BEECHER CARLSON

# CALIFORNIA EMERGENCY REGULATION

## FOR EMPLOYEES EXPOSED TO WILDFIRE SMOKE

The 2018 wildfire season was the deadliest and most destructive ever recorded in California, with more than 8,500 fires over an area of 1,800,000 acres. Air quality across the entire state was dramatically affected by these destructive wildfires. Although the 2019 fire season has been relatively quiet compared to prior years, the potential for fires increases in the latter half of the year as the Santa Ana winds strengthen.

Wildfires expose populations to a number of environmental and health hazards. Particulate matter exposure is the primary public health threat from short-term exposure to wildfire smoke. The effects range from eye and respiratory tract irritation to more serious disorders including diminished lung function, bronchitis, aggravation of asthma, heart failure, and premature death. Even short-term exposure (days to weeks) can trigger a range of health problems ranging from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Sensitive groups may be especially vulnerable to smoke exposure.

The California Department of Industrial Relations' (DIR) Occupational Safety and Health Standards Board has adopted an emergency regulation to protect workers from hazards associated with wildfire smoke. This new standard in the Cal OSHA Title 8 regulations, entitled Protection from Wildfire Smoke (Title 8, §5141.1), applies to California workplaces where the current Air Quality Index (AQI) for PM2.5 is 151 or greater, regardless of the AQI for other pollutants, and workplaces where the employer should reasonably anticipate that employees may be exposed to wildfire smoke.

Select workplaces and operations are exempt from the emergency regulation:

- Buildings or structures in which the air is filtered by a mechanical ventilation system and windows, doors, bays, and other openings are kept closed to minimize contamination by outdoor or unfiltered air
- Vehicles in which the air is filtered by a cabin air filter and windows, doors, and other openings are kept closed to minimize contamination by outdoor or unfiltered air
- Workplaces where the employer can demonstrate that the concentration of atmospheric particulate matter less than 2.5 micrometers in diameter (PM2.5) in the air does not exceed a concentration that corresponds to a current AQI of 151 or greater
- Workplaces where employee exposure to an AQI for PM2.5 of 151 or greater is limited to a total of one hour or less during a work shift

Firefighters engaged in wildland firefighting are also exempt.

The NowCast is a weighted average of hourly air monitoring date used by the U.S. Environmental Protection Agency for real-time reporting of PM2.5 data. Current AQI as reported is divided into six categories as shown in the following table:

| PM2.5 in Micrograms per Cubic Meter (µg/m$^3$) | Air Quality Index (AQI) Categories for PM2.5 | Level of Health Concern |
|---|---|---|
| 0 to 12.0 | 0 to 50 | Good |
| 12.1 to 35.4 | 51 to 100 | Moderate |
| 35.5 to 55.4 | 101 to 150 | Unhealthy for Sensitive Groups |
| 55.5 to 150.4 | 151 to 200 | Unhealthy |
| 150.5 to 250.4 | 201 to 300 | Very Unhealthy |
| 250.5 to 500.4 | 301 to 500 | Hazardous |

### Good
The AQI is between 0 and 50. Air quality is satisfactory and poses little or no health risk.

### Moderate
The AQI is between 51 and 100. Air quality is acceptable; however, pollution in this range may pose a moderate health concern for a small number of individuals. People who are unusually sensitive to ozone or particle pollution may experience respiratory symptoms.

### Unhealthy for Sensitive Groups
When the AQI is between 101 and 150, members of sensitive groups may experience health effects, but the general public is unlikely to be affected.

- Ozone: People with lung disease, children, older adults, and people who are active outdoors are considered sensitive and at greater risk.
- Particle Pollution: People with heart or lung disease, older adults, and children are considered sensitive and at greater risk.

### Unhealthy
Everyone may begin to experience health effects when the AQI is between 151 and 200. Members of sensitive groups may experience more serious health effects.

### Very Unhealthy
AQI values between 201 and 300 trigger a health alert, meaning everyone may experience more serious health effects.

### Hazardous
AQI values over 300 trigger health warnings of emergency conditions. The entire population is even more likely to experience by serious health effects.

## EMPLOYER RESPONSIBILITIES

1. Obtain and review AQI forecasts and the current AQI for PM2.5 from any of the following sources:
   - U.S. EPA AirNow website
   - U.S. Forest Service Wildland Air Quality Response Program website
   - California Air Resources Board website
   - Local air pollution control district website
   - Local air quality management district website

Employers may also measure PM2.5 levels at the worksite and convert recorded PM2.5 levels to the corresponding AQI.

2. Establish and implement a system for communicating wildfire smoke hazards to all affected employees including methods to encourage employees to report possible wildfire smoke hazards at the worksite without fear of retaliation or punishment. This two-way communication system should include the following components:
   - Informing employees of current AQI levels
   - Instructing employees of protective measures available to reduce smoke exposure
   - Encouraging employees to inform the employer of worsening air quality or adverse symptoms that may result from smoke inhalation, such as asthma attacks, breathing difficulty, or chest pain

3. Provide employee training and instruction. Employee safety training should include the following components:
   - Health effects of wildfire smoke
   - Employee rights to seek and obtain medical treatment without fear of retaliation or punishment
   - Methods for ascertaining current AQI and potential employee exposure
   - Protection from Wildfire Smoke (§5141.1) regulation and requirements
   - Communication systems (employer → employee and employee → employer)
   - Methods to protect employees from wildfire smoke
   - Importance, limitations, and benefits of using a respirator
   - How to properly put on, use, and maintain employer-provided respirator equipment

4. Provide and enforce an effective combination of control measures to limit harmful exposure to employees.
   - Providing enclosed buildings, structures, or vehicles where air is filtered to reduce employee exposure to less than a current AQI or 151
   - Relocating work to a location where the current AQI is lower (if practicable)
   - Changing work schedules to reduce or eliminate exposure
   - Reducing work intensity to lower breathing and heart rates
   - Providing additional rest periods and a rest area with filtered air
   - Providing respiratory protective equipment

Provide respirators for voluntary use by employees when the AQI is between 151 and 500 and for mandatory use by employees when the AQI exceeds 500. Respirators must be NIOSH-approved and effectively protect the wearer from inhalation of PM2.5, such as N95 filtering facepiece respirators. Scarves or bandannas will not provide protection against wildfire smoke. An N95 filtering facepiece is considered the minimum level of protection for wildfire smoke. Respirators should be cleaned, stored, maintained, and replaced so that they do not present a health hazard to users. The respirator provided by the employer should have an assigned protection factor to limit PM2.5 levels inside the respirator to an AQI value of 151 or less. Employees with facial hair may be required to shave to ensure a tight seal of the respirator around the face.

The emergency regulation became effective in July 2019 following approval by the Office of Administrative Law. The regulation will remain in effect until January 28, 2020 with two possible 90-day extensions. The Occupational Safety and Health Standards Board will convene an advisory committee in August 2019 to consider making the emergency regulation a permanent Cal OSHA standard.

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