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January 14, 2025

Mr. Doug Parker
Assistant Secretary of Labor
Occupational Safety and Health Administration
Submitted to: REGULATIONS.GOV

SUBJECT: Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings
Docket No. OSHA-2021-0009
RIN: 1218-AD39

Dear Mr. Parker:

On behalf of the American Public Health Association, a diverse community of public health professionals that champion the health of all people and communities, I write to provide comments on the proposed rule on heat exposure for outdoor and indoor workers (89 *Federal Register* 70698). These comments were developed in collaboration with the association's Occupation Health and Safety Section. Climate change is one of the biggest public health challenges we face. Higher daytime and nighttime temperatures in the U.S. are more common. The average number of heat waves per year has increased from two per year in the 1960's to six per year since the 2010s. Over this time period, the average duration in days and temperature of the heat waves have also increased significantly.[1]

We appreciate the Occupational Safety and Health Administration's efforts to raise awareness and provide guidance to employers, employees and other stakeholders about working in hot environments. We agree with the agency's determination that the risk of harm is significant and there are feasible means to address the risk. Heat-related illnesses, injuries, and deaths are a growing threat, but they can be prevented. Our comments are as follows:

Scope. We recommend two modifications to the scope of the standard. First, all provisions of the rule should be required of employers, including those with 10 or fewer employees. Workers risk of heat-related injuries and illnesses is the same no matter the size of the business. Second, indoor workers who perform so called "sedentary work activities" should not be excluded from the protections provided by the rule. The definition (1910.148(a)(2)(iv)) will be subject to wide interpretation, create confusion, complicate determinations of compliance, and litigation. Most important, those who perform their work largely in sitting or standing positions would not be protected in settings or situations in which air conditioning or ventilation systems are inadequate or out of service. It also fails to account for indoor workers who may be more vulnerable to heat because of their age, health conditions, use of particular medications or other risk factors.

[1] U.S. Environmental Protection Agency. (2024 June 27.) Climate change indicators: Heat waves. https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves

Heat injury and illness prevention plan. We support the provision for a written heat injury and illness prevention plan. We disagree however that employers with 10 or fewer employees would not need a written plan and would simply communicate their plans verbally. The process of preparing a written plan will assist small employers to understand and implement the standard. OSHA can provide step-by-step templates and other tools for small employers to help them develop a plan. Moreover, requirements for employers with 10 or fewer employees to have a written plan would be consistent with other OSHA standards, including Hazard Communication (29 CFR 1910.1200), Bloodborne Pathogens (29 CFR 1910.1030), and Respiratory Protection (29 CFR 1910.134). In addition, the proposed rule requires both large and small employers to conduct employee training. Mandatory topics for the training include information from an employer's HIIPP. Conducting effective training would necessitate that components of the plan be in writing, and translated for workers who use languages other than English.

An additional component of the HIIPP should be the name(s) of the Heat Safety Coordinator. The names should be kept current should the assignment for this responsibility be changed to a different individual(s).

Heat Safety Coordinator. As noted above, we oppose an exemption for employers with 10 or fewer employees to designate a Heat Safety Coordinator. Small employers should be required to have at least one individual with the responsibility and authority to ensure compliance with the employer's heat injury and illness prevention plan (HIIPP). OSHA notes in the preamble to the proposed rule that this individual could be a supervisor (89 *Federal Register* 70774) who already has other oversight responsibilities.

Wet Bulb Globe Temperature. OSHA should require employers to use the Wet Bulb Globe Temperature to measure the thermal load of heat on an individual. It is the measure recommended by the National Institute for Occupational Safety and Health since 1972 because it takes into account temperature, humidity and radiant energy. This NIOSH recommendation was restated in 2016 in its Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments.[2]

The efficacy of WBGT was demonstrated in field investigations by Ioannou and colleagues and reported in 2002.[3] The evaluation involved workers in nine countries who were employed in agriculture (n=60); construction (n=100); manufacturing (21); outdoor utility service (30); military (37); mining (n=60); tourism (n=64). They assessed the sensitivity and specificity of a variety of thermal stress indicators for assessing physiological strain among workers exposed to

[2] National Institute for Occupational Safety and Health. (2016). Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments. Publication Number 2016-106. https://www.cdc.gov/niosh/docs/2016-106/default.html

[3] Ioannou LG, et al. Indicators to assess physiological heat strain - Part 3: Multi-country field evaluation and consensus recommendations. *Temperature*. 2022 Apr 1;9(3):274-291. doi: 10.1080/23328940.2022.2044739.

heat and hot environments.[4] A variety of thermal stress indicators were evaluated based on 17 criteria (e.g., relationship with core, skin and body temperature; heart rate; level of dehydration). They found the WBGT, and the Universal Thermal Climate Index, best reflected the physiological strain experienced by workers exposed to high heat.[3]

Acclimatization and Rest Breaks. We concur with comments from the American College of Occupational and Environmental Medicine that the gradual acclimatization schedule described for new employees (1910.148(7)(B) also be required for returning employees.

The provision for paid rest breaks of at least 15 minutes every two hours (1910.148(f)(2)(i-iii)) should take effect at the initial heat trigger. Waiting until the heat metric is ≥ 90°F will impede early recognition of heat stress and implementation of steps to prevent more serious adverse health effects. In addition, an employer's schedule for rest breaks must also take into account workload. We recommend that OSHA adopt the NIOSH recommendations for work-rest cycles which appear in Table 6.2 of the agency's Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments.[2]

Training. We support the provisions for initial, annual and supervisor training (1910.148(h)(1) through (3)). Proposed Section 1910.148(h)(3) on supplemental training should include refresher training when extreme heat events occur that are atypical for the worksite locality. The training should include information about the employer's emergency response plan for workers experiencing signs and symptoms of heat-related illnesses. This would include, for example, the location of supplies and methods to cool an individual, and information about who has the authority and responsibility to contact emergency medical services and/or transport an affected individual. In addition, the regulatory text should also indicate that all training activities and written materials must be provided in the language(s) and at the literacy level of all employees.[5]

We recommend the following new provisions be added to the proposed rule:

Retaliation. We urge OSHA to add a provision in the proposed rule that expressly prohibits employers from retaliating against an employee who reports symptoms of heat-related harm, expresses concerns about exposure to heat or the adequacy of protections provided or asserts any other rights provided by the rule. As noted in the paper by Michaels and Barab (2020), the whistleblower provisions in the Occupational Safety and Health Act are very weak and do not provide comparable protections to other whistleblower laws.

Medical Screening. Both NIOSH and ACOEM recommend that employers implement a medical screening program to identify workers at high risk of heat-related illnesses and death. We urge OSHA to include a requirement for medical screening in employers' heat injury and illness

[4] Ioannou LG, et al. Indicators to assess physiological heat strain - Part 3: Multi-country field evaluation and consensus recommendations. *Temperature*. 2022 Apr 1;9(3):274-291. doi: 10.1080/23328940.2022.2044739.

[5] American Public Health Association. (2017). Ensuring language justice in occupational safety and health training. Policy Statement No. 20175. https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2018/01/18/ensuring-language-justice

prevention plan. We defer to the comments provided to OSHA by ACOEM on the appropriate components of the medical screening program.

Young workers. Employees who are age 17 years or younger (young workers) should receive supplemental protections in the rule. At or above the high heat trigger, the only appropriate method of observation for signs and symptoms (1910.148(f)(3) should be by a supervisor or heat safety coordinator. Young workers should receive age-appropriate training which recognizes risk factors related to their developmental stage and life experiences. These include differences from adults in risk perception (e.g., attitude of invulnerability), uncertainty about when to take action when the hazard or symptoms are ambiguous, and reticence about being singled out as a complainer, weak or other label.[6,7]

We appreciate the effort of OSHA staff to develop this comprehensive public health rule to prevent heat related injuries and illnesses. Thank you for providing the opportunity for us to contribute to it.

Sincerely,

Georges C. Benjamin, MD
Executive Director

[6] Turner N, Deng C, et al. Young workers and safety: A critical review and future research agenda. *J Safety Res*. 2022 Dec:83:79-95. doi: 10.1016/j.jsr.2022.08.006

[7] Hess, TM. Adaptive aspects of social cognitive functioning in adulthood: age–related goal and knowledge influences. *Social Cognition*. 2006; 24(3): 279-309. doi: 10.1521/soco.2006.24.3.279