Protecting California Workers from Wildfire Smoke

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POLL - Which industry do you work in, represent or work with?
(select all that apply)

A. Agriculture
B. Schools
C. Construction
D. Landscaping
E. Warehousing
F. Occupational Safety and Health Professional
G. Other
You will be able to:

1. Identify hazards and health effects of wildfire smoke and protective measures for the workplace

1. Describe the requirements of the emergency Cal/OSHA standard on wildfire smoke

1. Apply the standard requirements in two sectors: schools and agriculture

LOHP


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Wildfire Smoke Hazards and An Overview of the Cal/OSHA Standard
Suzanne Teran, MPH
During California wildfires, farmworkers say they felt pressure to keep working or lose their jobs.

Laborers and domestic workers stay behind as thousands flee California wildfires.

PUBLIC HEALTH
Smoke And Power Outages Near California Wildfires Hit Farmworkers Hard

POLL: Choose True or False

Because of concern about wildfire smoke, Cal/OSHA now requires employers to monitor the Air Quality Index (AQI) for PM 10.
Employers need to regularly monitor AQI for the fine particles known as PM 2.5.

**POLL: Choose True or False**

Businesses whose employees work indoors are **exempt from the wildfire smoke standard.**
It depends! Not automatically exempt.....

The COVID-19 pandemic creates additional concern about wildfires because of...

a. Challenges in preventing infections if evacuating large numbers of people
b. Increased severity of COVID-19 illness if people are also exposed to wildfire smoke
c. Strain on emergency responders and fire fighting agencies
d. All of the above
The COVID-19 pandemic creates additional concern about wildfires because of...

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Which workers face hazards from wildfires and smoke?

- Firefighters and emergency responders
- Workers working in areas where there is smoke
- Workers who are involved in clean-up
Concern about PM 2.5

WILDFIRE POLLUTION HARMs HEALTH
Fine particle (PM$_{2.5}$) effects

- Asthma attacks, breathing problems
- Eye, lung, throat irritation
- Heart disease effects worsened
- Premature death
Air Quality Index for PM 2.5

- **Air Quality Index - Particulate Matter**
  - 301–500: Hazardous
  - 201–300: Very Unhealthy
  - 151–200: Unhealthy
  - 101–150: Unhealthy for Sensitive Groups
  - 51–100: Moderate
  - 0–50: Good

Context with COVID-19

- Concern that exposure to PM2.5 in wildfire smoke could contribute to severity of COVID-19 illness
Emergency Wildfire Smoke Standard

- In effect as of July 29, 2019
- California Code of Regulations, title 8, section 5141.1
- Emergency standard extended; developing permanent standard

Who is covered?

1. The Air Quality Index (AQI) for PM 2.5 is 151 or greater
   
   **AND**

2. Workers may be exposed to wildfire smoke

**Exempt:**

- Exposure is one hour or less during shift
- Wildland firefighters
- Employer can prove AQI is below 151
- Buildings/structures with mechanical ventilation or vehicles with cabin air filter - **AND** employer ensures all windows, doors, openings are kept closed
Key requirements of standard

1. **Identify exposures** to PM 2.5

1. **Communicate with employees** - in a manner that is effective and easily understandable

1. **Provide training** - meet requirements of Standard’s Appendix B

1. **Control exposures**, for example:
   a. Enclose work area with filtered air or relocate to other outdoor area
   b. Change work schedules, add more breaks, reduce intensity

1. **Respiratory protection** – voluntary at AQI 151; required at AQI 500

Identify exposures: Monitor the AQI
AQI monitoring

- Before each shift and periodically throughout work day
- Employees also know how to check
- Sources:
  - U.S. EPA AirNow
  - U.S. Forest Service.
  - Air Resources Board.

Impact on SF Bay Area - Camp Fire in Butte County, 2018
What training is required?

1. Health effects and who is at greatest risk
2. Right to obtain medical treatment without reprisal
3. How employees can obtain the AQI for PM 2.5 during shift
4. What the employer is supposed to do to protect workers, per the standard
5. What the two-way communication system is for the worksite - how employees can report problems of symptoms
6. What practices the employer will use to protect workers
7. About respirators: limitations, benefits, how to put on, take off, and properly maintain

For more information:

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Applying Cal/OSHA’s Wildfire Smoke Standard to School Settings

Kevin Riley, PhD MPH
UCLA Labor Occupational Safety and Health (LOSH) Program

Resource on safety and health issues for workers in Southern California:

• Training
• Technical assistance
• Research
• Policy analysis
School Action for Safety and Health (SASH)

How the SASH Program Helps Schools

The School Action for Safety and Health (SASH) Program is a statewide initiative to help school districts reduce the high rate of work-related injuries and illnesses among school employees. The SASH Program offers:

1. A free training program to help build the capacity of district-level health and safety coordinators to be resources to other employees and develop an injury and illness prevention program to identify, prevent and eliminate hazards.
2. Written materials that support injury and illness prevention activities.
3. Problem-solving assistance provided in an ongoing manner by a statewide resource center.

"Injuries and illnesses can be reduced when everyone in the school community works together to recognize and solve potential health and safety problems."

— Jack Quinney, State Supervisor of Health Services

Another Victim of the California Wildfires: Education

Wildfires have been responsible for 21,442 closures across schools in California since the 2002-2003 school year.

The Paradise Elementary School burns as the Camp fire tears through Paradise, California in 2018. Schools in the Paradise Unified School District experienced 164 closure days during the 2018-2019 school year because of wildfires. (Josh Edelson/AFP via Getty Images)

CLASS CANCELED DUE TO SMOKE

WILDFIRE COVERAGE

KQNA

28
How does the Cal/OSHA standard apply to schools?
Standard applies to both outdoor work settings *and* indoor settings that do not have air filtration systems
AQI Monitoring and Communication

Employers must inform employees of:
(A) The current AQI for PM2.5; and
(B) Protective measures available to reduce wildfire smoke exposures.

Employers must encourage employees to inform them of:
(A) Worsening air quality; and
(B) Any adverse symptoms that may be the result of wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain.
Control Measures

Tick Fire school closures: Campuses that are closing due to danger from SoCal blazes

By ABC7.com staff
Friday, October 25, 2019

School closures: All Sonoma County districts to be shuttered through Friday

California Wildfire: LAUSD School Closings in San Fernando Valley Due to Smoke and Fire Concerns

By Sook Kim on 10/25/19 at 7:56 AM EDT

Control Measures

Move outdoor work to enclosed buildings, structures, or vehicles with filtered air

Change work schedules of outdoor employees
- E.g., Adjust work hours of groundskeeping, M&O staff

Relocate work to a location with lower AQI
- E.g., Temporarily re-assign staff to other school sites

Provide additional rest periods
Respiratory Protection

Other considerations for school employees

Onsite staff during coronavirus

Hazards associated with cleanup work
Thank you!

Kevin Riley, PhD MPH
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310-983-3059
• Multidisciplinary center located at UC Davis.

• Almost 30 years history of engaging agricultural communities.

• Reaches over 3,000 individuals—trainings, presentations, health fairs.
Employer Awareness

We haven’t been impacted [by wildfire smoke]. There are air quality warnings regularly. As far as what you are talking about, we are not impacted. If it’s dangerous for them to be out there, we deal with it. The heat and air quality are related. So on hot days, the air quality is bad, workers come in early.

– San Joaquin Valley

We have some rough days - unhealthy air days. Farming on the border is a challenge. South of us there are different air regulations. So some days get rough. We have air quality monitors all over the place that give real time readouts so theoretically we could check. But we don’t now.

– Imperial Valley
A handkerchief because there was a fire in what was the area of Monterey, and everything here, the whole area, looked very reddish, right? ... many people said, “It’s just that we do not realize what’s in the air we’re breathing,” right? So, I think that yes, using just even a handkerchief would be a good way to prevent that [breathing contaminated air from wildfires].

– Salinas Valley

Role of Supervisor
Role of regulations and work culture

• There is mistrust.

• Vulnerability of farmworkers

• Multi-level approach: campaigns, social media, in-person training
### Monitoring the AQI for PM2.5

<table>
<thead>
<tr>
<th>Air Quality Index</th>
<th>Description</th>
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<tbody>
<tr>
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### Respirators

- **Respirators**
- Adjust straps
- Press nose piece
- Filter active
- Below nose
- Nose filter
- Sea of lace

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For more information, visit [aghealth.ucdavis.edu](http://aghealth.ucdavis.edu)
N95

Respirator

• Tight fitting, snug, sealed against skin to minimize leakage
• Filter particles 95%
COVID-19 and Face Covering

• Facemask
  • Loose fit
  • They mitigate the spread of the disease
  • Don’t block small particles

aghealth.ucdavis.edu/training
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