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September 25, 2014

Dave Thomas  
Chair  
Occupational Safety and Health Standards Board  
Department of Industrial Relations  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833

Via email: [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov)

**Re: Proposed Amendments to the Heat Illness Prevention Standard (Title 8, section 3395)**

Dear Chairman Thomas and Members of the Standards Board:

Public Citizen, a nonprofit public interest group based in Washington, D.C., with more than 350,000 members and supporters, is writing in support of the comments filed by WorkSafe in response to the California Division of Occupational Safety and Health's (Cal/OSHA's) proposed revisions to California's heat stress rule.<sup>1</sup>

In 2011, Public Citizen; Farmworker Justice; the United Electrical, Radio and Machine Workers of America; and leading heat stress expert Dr. Thomas Bernard petitioned the U.S. Occupational Safety and Health Administration (OSHA) to establish a federal heat stress standard that would, for the first time, require specific protections from occupational heat stress for all indoor and outdoor workers (our petition was denied by OSHA the following year).<sup>2</sup>

Heat injury is completely preventable through a few simple interventions, including, among other things, mandatory rest breaks, shade protection, and adequate hydration. Unfortunately, in the absence of a federal standard, extreme heat has killed at least hundreds of workers and seriously injured tens of thousands more over the past two decades.<sup>3</sup>

Although our petition called for a federal standard modeled partly on California's heat stress standard, issued in 2006, we also noted the numerous deficiencies of California's rule and requested a federal standard that would significantly improve upon it.<sup>4</sup>

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<sup>1</sup> WorkSafe comments re: Heat Illness Prevention Standard (Title 8, section 3395). September 25, 2014.

<sup>2</sup> Public Citizen. Petition for a Heat Standard. Sept. 1, 2011. <http://www.citizen.org/petition-to-osha-for-a-heat-standard-2011>. Accessed September 24, 2014. [Hereafter referred to as "Public Citizen petition"]

<sup>3</sup> U.S. Department of Labor. Bureau of Labor Statistics. Occupational Injuries/Illnesses and Fatal Injuries Profiles. <http://data.bls.gov/gqt/InitialPage>. Pervasive under-reporting, especially among largely undocumented agricultural workers most affected by heat stress, means the true figures are much higher.

<sup>4</sup> Public Citizen petition, at 20.

We therefore applaud the recent proposals by Cal/OSHA that would make California's rule more protective. In addition, we endorse WorkSafe's suggestions for further necessary improvements to the rule that were not included within the proposed revisions. We note, in particular, the need to finally extend California's heat stress rule to indoor workers, many of whom are exposed daily to the dangers of extreme heat in warehouses, foundries, and other work sites. There is no medical difference between heatstroke induced by the sun or a furnace. Therefore, the same protections afforded to outdoor workers in the updated heat stress rule should be extended to all indoor workers.

Another critical provision concerns mandatory, periodic rest breaks on particularly hot days. Rest breaks are perhaps the most important component of any heat stress standard. The risk of heat injury increases dramatically in proportion to increases in temperature, humidity, and work intensity. Engaging in even light-intensity work without a rest break on particularly hot and humid days can raise the body's core temperature to dangerous levels, regardless of the amount of water, shade, and heat-protective clothing provided to workers. As noted in our petition to OSHA, both the American Conference of Governmental Industrial Hygienists (ACGIH)<sup>5</sup> and the National Institute for Occupational Safety and Health (NIOSH)<sup>6</sup> have developed detailed recommendations on the necessary frequency of such rest breaks, depending on the temperature, humidity, and workload to which the worker is exposed.

Cal/OSHA's proposal for a 10-minute rest break every two hours when the ambient temperature exceeds 95 degrees Fahrenheit is inconsistent with the recommendations of both ACGIH and NIOSH and far from an adequate protection against heat injury. For example, the temperature threshold fails to take into account humidity and sunshine levels (which both ACGIH and NIOSH account for through their use of a measure known as the wet-bulb globe temperature, or WBGT) and the intensity of work. When accounting for humidity and workload, both ACGIH and NIOSH recommend rest breaks of at least 15 minutes *per hour* for moderate-intensity work at a WBGT of approximately 80 degrees Fahrenheit,<sup>7</sup> which would be equivalent to a 95-degree-Fahrenheit day only when relative humidity levels fall below 15%,<sup>8</sup> far below the annual average across California.<sup>9</sup>

Furthermore, the mandatory rest breaks apply only to agricultural workers. While agricultural workers are at highest risk for heat-induced illness,<sup>10</sup> this is no reason to allow other industries to

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<sup>5</sup> American Conference of Governmental Industrial Hygienists (ACGIH). 2011 Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs). Heat Stress and Heat Strain. ISBN: 978-1-607260-28-8. [Hereafter referred to as "ACGIH TLVs and BEIs"]

<sup>6</sup> National Institute for Occupational Safety and Health. Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments. Revised Criteria 2013. <http://www.cdc.gov/niosh/docket/review/docket266/pdfs/heatHotEnvironmentsCritDoc-ExtRev-120913.pdf>. Accessed September 24, 2014. [Hereafter referred to as "NIOSH Criteria"]

<sup>7</sup> NIOSH Criteria, at 123-124; ACGIH TLVs and BEIs, at 215.

<sup>8</sup> Australian Government Bureau of Meteorology. Wet Bulb Globe Temperature Approximation. [http://www.bom.gov.au/info/thermal\\_stress/#wbgt](http://www.bom.gov.au/info/thermal_stress/#wbgt). Accessed September 24, 2014. Note that this chart assumes full sun and light wind. These values will therefore overestimate the WBGT on cloudy or windy days.

<sup>9</sup> University of Wisconsin-Madison, Center for Sustainability and the Global Environment. Average Annual Relative Humidity – North America. [http://www.sage.wisc.edu/atlas/maps/avgannrh/atl\\_avgannrh\\_nam.jpg](http://www.sage.wisc.edu/atlas/maps/avgannrh/atl_avgannrh_nam.jpg). Accessed September 24, 2014.

<sup>10</sup> Public Citizen petition, at 8-9.

work their employees continuously without rest breaks, even at the most extreme temperatures and humidity levels.

We hope the Standards Board adopts both the revisions proposed by Cal/OSHA and those suggested by WorkSafe in order to adequately protect the millions of workers in California who toil under extreme heat every day. In the continued absence of a federal heat stress rule, it is crucial that California's heat stress rule be sufficiently protective and thereby serve as a model for other state OSHA plans to implement similarly protective rules for their workers.

Thank you for considering our comments on this important worker safety issue.

Sincerely,

Sammy Almashat, M.D., M.P.H.  
Researcher  
Public Citizen's Health Research Group