

This information is provided free of charge by the Department of Industrial Relations from its web site at [www.dir.ca.gov](http://www.dir.ca.gov). These regulations are for the convenience of the user and no representation or warranty is made that the information is current or accurate. See full disclaimer at [https://www.dir.ca.gov/od\\_pub/disclaimer.html](https://www.dir.ca.gov/od_pub/disclaimer.html).

Subchapter 7. General Industry Safety Orders  
Group 16. Control of Hazardous Substances  
Article 107. Dusts, Fumes, Mists, Vapors and Gases

[Return to index](#)  
[New query](#)

## §5141.1 Protection from Wildfire Smoke.

### [Worker Safety and Health in Wildfire Regions](#)

#### (a) Scope.

(1) This section applies to workplaces where:

(A) The current Air Quality Index (current AQI) for PM<sub>2.5</sub> is 151 or greater, regardless of the AQI for other pollutants; and

(B) The employer should reasonably anticipate that employees may be exposed to wildfire smoke.

(2) The following workplaces and operations are exempt from this section:

(A) 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, except when it is necessary to open doors to enter or exit.

(B) 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, except when it is necessary to open doors to enter or exit the vehicle.

(C) The employer demonstrates that the concentration of PM<sub>2.5</sub> in the air does not exceed a concentration that corresponds to a current AQI of 151 or greater by measuring PM<sub>2.5</sub> levels at the worksite in accordance with Appendix A.

(D) Employees exposed to a current AQI for PM<sub>2.5</sub> of 151 or greater for a total of one hour or less during a shift.

(E) Firefighters engaged in wildland firefighting.

(3) For workplaces covered by this section, an employer that complies with this section will be considered compliant with sections 5141 and 5155 for the limited purpose of exposures to a current AQI for PM<sub>2.5</sub> of 151 or greater from wildfire smoke.

## (b) Definitions.

**Current Air Quality Index (Current AQI).** 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, adapted from Table 2 of Title 40 Code of Federal Regulations, Part 58, Appendix G.

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

**NIOSH.** The National Institute for Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

**PM2.5.** Solid particles and liquid droplets suspended in air, known as particulate matter, with an aerodynamic diameter of 2.5 micrometers or smaller.

**Wildfire Smoke.** Emissions from fires in “wildlands,” as defined in Title 8, section 3402, or in adjacent developed areas.

(c) Identification of harmful exposures. The employer shall determine employee exposure to PM2.5 for worksites covered by this section at the start of each shift and periodically thereafter, as needed to protect the health of employees, by any of the following methods:

- (1) Check AQI forecasts and the current AQI for PM2.5 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
- (2) Obtain AQI forecasts and the current AQI for PM2.5 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
- (3) Measure PM2.5 levels at the worksite and convert the PM2.5 levels to the corresponding AQI in accordance with Appendix A.

**EXCEPTION:** Subsection (c) does not apply if:

1. The employer assumes the current AQI for PM2.5 is greater than 500 and complies with subsection (f) using that assumption; or
2. In an emergency subject to subsection (f)(4), the employer assumes the current AQI for PM2.5 is 151 or greater and complies with subsection (f)(3)(A) using that assumption.

(d) Communication. As required by section 3203, the employer shall establish and implement a system for communicating wildfire smoke hazards in a language and manner readily understandable by 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:

(1) Informing employees of:

(A) The current AQI for PM<sub>2.5</sub> as identified in subsection (c); and

(B) Protective measures available to employees to reduce their wildfire smoke exposures.

(2) Encouraging employees to inform the employer if any of the following occurs:

(A) Worsening air quality.

(B) Adverse symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain.

(e) Training and instruction. As required by section 3203, the employer shall provide employees with effective training and instruction in a language and manner readily understandable by employees. At a minimum, this shall contain the information in Appendix B.

(f) Control of harmful exposures to employees.

(1) Engineering Controls. The employer shall reduce employee exposure to PM<sub>2.5</sub> to less than a current AQI of 151 by engineering controls whenever feasible, for instance by providing enclosed buildings, structures, or vehicles where the air is filtered. If engineering controls are not sufficient to reduce exposure to PM<sub>2.5</sub> to less than a current AQI of 151, then the employer shall reduce employee exposures to the extent feasible.

(2) Administrative Controls. Whenever engineering controls are not feasible or do not reduce employee exposures to PM<sub>2.5</sub> to less than a current AQI of 151, the employer shall implement administrative controls, if practicable, such as relocating work to a location where the current AQI for PM<sub>2.5</sub> is lower, changing work schedules, reducing work intensity, or providing additional rest periods.

(3) Control by Respiratory Protective Equipment.

(A) Where the current AQI for PM<sub>2.5</sub> is equal to or greater than 151, but does not exceed 500, the employer shall provide a sufficient number of respirators to all employees for voluntary use in accordance with section 5144 and encourage employees to use respirators. Respirators shall be NIOSH-approved devices that effectively protect the wearers from inhalation of PM<sub>2.5</sub>, such as N95 filtering facepiece respirators. Respirators shall be cleaned or replaced as appropriate, stored, and maintained, so that they do not present a health hazard to users. Employers shall use Appendix B to this section in lieu of Appendix D to section 5144 for training regarding voluntary use of respirators.

NOTE: For those 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.

(B) Where the current AQI for PM<sub>2.5</sub> exceeds 500, respirator use is required. Respirators shall be used in accordance with section 5144. The employer shall provide respirators with an assigned protection factor, as listed in section 5144, such that the PM<sub>2.5</sub> levels inside the respirator correspond to an AQI less than 151.

(4) Emergencies. The following applies to emergency operations, including rescue and evacuation. The following also applies to utilities, communications, and medical operations that are directly aiding emergency operations or firefighting operations.

(A) The employer shall comply with subsection (f)(3)(A) for all AQI levels equal to or greater than 151.

(B) Subsection (f)(1), (f)(2), and (f)(3)(B) do not apply.

Note: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 144.6, Labor Code.

### **HISTORY**

1. New section filed 7-29-2019 as an emergency; operative 7-29-2019 (Register 2019, No. 31). A Certificate of Compliance must be transmitted to OAL by 1-27-2020 or emergency language will be repealed by operation of law on the following day.

2. New section refiled 1-16-2020 as an emergency; operative 1-24-2020 pursuant to Government Code section 11346.1(d) (Register 2020, No. 3). A Certificate of Compliance must be transmitted to OAL by 4-23-2020 or emergency language will be repealed by operation of law on the following day.

3. New section refiled 4-30-2020 as an emergency; operative 6-23-2020 pursuant to Government Code section 11346.1(d) (Register 2020, No. 18). A Certificate of Compliance must be transmitted to OAL by 9-21-2020 or emergency language will be repealed by operation of law on the following day.

4. Emergency filed 4-30-2020 and operative 6-23-2020 extended 60 days pursuant to Executive Order N-40-20 and an additional 60 days pursuant to Executive Order N-66-20. A Certificate of Compliance must be transmitted to OAL by 1-19-2021 or emergency language will be repealed by operation of law on the following day.

5. Certificate of Compliance as to 4-30-2020 order, including amendment of section, transmitted to OAL 12-17-2020 and filed 2-1-2021; amendments operative 2-1-2021 pursuant to Government Code section 11343.4(b)(3) (Register 2021, No. 6).

 [Go Back to Article 107 Table of Contents](#)