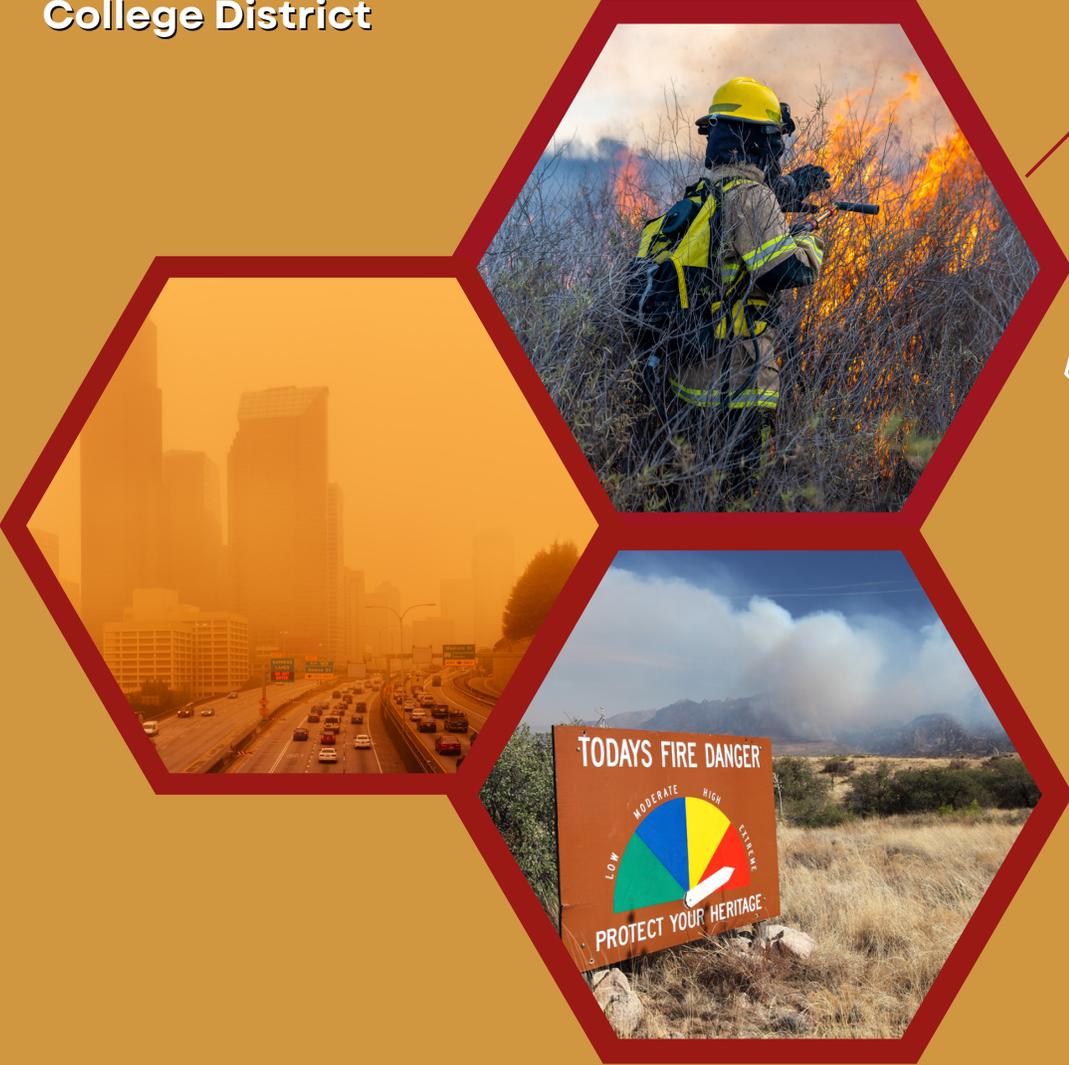


Pasadena Area
Community
College District



**WILDFIRE
SMOKE
PROTECTION
PLAN**

Purpose

Pasadena Area Community College District (“District”) is committed to providing our staff with a safe and healthful work environment. In pursuit of this goal, the following Wildfire Smoke Protection Plan has been developed to comply with Cal OSHA T8 CCR 5141.1.

Scope

This plan will apply when the current Air Quality Index (current AQI) for PM_{2.5} is 151 or greater and employees are reasonably anticipated to be exposed to wildfire smoke. This plan will not apply to the following workplaces or operations:

- 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 PM_{2.5} show that the current AQI does not equal or exceed 151
- Employees exposed to a current AQI of 151 or greater for less than one hour during their shift



Program Administration & Responsibilities

The Assistant Superintendent/Vice President of Business & College Services, the Executive Director of Business Services, and the Executive Director of Facilities & Construction Services (collectively, the Administrators) are responsible for implementing the Wildfire Smoke Protection Plan. The Administrators or their designees will:

- Maintain, review, and update the plan at least annually and whenever necessary to include new or modified tasks and procedures.
- Provide training to employees who are covered by this program.
- Maintain an adequate supply of N95 respirators.
- Ensure this program is being followed and enforced.

Contact locations and phone numbers can be located in the directory on the District website at <https://pasadena.edu/directory/>.

Supervisors and Managers

Supervisors/Managers will:

- Ensure employees are trained
- Determine the Air Quality Index (AQI) when employees may be exposed to wildfire smoke
- Check AQI for PM_{2.5} level before each shift and periodically during the day when the AQI exceeds 151
- Inform employees periodically of the current AQI for PM_{2.5} and protective measures available

- Implement control measures for outdoor workers exposed to wildfire smoke
- Ensure availability of N95 respirators and enforce required respirator use when the AQI for PM2.5 is greater than 500
- Take action when an employee reports symptoms of poor air quality, such as providing clean air breaks or removing employees from poor AQI environments

Employees

Employees who work outdoors and are expected to be exposed to wildfire smoke will:

- Understand and follow the requirements of this program
- Attend all trainings
- Wear a respirator when AQI PM2.5 is greater than 500
- Inform their supervisor if they are having issues wearing a respirator
- Request a N95 for voluntary use when AQI PM2.5 is 151 or greater
- Inform their supervisor if air quality is getting worse
- Inform their supervisor if suffering from symptoms of poor air quality such as asthma attacks, chest pain, nausea, or trouble breathing

Identification of Harmful Exposure

Employee exposure to PM_{2.5} will be determined at the start of each shift and periodically thereafter, as needed to protect the health of employees, by any of the following methods:

- Check AQI forecasts and the current AQI for PM_{2.5} from any of the following websites: U.S. EPA AirNow, the Interagency Wildland Fire Air Quality Response Program, the U.S. Forest Service, the California Air Resources Board, the local air pollution control district, or the local air quality management district; or
- Obtain AQI forecasts and the current AQI for PM_{2.5} directly from the U.S. EPA, the Interagency Wildland Fire Air Quality Response Program, the U.S. Forest Service, the California Air Resources Board, the local air pollution control district, or the local air quality management district by telephone, email, text, or other effective method; or
- Measure PM_{2.5} levels at the worksite and convert the PM_{2.5} levels to the corresponding AQI in accordance with Appendix A of T8 CCR 5141.1.

The AQI is the method used by the U.S. Environmental Protection Agency (U.S. EPA) to report air quality on a real-time basis. Current AQI is also referred to as the “NowCast,” and represents data collected over time periods of varying length in order to reflect present conditions as accurately as possible.

The current AQI is divided into six categories as shown in the table below.

Air Quality Index (AQI) Category for PM2.5	Levels of Health Concern
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



Communication

Wildfire smoke hazards will be communicated to employees in a way that will be easily understandable. Employees will be informed of the current AQI for PM2.5 and protective measures available to reduce exposure to wildfire smoke. Employees will also be encouraged to inform their supervisors of worsening air quality and adverse symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain.

Control of Harmful Exposures

The following controls will be used to reduce harmful exposures to employees:

- Engineering controls will be used to reduce employee exposure to PM_{2.5} to less than a current AQI of 151. This will be achieved by providing enclosed buildings, structures, or vehicles where the air is filtered.
- Administrative controls will be used whenever engineering controls are not feasible or do not reduce employee exposures to PM_{2.5} to less than a current AQI of 151. This will include relocating work to a location where the current AQI for PM_{2.5} is lower, changing work schedules, reducing work intensity, or providing additional rest periods.
- Respiratory protective equipment will be used as follows:
 - Respirators will be provided to employees for voluntary use when the current AQI for PM_{2.5} is equal to or greater than 151, but does not exceed 500.
 - Respirators will be used in accordance with T8 CCR 5144.
 - be NIOSH-approved and effectively protect the wearers from inhalation of PM_{2.5}, such as N95 filtering facepiece respirators.
 - be cleaned or replaced as appropriate, stored, and maintained, so that they do not present a health hazard to users.

Note: Employees whose only use of respirators involves the voluntary use of filtering facepieces, such as N95 respirators, fit testing and medical evaluations are not required by section 5144.

- Respirator use will be required when the current AQI for PM2.5 exceeds 500. Respirators shall be used in accordance with section 5144 and the respirators will have an assigned protection factor so that the PM2.5 levels inside the respirator correspond to an AQI less than 151.

Training

Training will be provided to all employees and supervisors who can be potentially exposed to wildfire smoke. Training will contain the information in Appendix B of T8 CCR 5141.1.

Attachment 1: Appendix A to Section 5141.1

Protection from Wildfire Smoke Measuring PM_{2.5} Levels at the Worksite (Mandatory if an Employer Monitors with a Direct Reading Instrument)

(a) An employer may use a direct-reading particulate monitor to determine PM_{2.5} levels for section 5141.1, if the employer can demonstrate that it has complied with this appendix and selected a monitor that:

1. Does not underestimate employee exposures to wildfire smoke; or
2. May underestimate wildfire smoke exposures, but the employer has obtained information on the possible error of the monitor from the manufacturer and has accounted for the error of the monitor when determining exposures to PM_{2.5} to ensure that employee exposure levels are not underestimated.

(b) The monitor shall be designed and manufactured to measure the concentration of airborne particle sizes ranging from an aerodynamic diameter of 0.3 micrometers or less up to and including 2.5 micrometers ($\leq 0.3\mu\text{m}$ to $2.5\mu\text{m}$).

(c) The employer shall ensure that the monitor and all necessary monitor accessories are calibrated, maintained, and used, in accordance with the manufacturer's instructions for accurately measuring particles with an aerodynamic diameter of 0.3 micrometers or less up to and including 2.5 micrometers ($\leq 0.3\mu\text{m}$ to $2.5\mu\text{m}$) The employer may use an air monitor that measures particles less than 0.3 micrometers to greater than 2.5 micrometers ($\leq 0.3\mu\text{m}$ to $\geq 2.5\mu\text{m}$) if the employer treats the result as the PM_{2.5} level.

(d) The employer shall use the following table to convert the PM_{2.5} concentration to the AQI for PM_{2.5}.

PM_{2.5} in Micrograms per Cubic Meter (µg/m³)	Air Quality Index (AQI) Categories for PM_{2.5}
0 to 12.0	0 to 50
12.1 to 35.4	51 to 100
35.5 to 55.4	101 to 150
55.5 to 150.4	151 to 200
150.5 to 250.4	201 to 300
250.5 to 500.4	301 to 500

(e) The person supervising, directing, or evaluating workplace monitoring for PM_{2.5} shall have the training or experience necessary to apply this section and to ensure the correct use of the monitor and the interpretation of the results, so that exposures are not underestimated.

Attachment 2: Appendix B to Section 5141.1.

Protection from Wildfire Smoke Information to Be Provided to Employees (Mandatory)

The Health Effects of Wildfire Smoke

Although there are many hazardous chemicals in wildfire smoke, the main harmful pollutant for people who are not very close to the fire is “particulate matter,” the tiny particles suspended in the air.

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.

People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects.

The smallest -and usually the most harmful -particulate matter is called PM_{2.5} because it has a diameter of 2.5 micrometers or smaller.

The Right to Obtain Medical Treatment Without Fear of Reprisal

Employers shall allow employees who show signs of injury or illness due to wildfire smoke exposure to seek medical treatment, and may not punish affected employees for seeking such treatment. Employers shall also have effective provisions made in advance for

prompt medical treatment of employees in the event of serious injury or illness caused by wildfire smoke exposure.

How Employees Can Obtain the Current Air Quality Index (AQI) for PM_{2.5}

Various government agencies monitor the air at locations throughout California and report the current AQI for those places. The AQI is a measurement of how polluted the air is. An AQI over 100 is unhealthy for sensitive people, and an AQI over 150 is unhealthy for everyone.

Although there are AQIs for several pollutants, Title 8, section 5141.1 only uses the AQI for PM_{2.5}.

The easiest way to find the current and forecasted AQI for PM_{2.5} is to go to AirNow.gov and enter the zip code, town, or city where you will be working. The current AQI is also available at fire.AirNow.gov, an interactive map which also provides information about some fires and smoke plumes. You can also visit the website of your local air district. Employees who do not have access to the internet can contact their employer for the current AQI. The EPA website enviroflash.info can transmit daily and forecasted AQIs by text or email for particular cities or zip codes.

The Requirements of Title 8, section 5141.1

If employees may be exposed to wildfire smoke, then the employer is required to find out the current AQI applicable to the worksite. If the current AQI for PM_{2.5} is 151 or more, the employer is required to:

1. Check the current AQI at the start of each shift and periodically thereafter.
2. Provide training to employees.
3. Lower employee exposure.
4. Provide respirators and encourage their use.

The Employer's Two-Way Communication System

Employers shall alert employees when the air quality is harmful and what protective measures are available to employees.

Employers shall encourage employees to inform their employers if they notice the air quality is getting worse, or if they are suffering from any symptoms due to the air quality, without fear of reprisal.

The employer's communication system will include any of the following: in-person, email, radio, text or phone call.

The Employer's Methods to Protect Employees from Wildfire Smoke

Employers shall take action to protect employees from PM_{2.5} when the current AQI for PM_{2.5} is 151 or greater. Examples of protective methods include:

1. Locating work in enclosed structures or vehicles where the air is filtered.
2. Changing procedures such as moving workers to a place with a lower current AQI for PM_{2.5}.
3. Reducing work time in areas with unfiltered air.
4. Increasing rest time and frequency, and providing a rest area with filtered air.
5. Reducing the physical intensity of the work to help lower the breathing and heart rates.

The Importance, Limitations, and Benefits of Using a Respirator when Exposed to Wildfire Smoke

Respirators can be an effective way to protect employee health by reducing exposure to wildfire smoke, when they are properly selected and worn. Respirator use can be beneficial even when the AQI for PM_{2.5} is less than 151, to provide additional protection.

When the current AQI for PM_{2.5} is 151 or greater, employers shall provide their workers with proper respirators for voluntary use. If the current AQI is greater than 500, respirator use is required, except in emergencies.

A respirator should be used properly and kept clean.

The following precautions shall be taken:

- 1) Employers shall select respirators certified for protection against the specific air contaminants at the workplace. Respirators must be certified by NIOSH, the National Institute for Occupational Safety and Health of the U.S. Center for Disease Control and Prevention. A label or statement of certification should appear on the respirator or respirator packaging. It will list what the respirator is designed for (particulates, for example).

Surgical masks or items worn over the nose and mouth such as scarves, T-shirts, and bandannas will not provide protection against wildfire smoke. An N95 filtering facepiece respirator, shown in the image below, is the minimum level of protection for wildfire smoke.

- 2) Read and understand the manufacturer's instructions on the respirator's use, care, and replacement, along with any warnings regarding the respirator's limitations. If the respirator is reusable, read and understand the instructions for cleaning and maintenance. The manufacturer's instructions must be followed except for medical evaluations, fit testing, and shaving of facial hair, which are recommended but not required for voluntary use of filtering facepiece respirators.
- 3) Do not wear respirators in areas where the air contains contaminants for which the respirator is not designed. A respirator designed to filter particles will not protect employees against gases or vapors, and it will not supply oxygen.
- 4) Employees should keep track of their respirator so that they do not mistakenly use someone else's respirator.
- 5) Employees who have a heart or lung problem should ask their health care provider before using a respirator.

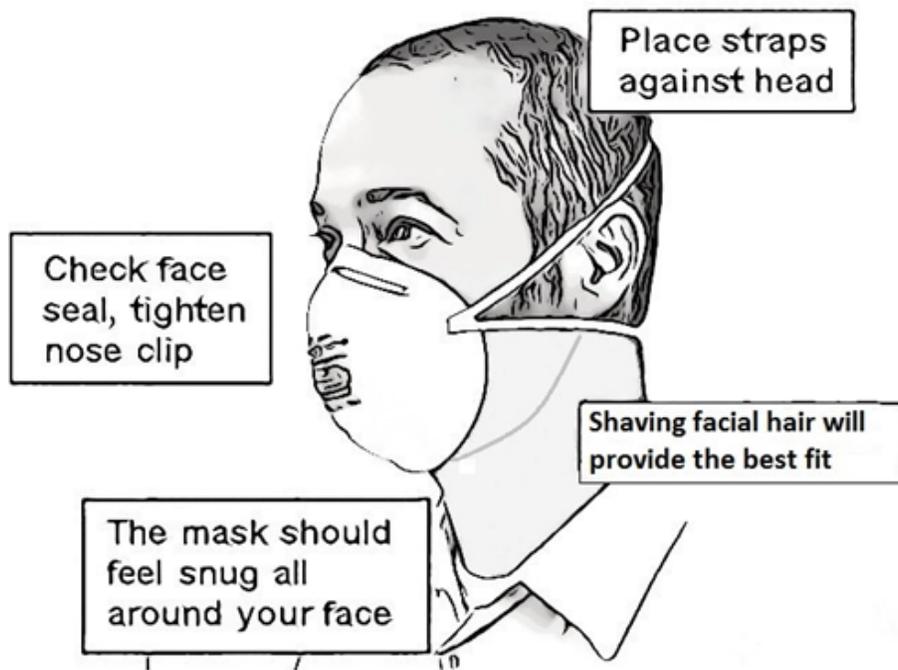
How to Properly Put On and Use the Respirators Provided by the Employer

To get the most protection from a respirator, there must be a tight seal around the face. A respirator will provide much less protection if facial hair interferes with the seal. Loose-fitting powered air purifying respirators may be worn by people with facial hair since they do not have seals that are affected by facial hair.

The proper way to put on a respirator depends on the type and model of the respirator.

For those who use an N95 or other filtering facepiece respirator mask that is made of filter material:

- 1) Place the mask over the nose and under the chin, with one strap placed below the ears and one strap above.
- 2) Pinch the metal part (if there is one) of the respirator over the top of the nose so it fits securely.



For a respirator that relies on a tight seal to the face, check how well it seals to the face by following the manufacturer's instructions for user seal checks. Adjust the respirator if air leaks between the seal and the face. The more air leaks under the seal, the less protection the user receives.

Respirator filters should be replaced if they get damaged, deformed, dirty, or difficult to breathe through. Filtering facepiece respirators are disposable respirators that cannot be

cleaned or disinfected. A best practice is to replace filtering facepiece respirators at the beginning of each shift.

If you have symptoms such as difficulty breathing, dizziness, or nausea, get medical help immediately.