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# Protection from Wildfire Smoke

## Background

On December 12, 2018, Petition No. 573 was filed with the Cal/OSHA Standards Board seeking an emergency standard to protect outdoor workers in areas impacted by unhealthy levels of wildfire smoke. The petitioners were the California Labor Federation AFL-CIO, Worksafe, and the California Rural Legal Assistance Foundation.

Relief sought included:

- An emergency standard that would require protections in the event the Air Quality Index (AQI) for PM 2.5 rises to the “unhealthy” level (i.e., over 150). Note: the AQI was developed by the EPA to inform the public of unhealthy air levels
- Feasible engineering controls such as enclosed structures or vehicle cabs with filtered air for rest and meal breaks
- Administrative controls such as changes in work location and schedules, reduction in work intensity and additional rest periods
- An emergency standard that should also address provision of appropriately selected and maintained respiratory protection

## Health Concerns

Cal/OSHA and the Board shared the concern of how airborne particle size is directly linked to the potential for causing health problems. Small

particles less than 2.5 micrometers in diameter pose the greatest risk because of how they penetrate deep into the lungs and may enter the bloodstream. Adding to the risk, toxic volatile and semi-volatile organic compounds can be absorbed onto airborne PM 2.5 particles.

## Standards Board Action

On Thursday, July 18, 2019, the Cal/OSHA Standards Board adopted an emergency regulation to protect outdoor workers from the hazards of wildfire smoke. The regulation became effective on July 29, 2019, and is enforceable for six months but can be extended for two additional 90-day periods.

During that time, Cal/OSHA will convene advisory meetings to receive input from stakeholders with a goal of adopting a permanent standard. Standards Board member Dave Harrison (Operating Engineers Local 3) has asked Cal/OSHA to launch an educational program much like the Heat Illness Prevention effort.

This regulation applies to workplaces where:

- The current Air Quality Index (AQI) for the pollutant PM 2.5 (particulate matter) is at least 151, and the employer should reasonably anticipate that employees may be exposed to wildfire smoke



- The following workplaces are exempt from this regulation:
  - o Enclosed buildings or structures with filtered air by a mechanical ventilation system, where the employer ensures that windows, bays, and other openings are kept closed
  - o Enclosed vehicles with filtered air where the windows, doors and other openings are kept closed
  - o Situations where the employer demonstrates that the concentration of PM 2.5 in the air does not exceed an AQI of 151 by conducting worksite measurements
  - o Employees exposed to an AQI for PM 2.5 of 151 or greater for a total of one hour or less during a shift
  - o Firefighters engaged in wildland firefighting



## Employer Responsibilities

### Identification of Harmful Exposures

Determine employee exposure to PM 2.5 before each shift and periodically thereafter as needed by checking the AQI forecasts from any of the following:

- AirNow website – [www.airnow.gov](http://www.airnow.gov)
- U.S. Forest Service Wildland Air Quality Response program website – [sites.google.com/firenet.gov/wfaqrp-external/home](https://sites.google.com/firenet.gov/wfaqrp-external/home)
- California Air Resources Board website – [ww2.arb.ca.gov/homepage](http://ww2.arb.ca.gov/homepage)
- Local Air Pollution Control District websites – [www.capcoa.org/districts](http://www.capcoa.org/districts)

Employers may also obtain AQI forecasts and information directly from these agencies via telephone, email or text. Or employers may measure PM 2.5 at the worksite with a direct-reading particulate matter monitor. This option must be executed consistent with Appendix A, “Measuring PM 2.5 Levels at the Worksite,” of the regulation, which provides guidance on the process.

### Communication

Establish and implement a system for communicating wildfire smoke hazards in a form readily understandable by all affected employees. Communication must include the current AQI for PM 2.5, and protective measures available to employees to reduce their exposure. Employers shall encourage employees to inform their employer of worsening air quality, and any adverse symptoms that may result from exposure to wildfire smoke such as asthma attacks, difficulty breathing and chest pain. Employees must not suffer retribution or reprisal for such action.

### Training and Instruction

The employer shall provide employees with effective training and instruction consistent with Appendix B, “Information to Be Provided to Employees (Mandatory).” Training must address the health effects of wildfire smoke, the right to obtain medical treatment without fear of reprisal, how employees can obtain the current AQI for PM 2.5, and the requirements of the regulation. Also to be addressed is the employer’s two-way communication system, the employer’s methods to protect employees from wildfire smoke, and the importance, limitations, benefits and proper use of respirators for smoke exposures.

### Control of Harmful Exposures to Employees

Control harmful exposures with engineering controls, administrative controls and voluntary respirator use. Engineering controls are considered the first order of protection and include providing enclosed buildings, structures or vehicles where the air is filtered. Administrative controls can include relocating workers to a safe area, changing work schedules, reducing work intensity or providing additional rest periods.

### Control by Respiratory Protective Equipment

Employers must provide respirators, such as N95 filtering facepiece respirators, for **voluntary** use when the AQI reaches 151. Voluntary use does not require fit-testing. When the AQI for PM 2.5 exceeds 500, respirator use is **mandatory** and subject to the requirements of General Industry Safety Order 55144, including fit-testing.

### Emergency Operations

Certain emergency operations such as work to restore utilities and communications, and medical operations, are not subject to the engineering and administrative controls, but follow the respirator provisions.

### Public Hearing

Cal/OSHA convened the first stakeholder meeting on August 27, 2019, to discuss proposed amendments to the emergency regulation. In those proposed amendments, Cal/OSHA raised the prospect of future consideration of lowering the AQI threshold triggering voluntary respiratory protections from 151 to 101. That is considered a level of Particulate Matter 2.5 unhealthy for sensitive groups. The 151 level is considered generally unhealthy.

At the new lower threshold, employers would be required to establish and implement a system for informing employees as early as possible that the air is unhealthy for sensitive people, make Appendix B (training) available to employees, and provide respirators upon request.

Under the current emergency regulation, those provisions are triggered at 151.

Cal/OSHA has also proposed lowering the threshold triggering mandatory respiratory use from above 500 to 300, a level considered “very unhealthy.”

Although an additional public stakeholder meeting has not yet been scheduled, **it is important that employers with potentially exposed employees understand what is required at this time under the emergency regulation that is being enforced by Cal/OSHA enforcement staff.**

Additional updates will be provided as developments occur.

To review the actual emergency regulation in place at this time, click on this link: [www.dir.ca.gov/OSHSB/documents/Protection-from-Wildfire-Smoke-Emergency-apprvdtxt.pdf](http://www.dir.ca.gov/OSHSB/documents/Protection-from-Wildfire-Smoke-Emergency-apprvdtxt.pdf).

The Spanish language version of the emergency regulation can be accessed at: [www.dir.ca.gov/dosh/doshreg/Protection-from-Wildfire-Smoke/Spanish/Protection-from-Wildfire-Smoke-Emergency-proptxt-spanish.pdf](http://www.dir.ca.gov/dosh/doshreg/Protection-from-Wildfire-Smoke/Spanish/Protection-from-Wildfire-Smoke-Emergency-proptxt-spanish.pdf).