



May 18, 2023

David Thomas, Chair  
Occupational Safety and Health Standards Board  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833

*Submitted by email to [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov).*

**Re: Heat Illness Prevention in Indoor Places of Employment, General Industry Safety Orders, New Section 3396**

Dear Chair Thomas and Members of the Occupational Safety and Health Standards Board:

The Natural Resources Defense Council (NRDC) is writing on behalf of our members and supporters in California in favor of strong, enforceable indoor workplace heat standards. We appreciate the efforts thus far of the Occupational Safety and Health Standards Board (the Board) to protect indoor workers from heat. As written, the standard proposed on March 31, 2023<sup>1</sup> has the potential to reduce preventable illnesses, injuries, and deaths among workers laboring in warehouses, factories, fast food restaurants, K-12 schools, and other hot indoor settings across the state.

However, several shortcomings must be addressed to fully protect workers and to ensure the rule is enforceable. We respectfully call on the Board to revise the proposed standard in the following ways:

- Use a heat index of no more than 80°F to trigger provisions in the heat standard for workers wearing regular clothing, and an even lower trigger for workers in vapor-barrier or other heat-trapping clothing or personal protective equipment.<sup>2</sup>
- Require **every** employer to monitor the temperature and to assess environmental risk factors. Employers should also be required to provide the monitoring and assessment records upon request to employees or their designated representatives in a timely matter, and at no cost.
- Provide more specific and protective language on cool-down periods and acclimatization protocols.

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- Require employers to offer trainings in multiple languages and formats as needed, to train employees more frequently, and to maintain training records.
- Ensure non-unionized employees can fully participate in creating safe and healthy workplaces, and that secondary employers are held accountable for protecting temporary and staffing agency workers.

More detail underlying each of these recommendations is below.

### **The Proposed Temperature Trigger Should Be Lowered**

Subsection (a)(1) sets 82°F as the temperature trigger for the indoor standard. According to Appendix A in the proposed standard, an air temperature of 82°F can correspond with heat index values ranging from 79°F to 95°F. This range is too high to use as a trigger for the rule. A recent meta-analysis of 570 occupational heat deaths in the United States found that 96 percent of civilian deaths and 99 percent of military deaths occurred at or above a heat index of 80°F. However, the study found that *any* heat index over 60°F could be dangerous, “especially when workers perform very heavy physical activity or wear clothing that inhibits heat dissipation.” Another recent study of nearly 92,000 traumatic injury claims in Oregon found that the incident rate ratio of injuries increased when the maximum heat index was 75°F or more.<sup>3</sup> And in Washington state, regulators have proposed to reduce the air temperature threshold of their outdoor heat rule from 89°F to 80°F for most clothing types,<sup>4</sup> after completing an analysis prompted by a June 2021 petition from stakeholders.<sup>5</sup>

The 82°F trigger is also inconsistent with the outdoor standard in Section 3395, which requires employers to provide shade when the air temperature exceeds 80°F. This discrepancy is particularly notable since the proposed indoor standard allows employers to offer outdoor cool-down areas.

Finally, it seems unnecessarily confusing to make every covered employer measure the air temperature *and* the heat index. The heat index will always be higher than the air temperature unless the humidity is extremely low. We recommend relying solely on the heat index to minimize confusion and the implementation burden on employers.

### **All Employers Should Monitor the Temperature and Assess Environmental Risk Factors**

Subsection (a)(2) sets several temperature-based conditions that determine whether indoor work areas are subject to the entire standard. However, employers that *hypothetically* do not meet any of those criteria—or who *assume* they meet the criteria—appear to be exempt from measuring the temperature as directed in subsection (e)(1).

Employers, workers, and Cal/OSHA inspectors *cannot be certain that a workplace is truly exempt without appropriate monitoring and record-keeping.*

This is particularly relevant in situations where employers have engineering controls such as air conditioning, but then fail to set the thermostat appropriately or to keep the units in good working order.<sup>6,7,8</sup> Furthermore, the exemption ignores the fact that California’s climate is rapidly getting hotter.<sup>9</sup> Indoor workplaces that are typically within “safe” temperature ranges now may not be within the next few years.

The exempted groups are also not required to assess environmental risk factors. Without that information, employers and workers cannot be sure that the cool-down areas are free of “environmental risk factors [that] defeat the purpose of allowing the body to cool,” as defined in subsection (b)(4).

### **Workers and Employers Need Mandatory Cool-down Periods**

Subsection (d) directs employers to “allow and encourage employees to take a preventative cool-down rest in a cool-down area when employees feel the need to do so.” This puts the onus on the workers, who may:

- Be subject to quotas or pay structures that disincentivize breaks;
- Have had direct or indirect experience in the workplace with discrimination or retaliation;
- Be unaware that they need a break because they are already experiencing confusion or abnormal thinking related to a heat-related illness.

At minimum, the indoor standard should include a high-heat procedure in which employers are required to maintain a written rest/work plan for workers engaged in moderate to heavy work or who are wearing heavy clothing or PPE.<sup>10</sup> Cool-down rests should also be part of paid work time, as in Oregon’s occupational heat standard.<sup>11</sup>

### **Workers and Employers Need More Detailed Acclimatization Protocols**

In a recent analysis of nearly 500 fatal or catastrophic heat-related incidents from 2005 to 2019 and more than 16,000 heat citations from January 2005 to May 2021, NRDC found that acclimatization was the least cited provision in California’s outdoor heat standard.<sup>12</sup> This is partly because the standard did not include acclimatization until 2015. However, the relative lack of acclimatization citations also may be related to vague language in the outdoor standard.

Like the outdoor standard, subsection (g) of the proposed indoor standard does not give employers a framework for how to effectively prepare their workers for heat. It also does not

require them to keep records on how and when they acclimatize employees. The Board should, at minimum, consider these key changes:

- In subsection (b)(1), include a more explicit statement about how acclimatization is lost over time without regular exposure to heat. Significant losses of acclimatization occur within a week<sup>13</sup> and most benefits are lost in about three weeks.<sup>14</sup>
- Mandate employers to go beyond “close observation” in subsection (g). Acclimatization schedules recommended by the National Institute of Occupational Safety and Health, the U.S. Military, and others require a phased approach to heat exposure, not just a watchful eye.<sup>15</sup>
- Require modified acclimatization protocols to apply to employees returning after an extended absence (e.g., two weeks), not just those who are newly assigned to specific work areas.

### **Trainings Should Occur More Frequently and Be Appropriate for Diverse Audiences**

It is not sufficient to provide heat trainings just once to employees during onboarding. Supervisory and non-supervisory employees should be given refreshers annually, when returning to work in the heat season after an extended absence, and ahead of excessive heat warnings from the National Weather Service.

The standard should also require employers to provide trainings in the language, vocabulary, and format understood by employees. Training should also be delivered by someone with sufficient language competency to answer follow-up questions from employees.

California’s outdoor heat standard does not currently have such requirements. As a result, many immigrant workers do not receive the kind of information they may need to save lives.<sup>16</sup> One way to address this is for employers to involve workers or their designated representatives in designing, implementing, and evaluating training programs.

Finally, employers should be required to prepare and maintain written or electronic annual training records that contain the name or identification of each employee trained, the dates of the training, and the name of the person who conducted the training.

### **The Standard Should Be More Protective of Non-Unionized, Temporary, and Staffing Agency Workers**

The Board should replace the term “union representatives” in the draft standard with “designated representative,” “authorized representative,” or “employee representative.” This small, but significant, change in language will help give non-unionized workers a stronger voice in workplace health and safety matters.

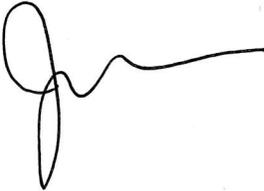
Finally, the indoor standard should reinforce that secondary employers are “fully responsible for the health and safety of the employees who are also employed by the primary employer” by referencing Cal/OSHA’s existing *Policy and Procedures Manual on Dual-Employer Inspections*.<sup>17</sup> This is important to ensure that temporary and staffing agency workers get the appropriate acclimatization protections and heat training.

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Thank you for the opportunity to comment on this proposal. California’s indoor workers have waited too long for protections from heat hazards, which are only getting worse as average temperatures rise and heat waves get more frequent and severe. We appreciate your efforts to ensure these workers make it safely through each shift, and welcome further engagement on this critical issue as you expeditiously work to finalize the rule.

Please do not hesitate to contact NRDC if you have questions or desire further information about aspects of this letter.

Sincerely,



Juanita Constible, Senior Climate & Health Advocate  
NATURAL RESOURCES DEFENSE COUNCIL

<sup>1</sup> California Regulatory Notice Register, “Title 8. Occupational Safety and Health Standards Board: Heat Illness Prevention in Indoor Places of Employment—Notice File Number Z2023-0321006,” Register 2023, no. 13-Z (March 31, 2023): 363-373, <https://oal.ca.gov/wp-content/uploads/sites/166/2023/03/2023-Notice-Register-Number-13-Z-March-31-2023.pdf>.

<sup>2</sup> Occupational Safety and Health Administration (hereinafter OSHA), “OSHA Technical Manual (OTM) Section III: Chapter 4,” updated September 15, 2017, <https://www.osha.gov/otm/section-3-health-hazards/chapter-4>.

<sup>3</sup> Richard Evoy et al., “The Impact of Wildfire Smoke and Temperature on Traumatic Worker Injury Claims, Oregon 2009–2018,” *Health Science Reports* 5, no. 5 (2022): e820, <https://onlinelibrary.wiley.com/doi/full/10.1002/hsr2.820>.

<sup>4</sup> Washington State Department of Labor & Industries (hereinafter L&I), “Rulemaking Activity at L&I: Outdoor Ambient Heat Exposure,” accessed May 16, 2023, <https://lni.wa.gov/rulemaking-activity/AO21-33/2133Proposal.pdf>.

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- <sup>5</sup> L&I, “Preproposal Statement of Inquiry: Ambient Heat Exposures in All Industries,” August 17, 2021, <https://lni.wa.gov/rulemaking-activity/AO21-33/2133CR101.pdf>.
- <sup>6</sup> Leticia Reyes, “It Was a Heat Wave. The AC Was Broken. We Were Dizzy. My Boss Blamed ‘Menopause’.” *San Francisco Chronicle*, July 8, 2021, <https://www.sfchronicle.com/opinion/openforum/article/It-was-a-heat-wave-The-AC-was-broken-We-were-16299378.php>.
- <sup>7</sup> Dianne de Guzman, “Fast-Food Employees Strike in Sacramento Over Broken Air Conditioner, High Temps in Store,” *Eater San Francisco*, May 20, 2022, <https://sf.eater.com/2022/5/20/23132545/burger-king-employees-strike-sacramento-broken-air-conditioner-high-temps>.
- <sup>8</sup> Kyle Stokes, “Some California Schools Skipped on Air Conditioning For Years. This Heat Wave is Just the Beginning of Their Problems,” *LAist*, September 5, 2022, <https://laist.com/news/education/los-angeles-unified-hvac-air-conditioning-heat-wave>.
- <sup>9</sup> “California Heat Assessment Tool,” accessed May 16, 2023, <https://www.cal-heat.org/>.
- <sup>10</sup> E.g., Brenda Jacklitsch, Kristin Musolin, and Jung-Hyun Kim, *Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments. Revised Criteria 2016*, National Institute of Occupational Safety and Health (hereinafter NIOSH), February 2016, <https://www.cdc.gov/niosh/docs/2016-106/default.html>.
- <sup>11</sup> Oregon OSHA, “Key Requirements: Oregon OSHA’s Permanent Rules for Heat Illness Prevention,” June 2022, <https://osha.oregon.gov/OSHAPubs/factsheets/fs91.pdf>.
- <sup>12</sup> Teniope Adewumi-Gunn and Juanita Constible, *Feeling the Heat: How California’s Workplace Heat Standards Can Inform Stronger Protections Nationwide*, NRDC, 2022, <https://www.nrdc.org/resources/feeling-heat-how-californias-workplace-heat-standards-can-inform-stronger-protections>.
- <sup>13</sup> Yuri Hosokawa et al., “Activity Modification in Heat: Critical Assessment of Guidelines Across Athletic, Occupational, and Military Settings in the USA,” *International Journal of Biometeorology* 63 (2019): 405-427, <https://link.springer.com/article/10.1007/s00484-019-01673-6>.
- <sup>14</sup> Margaret C. Morrissey et al., “Heat Safety in the Workplace: Modified Delphi Consensus to Establish Strategies and Resources to Protect the US Workers,” *GeoHealth* 5, no. 8 (2021), <https://doi.org/10.1029/2021GH000443>.
- <sup>15</sup> Yuri Hosokawa et al., “Activity Modification in Heat.”
- <sup>16</sup> Teniope Adewumi-Gunn and Juanita Constible, *Feeling the Heat*.
- <sup>17</sup> California Division of Occupational Safety and Health, Policy and Procedures Manual: Dual-Employer Inspections,” updated December 12, 2017, <https://www.dir.ca.gov/DOSH/Pol/P&PC-1D.pdf>.