

# You Should Know

Protecting workers from wildfire smoke

California Emergency Standard of July 29, 2019 has been **extended to January 20, 2021**



## Preface

The California Occupational Safety and Health Standards passed a ruling on July 29, 2019 intended to address workers exposed to wildfire smoke and was adopted by Cal/OSHA as a subsection of 5141 “Control of Harmful Exposure to Employees”. Due to the ongoing wildfire season in the state, it **has been extended until January 20, 2021**.

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 PM2.5 because it has a diameter of 2.5 micrometers or smaller.

The scope of this writing is to summarize the standard as published. Please pay attention to the several links contained in the following, as they will lead to more detailed information and instruction.

## Employer responsibility

Under the regulation, employers must take the following steps to protect workers who may be exposed to wildfire smoke in Wildlands (defined in Title 8, section 3402 as “sparsely populated geographical areas covered primarily by grass, brush, trees, crops, or combination or in adjacent developed areas):

- Identify harmful exposure to airborne particulate matter from wildfire smoke before each shift and periodically thereafter by in regions where workers are located. This can be accomplished by accessing [AirNow](#) and/or the [Wildland Fire/Air Quality Tools](#). Local air quality agencies can also be contacted and may be found at the [California Map for Local Air District Websites](#). (Note: It is beyond the purview of this summary to provide instruction for the method of determining the Air Quality Index by use of direct measurement. If this method is preferred, it is suggested proper instruction and competency is provided through a Certified Industrial Hygienist or facsimile).

Air Quality Index (AQI) Categories 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

- Reduce harmful exposure to wildfire smoke by, for example, relocating work to an enclosed building or vehicle with filtered air or to an outdoor location where the AQI for PM 2.5 is 150 or lower.
- If employers cannot reduce workers' harmful exposure to wildfire smoke so that the AQI for PM 2.5 is 150 or lower, they must:
  - Implement administrative controls such as relocating work to a location where the current AQI for PM2.5 is lower, changing work schedules, reducing work intensity, or providing additional rest periods.
  - Provide respirators such as N95 masks to all employees for voluntary use (see [N95 mask questions](#) and focus on **voluntary** use requirements).
  - Training on the new regulation, the health effects of wildfire smoke, and the safe use and maintenance of respirators.
- Establish and implement a system for communicating wildfire smoke hazards in a form readily understandable by all affected employees, including provisions designed to encourage employees to inform the employer of wildfire smoke hazards at the worksite without fear of reprisal. The system shall include effective procedures for informing employees of:
  - The current Air Quality Index (AQI)
  - Protective measures available to employees to reduce their wildfire smoke exposures
  - Encouraging employees to inform the employer of:
    - Worsening air quality
    - Any adverse symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain

## Exemptions

The following workplaces and operations are exempt:

- Enclosed buildings or structures in which the air is filtered by a mechanical ventilation system and the employer ensures that windows, doors, bays, and other openings are kept closed to minimize contamination by outdoor or unfiltered air
- Enclosed vehicles in which the air is filtered by a cabin air filter and the employer ensures that windows, doors, and other openings are kept closed to minimize contamination by outdoor or unfiltered air except when entering or exiting the cabin.

- The employer demonstrates that the concentration of PM2.5 in the air does not exceed a concentration that corresponds to a current AQI of 151 or greater by measuring PM2.5 levels at the worksite
- Employees exposed to a current AQI for PM2.5 of 151 or greater for a total of one hour or less during a shift
- Firefighters engaged in wildland firefighting.

## Conclusion

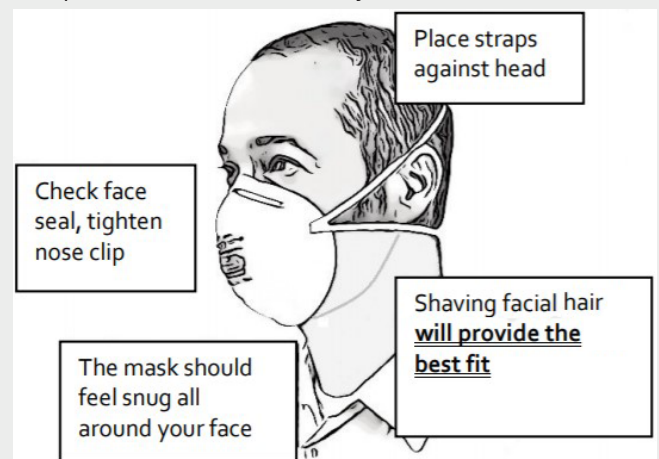
This ruling has several moving parts and will take some effort to meet all of its criteria. However, the best perspective is to simply monitor the air if there is a reasonable suspicion of exposure due to proximity to a wildfire, then take appropriate steps to control the circumstances through employee placement where possible or, that not being possible, protect them through administration and/or personal protection.

The full text, including recent changes, of the regulation appears in the new Title 8 section 5141.1 of the California Code of Regulations which can be found [here](#). Referencing this document is strongly recommended since it goes into much greater detail (some language and rule modifications are likely to have periodic changes as it continues through the rule-making process).

Note, 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.

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



Source: [https://www.dir.ca.gov/Title8/5141\\_1.html](https://www.dir.ca.gov/Title8/5141_1.html)

Finally, though this regulation is specific to California, it may be prudent that all areas subject to wildfires consider these steps in light of OSHA's (federal and state) General Duty Clause requiring employers to "assure a safe and healthful workplace" for employees

For additional information contact your Willis Towers Watson client relationship director, your risk control consultant or:

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