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Director and State Public Health Officer

Gavin Newsom
Governor

July 7, 2025

Eric Berg, Deputy Chief
Health and Research and Standards
Cal/OSHA
1515 Clay Street, Suite 1901
Oakland, CA 94612

Re: CDPH Comments in Support of Cal/OSHA's proposed changes to Title 8 Heat Illness Prevention and Wildfire Smoke Standards, Dated 04/23/25
([Assembly Bill 2243 Heat Illness Prevention - Advisory Meetings](#) and [Assembly Bill 2243 Wildfire Smoke - Advisory Meetings](#))

Dear Mr. Berg:

I am writing on behalf of the California Department of Public Health (CDPH) in support of the proposed changes to the Title 8 Heat Illness Prevention standards and Wildfire Smoke standard resulting from amendments proposed in AB2243. First, the heat illness prevention standard changes:

- define high heat areas as 95 degrees Fahrenheit or more,
- define acclimatization schedules for new employees and returning employees. The schedules specify the daily increase in proportion of the workday exposed to heat, allowing implementation of the high-heat procedures in subsection (e) as an alternative to acclimatization, and
- include language about the frequency of provision of the heat illness prevention plan to new and returning employees.

Second, the wildfire smoke standard changes:

- remove the maximum threshold of Air Quality Index (AQI) Category for PM2.5 of 500,
- lower the AQI threshold to 300 for agricultural employers for respirator use,
- specify when a written respiratory protection program and provision of respirator fit testing are required of agricultural employers and other employers, and

- adjust the PM2.5 concentrations correlating to the AQI used by the U.S. Environmental Protection Agency (US EPA).

The Occupational Health Branch (OHB) is a CDPH program devoted to improving worker health and safety through prevention activities. OHB works to prevent injury and illness on the job before they happen. To achieve this, we identify and evaluate workplace hazards, work with partners to develop safer ways to work, and recommend protective occupational health standards. We recommend creating clear and straightforward guidance for employers and workers to best understand their rights and responsibilities, particularly regarding the heat standard's description of acclimatization.

Below we provide justification for the proposed changes to each subsection that follows. In addition, please find the attached document [CDPH Proposed Language for §3395 and §3396 Heat Standards] containing our suggested alterations to the proposed heat standard changes with markup.

Proposed Changes to §3395 Heat Illness Prevention in Outdoor Places of Employment

(g)(2)

CDPH supports the added clarification of the threshold temperature for a high-heat area.

(g)(3)

The proposed acclimatization schedule described in (g)(3)(A) may not be sufficient to protect the health of all workers, and we recommend that the requirements of (e) High-heat procedure be implemented for both new and returning workers for the duration of five days **in addition to** the four-day gradual increase in workload specified in (g)(3)(A). A gradual increase in workload is critical to reducing risk of heat-related illness (HRI) but is not a substitute for close observation, enhanced emergency response planning, and regular reminders to drink water for employees who are at elevated risk of HRI. In addition, we recommend clearly stating that an employee who is experiencing health effects from heat exposure shall not be required to increase heat exposure until the health effects have resolved. This will ensure that acclimatization is occurring.

We recommend removal of (g)(3)(B), the proposed acclimatization schedule for returning workers. A three-day acclimatization period is not sufficient to protect the health of workers who are returning to work after a period of greater than 14 days. Research shows that loss of acclimatization for a 14-day period requires a period of four days to return to baseline acclimatization, and that total loss of acclimatization occurs after six weeks.[1] [2] Therefore, employees returning to work after an absence of 14 or more days should receive the four-day acclimatization period described in (g)(3)(A) in addition to the requirements of (e). The requirement of (e) provides examples of procedures that include monitoring employees for signs of heat illness through activities

like supervisor observation, a buddy system, and regular communication with lone workers.

EXCEPTION to subsection (g)(3)(A):

In order to ensure that new workers are acclimatized, we recommend that the exception from the acclimatization protocol (g)(3)(A) clearly states that employers must be able to demonstrate that the employee worked in the same or similar conditions for at least four of the prior 14 days. This is consistent with the definition of an acclimatized worker.

(i) Heat Illness Prevention Plan

We support the changes mandated by Labor Code Section 6721 which require distribution of the heat illness prevention plan to all employees. We recommend clarifying within the standard that electronic distribution is permissible for employees who are able to receive electronic copies.

Proposed Changes to §3396 Heat Illness Prevention in Indoor Places of Employment

(g)(3)

Consistent with the recommendations justified above for §3395 (g)(3) we recommend the following:

- Implementation of subsection (e)(2), except (e)(2)(A) engineering controls, in addition to the work schedule described in (g)(3)(A).
- Requiring the same evidence-based 4-day acclimatization period for employees returning after a 14-day absence.
- Addition of language specifying that employees who are experiencing health effects from heat exposure must remain at the current workload until the symptoms resolve.
- Deletion of the acclimatization schedule for returning workers (g)(3)(B).

(i) Heat Illness Prevention Plan

We support the changes mandated by Labor Code Section 6721 which require distribution of the heat illness prevention plan to all employees. We recommend clarifying within the standard that electronic distribution is permissible for employees who are able to receive electronic copies.

Proposed Changes to §5141.1 Protection from Wildfire Smoke

We strongly support adoption of the regulation to protect workers at a lower AQI of 300. We found published evidence of acute health effects at AQI of 301+ (225.5 µg/m³). [3-10] Moreover, agricultural workers in California remain highly vulnerable to smoke

exposure due to wildfires.[11][12] In absence of a specific regulation, during recent wildfire events in California, some employers required workers to stay outdoors and breathe hazardous levels of air pollution without protection, even when public health authorities recommended that the public stay indoors.

In this standard, agricultural employers would be required to ensure respirator use when US EPA's AQI value for PM2.5 reaches "hazardous." Information on the AQI is readily available to the general public. The AQI for fine particle pollution (PM2.5) serves as a warning of hazardous air levels. When the AQI for PM2.5 value reaches "unhealthy," i.e., exceeds 150, employers are required to provide respiratory protection for voluntary use. However, when the AQI for PM2.5 value reaches "hazardous", i.e. exceeds 300, respirator use would be required for employees of agricultural employers. We agree with the requirement for agricultural employers to provide respiratory protection to employees for voluntary use when the AQI exceeds 150 and mandatory use when the AQI exceeds 300. At the same time, we also recommend the requirement extend to all employers.

The amendments coupled with our proposed language changes to the regulation address a potential gap where employers are not aware of the dangers to workers from wildfire smoke and do not provide sufficient protection in the work environment. We would like to express strong support for these proposed changes to the regulation.

I appreciate the Cal/OSHA consideration of CDPH's recommendations for strengthening California's heat illness and smoke prevention standards. Please contact me or the Chief of the Occupational Health Branch, Dr. Kristin J Cummings, at Kristin.Cummings@cdph.ca.gov if you have any questions.

Sincerely,



Erica Pan, MD, MPH, FIDSA, FAAP
Director and State Public Health Officer

- Enclosures:
1. CDPH Proposed Language for §3395 and §3396 Heat Standards (in red)
 2. CDPH Proposed Language for §5141.1 Protection from Wildfire Smoke Standard (in red)
 3. Reference list

Mr. Berg
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1. CDPH Proposed Language for §3395 and §3396 Heat Standards (in red)

§3395. Heat Illness Prevention in Outdoor Places of Employment

* * * *

(g) Acclimatization

- (1) All employees shall be closely observed by a supervisor or designee during a heat wave. For purposes of this section only, “heat wave” means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.
- (2) An employee who has been newly assigned to ~~a high heat area~~ an area where the temperature equals or exceeds 95 degrees Fahrenheit shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

The revised language in subsection (g)(2) clarifies the term, “high heat area,” to be consistent with the language in subsection (e) High-heat procedures.

- (3) For new employees and returning employees assigned to work areas where the temperature exceeds 80 degrees Fahrenheit, the employer shall either implement subsection (e) for the unacclimatized employee for 5 working days or ~~and~~ implement the following work schedule:

New subsection (g)(3) is from provisions in [OSHA, Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024) that allow the employer to implement requirements applicable at or above OSHA's “high heat trigger” instead of implementing the work schedules set forth below.

- (A) ~~For a new and returning employees who have been away for more than 14 days, the employee's exposure to heat shall be restricted to no more than 20% of the usual work duration on the first day of work, 40% on the second day of work, 60% on the third day of work, and 80% on the fourth day of work. If the employee experiences symptoms of heat-related illness at any acclimatization stage, the employee must remain at that stage until the heat-related symptoms resolve before proceeding to the next stage.~~
- (B) ~~For a returning employee who has been away for more than 14 days, the employee's exposure to heat shall be restricted to no more than 50% of the usual work duration on the first day of work, 60% on the second day of work, and 80% on the third day of work.~~

New subsections (g)(3)(A) and (g)(3)(B) will implement Labor Code section 6721. The percentage limits are from (1) requirements in [OSHA, Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024) and (2) recommendations in [NIOSH, Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments](#).

EXCEPTION to subsections (g)(3)(A) and (g)(3)(B): The requirements of subsections (g)(3)(A) and (g)(3)(B) do not apply if the employer can demonstrate the employee **consistently** worked under the same or similar conditions as the employer's working conditions **within for at least four work days of the prior 14 days**.

This EXCEPTION is based on the same exception in [OSHA, Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024).

§3395. Heat Illness Prevention in Outdoor Places of Employment

* * * * *

- (i) Heat Illness Prevention Plan. The employer shall establish, implement, and maintain, an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to representatives of the Division upon request. **The plan can be distributed electronically in lieu of hardcopies for employees who are able to receive electronic copies.** The plan shall be distributed to new employees upon hire, during heat illness prevention training, and to every employee at least once a year. Employers are not required to distribute the plan to an employee more than twice a year. The Heat Illness Prevention Plan may be included as part of the employer's Illness and Injury Prevention Program required by section 3203, and shall, at a minimum, contain:
- (1) Procedures for the provision of water and access to shade.
 - (2) The high heat procedures referred to in subsection (e).
 - (3) Emergency Response Procedures in accordance with subsection (f).
 - (4) Acclimatization methods and procedures in accordance with subsection (g).

The new language in subsection (i) will implement Labor Code section 6721. Electronic distribution (in lieu of hardcopies) of the employer's program would be permitted for employees able to receive electronic copies.

3396. Heat Illness Prevention in Indoor Places of Employment

* * * *

(g) Acclimatization

- (1) Where no effective engineering controls are in use to control the effect of outdoor heat on indoor temperature, all employees shall be closely observed by a supervisor or designee during a heat wave.
- (2) An employee who has been newly assigned to any of the following shall be closely observed by a supervisor or designee for the first 14 days of employment:
 - (A) In a work area where the temperature or heat index, whichever is greater, equals or exceeds 87 degrees Fahrenheit; or
 - (B) In a work area where the temperature equals or exceeds 82 degrees Fahrenheit for employees who wear clothing that restricts heat removal; or
 - (C) In a high radiant heat area where the temperature equals or exceeds 82 degrees Fahrenheit.
- (3) For new employees and returning employees, the employer shall either implement subsection (e)(2), except (e)(2)(A) engineering controls, for unacclimatized employees for 5 working days, ~~or and~~ implement the following work schedules:

New subsection (g)(3) is from provisions in [OSHA, Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024) that allow the employer to implement requirements applicable at or above OSHA's "high heat trigger" instead of implementing the work schedules set forth below.

- (A) For a new and returning employees who have been away for more than 14 days, the employee's exposure to heat shall be restricted to no more than 20% of the usual work duration on the first day of work, 40% on the second day of work, 60% on the third day of work, and 80% on the fourth day of work. If the employee experiences symptoms of heat-related illness at any acclimatization stage, the employee must remain at that stage until the heat-related symptoms resolve before proceeding to the next stage.
- (B) For a returning employee who has been away for more than 14 days, the employee's exposure to heat shall be restricted to no more than 50% of the usual work duration on the first day of work, 60% on the second day of work, and 80% on the third day of work.

New subsections (g)(3)(A) and (g)(3)(B) will implement Labor Code section 6721. The percentage limits are from (1) requirements in [OSHA, Heat Injury and](#)

[Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024) and (2) recommendations in [NIOSH, Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments](#).

EXCEPTION to subsections ~~(g)(3)(A) and (g)(3)(B)~~: The requirements of subsections ~~(g)(3)(A) and (g)(3)(B)~~ do not apply if the employer can consistently demonstrate the employee worked under the same or similar conditions as the employer's working conditions ~~within for at least four work days of the prior 14 days.~~

This EXCEPTION is based on the same exception in [OSHA, Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings](#) (proposed rule published on 8/30/2024).

3396. Heat Illness Prevention in Indoor Places of Employment

* * * *

- (i) Heat Illness Prevention Plan. The employer shall establish, implement, and maintain an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to representatives of the Division upon request. The plan can be distributed electronically in lieu of hardcopies for employees who are able to receive electronic copies. The plan shall be distributed to new employees upon hire, during heat illness prevention training, and to every employee at least once a year. Employers are not required to distribute the plan to an employee more than twice a year. The Heat Illness Prevention Plan may be included as part of the employer's Illness and Injury Prevention Program required by section 3203 or Heat Illness Prevention Plan required by section 3395 and shall, at a minimum, contain:
- (1) Procedures for the provision of water in accordance with subsection (c).
 - (2) Procedures for access to cool-down areas in accordance with subsection (d).
 - (3) Procedures, in accordance with subsection (e), to measure the temperature and heat index, and record whichever is greater; identify and evaluate all other environmental risk factors for heat illness; and implement control measures.
 - (4) Emergency response procedures in accordance with subsection (f).
 - (5) Procedures for acclimatization in accordance with subsection (g).

The new language in subsection (i) will implement Labor Code section 6721. Electronic distribution (in lieu of hardcopies) of the employer's program would be permitted for employees able to receive electronic copies.

2. CDPH Proposed Changes to §5141.1 Protection from Wildfire Smoke (in red)

§5141.1. Protection from Wildfire Smoke

(a) Scope . . .

(b) Definitions

(1) 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 500 301 and above	Hazardous

The change in the table above is necessary to ensure that section 5141.1 remains consistent with current law (Code of Federal Regulations [CFR] Title 40 Part 58) and methods used by the U.S. EPA to report air quality.

(2) 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.

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

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

(c) Identification of harmful exposures . . .

...

EXCEPTION: Subsection (c) does not apply if:

1. The employer assumes the current AQI for PM2.5 is greater than **300 (for agricultural employers) or 500 (for all other employers) 500** and complies with subsection (f) using that assumption; or

...

The change in exception 1 to subsection (c) above will implement Labor Code section 6721 and 40 CFR Part 58.

(d) Communication

(e) Training and instruction

(f) Control of harmful exposures to employees

(1) Engineering Controls

(2) Administrative Controls

(3) Control by Respiratory Protective Equipment.

(A) Where the current AQI for PM2.5 is equal to or greater than 151, but does not exceed **300 (for agricultural employers) or 500 (for all other employers) 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 PM2.5, 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 PM2.5 exceeds **300 (for agricultural employers) or 500 (for all other employers) 500**, respirator use is required. Respirators shall be used in accordance with section 5144, **except that a written respiratory**

protection program (5144(c)) and fit testing (5144(f)) are not required unless the AQI for PM2.5 exceeds ~~300~~ 500. The employer shall provide respirators with an assigned protection factor, as listed in section 5144, such that the PM2.5 levels inside the respirator correspond to an AQI less than 151.

The changes in subsections (f)(3)(A) and (B) above will implement Labor Code section 6721 and 40 CFR Part 58. However, a written respiratory protection program and fit testing are the only section 5144 requirements that will be excluded when the AQI for PM2.5 does not exceed 500. Medical evaluations will be required because medical experts have advised that not conducting medical evaluations of a person's ability to use a respirator could be extremely harmful to certain employees.

(4) Emergencies

Appendix A to Section 5141.1. Protection from Wildfire Smoke Measuring PM2.5 Levels at the Worksite (Mandatory If an Employer Monitors with a Direct Reading Instrument)

(a)

(b)

(c)

(d) The employer shall use the following table to convert the PM2.5 concentration to the AQI for PM2.5.

PM2.5 in Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)	Air Quality Index (AQI) Categories for PM2.5
0 to 12.0 9.0	0 to 50
12.1 9.1 to 35.4	51 to 100
35.5 to 55.4	101 to 150
55.5 to 150.4 125.4	151 to 200
150.5 to 250.4 125.5 to 225.4	201 to 300
250.5 to 500.4 225.5 and greater	301 to 500 301 and above

The change in the table above is necessary to ensure that section 5141.1 remains consistent with current law (40 CFR Part 58) and methods used by the U.S. EPA to report air quality.

(e)

3. References

1. Ashley, C. and J. Ferron, *Decay of Acclimation and Time for Re-Acclimation*. 2006, US Dept of Commerce National Technical Reports.
2. Daanen, H.A.M., S. Racinais, and J.D. Periard, *Heat Acclimation Decay and Re-Induction: A Systematic Review and Meta-Analysis*. *Sports Med*, 2018. **48**(2): p. 409-430.
3. Aguilera, R., et al., *Wildfire smoke impacts respiratory health more than fine particles from other sources: observational evidence from Southern California*. *Nat Commun*, 2021. **12**(1): p. 1493.
4. Cleland, S.E., et al., *Estimating the Acute Health Impacts of Fire-Originated PM(2.5) Exposure During the 2017 California Wildfires: Sensitivity to Choices of Inputs*. *Geohealth*, 2021. **5**(7): p. e2021GH000414.
5. Danielsen, P.H., et al., *Oxidatively damaged DNA and its repair after experimental exposure to wood smoke in healthy humans*. *Mutat Res*, 2008. **642**(1-2): p. 37-42.
6. Ghetu, C.C., et al., *Wildfire Impact on Indoor and Outdoor PAH Air Quality*. *Environ Sci Technol*, 2022. **56**(14): p. 10042-10052.
7. Liu, Y., et al., *Health Impact Assessment of the 2020 Washington State Wildfire Smoke Episode: Excess Health Burden Attributable to Increased PM(2.5) Exposures and Potential Exposure Reductions*. *Geohealth*, 2021. **5**(5): p. e2020GH000359.
8. O'Neill, S.M., et al., *A multi-analysis approach for estimating regional health impacts from the 2017 Northern California wildfires*. *J Air Waste Manag Assoc*, 2021. **71**(7): p. 791-814.
9. Pradhan, S. and E. Arneson. *Wildfire smoke exposure and health impacts for outdoor building construction workers in California*. in **Conference on Health and Safety in Building Construction**. 2023. Fort Collins, CO: Colorado State University
10. Wettstein, Z.S., et al., *Cardiovascular and Cerebrovascular Emergency Department Visits Associated With Wildfire Smoke Exposure in California in 2015*. *J Am Heart Assoc*, 2018. **7**(8).
11. Chunga Pizarro, C.A., et al., *Air Quality Monitoring and the Safety of Farmworkers in Wildfire Mandatory Evacuation Zones*. *Geohealth*, 2024. **8**(7): p. e2024GH001033.
12. Lee, G. and T. Beatty, *Wildfires and Agricultural Worker Movement*. *Journal of Association of Environmental and Resource Economists*, 2024.