from DEQ: Search for the free “OregonAir” app in the app store
  - U.S. Environmental Protection Agency’s AirNow website: <https://www.airnow.gov/>
  - DEQ website: <https://oraqi.deq.state.or.us/home/map>
- Check notifications of air quality advisories due to wildfire smoke issued by DEQ or local government health agencies;
- Directly measure workplace ambient air concentration for PM2.5 in accordance with the testing device manufacturer’s user instructions; or
- If none of the other monitoring methods are available for their work location, it is acceptable to use the 5-3-1 Visibility Index to estimate the current air concentration for PM2.5, and equivalent AQI value, during daylight hours (see Appendix F: 5-3-1 Visibility Chart for more information).

The AirNow website allows personnel to determine the PM2.5 level for the PCC facility at which they are located by entering the zip code for that facility. *Appendix B – PCC Locations*, contains a list of PCC campuses and centers along with their associated zip codes.

**C. Communications Systems** – Department managers will communicate the current average AQI and PM2.5 readings for their work locations and wildfire smoke hazards to affected employees via one of the following options: email, text messages, phone calls.

At a minimum, communications between managers and employees will include:

- A means to notify exposed employees of any changes in the air quality at their work location that would necessitate an increase or decrease in the level of exposure controls required by this Plan; and
- A means to enable and encourage employees to inform their manager or PCC of at least the following:
  - Any changes in the air quality at their work location that could necessitate an increase or decrease in the level of exposure controls required by this Plan;
  - Any availability issues of appropriate exposure control measures required by this Plan; and
  - Any health symptoms that may be the result of wildfire smoke exposure and that could necessitate medical attention.

These communications serve as a means of directing employees to apply safeguards and controls to protect themselves from wildfire smoke hazards. An example of such a notification is found in *Appendix C: Employee Communication Template*.

Affected employees experiencing an emergency due to severe health symptoms must notify Public Safety and or 911 in the event of a medical emergency. The *Online Injury or Property Incident Report*, available from the Risk Services webpage, will be completed subsequently by the employee, if able, or the manager.

In the event of a facility-wide or district-wide emergency, Public Safety may opt to use the OCEANS system to alert personnel inside PCC buildings of the need to leave PCC property due to an emergency resulting from wildfire smoke.

Public Relations may also send communications to PCC staff in the event of a campus or district-wide closure

**D. Exposure Controls** – The following controls must be implemented whenever ambient air concentrations of PM<sub>2.5</sub> reach or exceed certain thresholds. The controls are listed below as well as in *Appendix C – Exposure Controls*.

1. Engineering and Administrative Controls - These must be implemented to reduce employee exposures to PM<sub>2.5</sub> to less than 35.5 ug/m<sup>3</sup> (AQI 101), unless it can be shown that such controls are functionally impossible, or would prevent the completion of work. Such controls must be considered and implemented in the order presented:

Engineering Controls – Appropriate engineering controls may include, but are not limited to, temporarily relocating outdoor workers to available indoor areas or vehicles where the air is adequately filtered, or using portable air purifiers equipped with HEPA filters (or similar high-efficiency air filter) that are sufficient in number and performance for the size of the enclosed area where used.

Administrative Controls – Appropriate administrative controls may include, but are not limited to, temporarily relocating outdoor work operations to another outdoor location with better air quality when work permits, and changing employee work schedules to when better air quality is forecasted.

Managers may need to consult with People Strategy, Equity, and Culture (PSEC) when considering changes to employees' work locations, schedules or assignments.

2. Voluntary Use of Filtering Facepiece Respirators - Whenever employee exposure to PM<sub>2.5</sub> is at or above 35.5 ug/m<sup>3</sup> (AQI 101) but below 200.8 ug/m<sup>3</sup> (AQI 250), even after the implementation of engineering and administrative controls, managers must ensure that appropriate NIOSH-approved filtering facepiece respirators are provided to employees for voluntary use, strictly for protection against wildfire smoke when such use would not expose the wearer to a hazard associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure.

These filtering facepiece respirators are provided and replaced as needed at no cost to the employee by either:

- Distributing the filtering facepiece respirators directly to each exposed employee;
- or

- Maintaining a sufficient supply of filtering facepiece respirators in multiple sizes that are readily accessible and known to any exposed employee at each work location. The respirator supply must be in a location that does not restrict or hinder employee access to respirators or discourage the replacement of a respirator when needed.

These filtering facepiece respirators must be stored and maintained so that they do not present a health hazard to the user.

The voluntary use of filtering facepiece respirators at ambient air concentrations of PM<sub>2.5</sub> at 35.5 ug/m<sup>3</sup> (AQI 101) but below 200.8 ug/m<sup>3</sup> (AQI 250) is not subject to the requirements of OR-OSHA's *Respiratory Protection Standard*.

Voluntary use of elastomeric respirators must be in compliance with OR-OSHA's Respiratory Protection Standard (CFR 1910.134) and requires that the employee receive a copy of Appendix D of CFR 1910.134. Copies of this document are included in Chapter 17 of PCC's Health & Safety Manual - *Respiratory Protection Plan*, and are available for printing.

3. Required Use of Filtering Facepiece Respirators – Whenever employee exposure to PM<sub>2.5</sub> is at or above 200.9 ug/m<sup>3</sup> (AQI 251) but below 500.4 ug/m<sup>3</sup> (AQI 501), even after the application of engineering and administrative controls, managers must ensure that employees wear NIOSH-approved filtering facepiece respirators when such use would not expose the wearer to a hazard associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure.

When such filtering facepiece respirators are provided and used strictly for protection against PM<sub>2.5</sub> resulting from wildfire smoke within the aforementioned range, wearers are subject to the requirements of PCC's *Wildfire Smoke Respiratory Protection Program*:

*Wildfire Smoke Respiratory Protection Program* - The use of filtering facepiece respirators at ambient air concentrations of PM<sub>2.5</sub> at or above 200.9 ug/m<sup>3</sup> (AQI 251) but below 500.4 ug/m<sup>3</sup> (AQI 501) resulting from wildfire smoke requires the employee to comply with, and receive training in the following topics:

- Proper use of the respirators, including putting them on and removing them
- Any limitations on the use of the respirator
- How to care for the respirator, including cleaning, inspection, maintenance, and storage
- The ability to demonstrate a seal check

Either the positive or negative pressure seal checks described in *Appendix D – Filtering Facepiece User Seal Checks*, or those recommended by the respirator manufacturer, must be used. By adhering to PCC's Wildfire Smoke Respiratory Protection Program for wildfire smoke exposures within this range, one can avoid the requirements of OR-OSHA's *Respiratory Protection Standard*.

The required use of elastomeric respirators must be in compliance with OR-OSHA's *Respiratory Protection Standard* including the requirements for medical evaluation, annual fit-testing, annual training, and the removal of facial hair.

4. Required Use of 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 of engineering and administrative controls, managers must ensure that employees wear NIOSH-approved respirators that protect the wearer from PM<sub>2.5</sub> when such use would not expose the wearer to a hazard associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure.

The use of any respirator to protect employees from wildfire smoke concentrations of PM<sub>2.5</sub> at or above 500.4 ug/m<sup>3</sup> (AQI 501) is subject to all of the required elements of OR-OSHA's *Respiratory Protection Standard*, i.e., the requirements for medical evaluation, annual fit-testing, annual training, and the removal of facial hair. For more information, please refer to H&SM Chapter 17 – *Respiratory Protection Plan*.

## V. TRAINING

Employees and supervisors 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) will receive both district and department training on the topics covered in this Plan prior to such exposure. At a minimum, training must be provided annually, before employees are exposed to wildfire smoke, and consist of at least the following information:

- 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; and
  - Fatigue, headache, irregular heartbeat, chest pain
- The potential acute and chronic health effects from wildfire smoke exposure, including increased health risks to sensitive groups as defined in OR-OSHA's *Protection from Wildfire Smoke Standard* and how chronic exposures can increase the risk of cardiovascular disease and can exacerbate an individual's asthma;
- 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;
- How employees can obtain the current average and forecasted ambient air concentration for PM<sub>2.5</sub> and equivalent AQI value for their work location;
- The importance, limitations, and benefits of using a filtering facepiece respirator, that is provided by PCC at no cost to the employee to reduce exposure to wildfire smoke, and how to use and maintain their filtering facepiece respirator;
- The methods that PCC will use to protect employees from wildfire smoke, including how filtering facepiece respirators are required to be made readily accessible to employees for voluntary use when workplace ambient air concentrations for PM<sub>2.5</sub> are at or above 35.5 ug/m<sup>3</sup> (AQI 101), and how employees can obtain such respirators before exposure and replace them when needed;

- Review of any job tasks performed by employees that the use of a filtering facepiece respirator would expose the wearer to a hazard associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure, and must not be used when performing such tasks;
- The procedures managers must follow when an employee reports or exhibits health symptoms that necessitate immediate medical attention such as, but not limited to, asthma attacks, difficulty breathing, and chest pain;
- How to operate and interpret exposure results based on any PM2.5 monitoring device used;
- An explanation of the department's two-way communication system for wildfire smoke exposure control information covered under this Plan.

## **VI. RECORDKEEPING**

**A. Training Records** - Training records may be either written or electronic and include at least:

- The name and identification number of each employee trained;
- The date(s) of such training;
- The name(s) of the person(s) who conducted the training

1. District-level training records will be maintained in Cornerstone, PCC's Learning Management System, located at MyCareer@PCC.

2. Department training records will be maintained in each affected department.

The most recent training record for each employee must be maintained for one year.