January 26, 2022

The Hon. Douglas Parker
Assistant Secretary
Occupational Safety and Health
U.S. Department of Labor
200 Constitution Ave., NW
Washington, DC 20210

Re: OSHA-2021-0009 / Heat Stress ANPRM

Dear Assistant Secretary Parker,

The International Safety Equipment Association (ISEA) is the U.S. trade association for companies that design, test, manufacture and supply personal protective equipment (PPE). The association is the secretariat for American National Standards for dropped object prevention solutions (ANSI/ISEA 121); emergency eyewash and shower equipment (Z358.1); eye and face protection (ANSI/ISEA Z87.1), first aid kits (ANSI/ISEA Z308.1); gloves (ANSI/ISEA 107), head protection (Z89.1), high visibility apparel (ANSI/ISEA 107); gas detector tubes, limited use, and disposable coveralls.

ISEA members also include the nation's leading providers of heat stress solutions[1], including a wide range of wearable cooling garments and shade tents

Nationwide, the safety equipment industry supports **345,001** total jobs and generates economic activity of more than **$71.6 billion**. In addition, more than **111.1 million** workers across the U.S. are protected by the safety equipment our members produce and ISEA represents[2].

Below are the association's responses to key questions:

(11) What are current and best practices for protecting workers in various types of work arrangements, including temporary and multi-employer work arrangements hazardous heat exposure? (ISEA member insights about the types of companies using heat stress PPE might be our strongest comment and most useful insight to OSHA)

- Engineering controls, such as air conditioning or increased ventilation, increase evaporative cooling and can keep body temperatures at safe levels. In outdoor settings, shade is an important requirement to help reduce heat and sun exposure. However, particularly in high heat environments, this is not always an option given the infrastructure or inclusion of other PPE (i.e. impermeable suits, fire resistant clothing, etc.).

[1] https://safetyequipment.org/resources/buyers-guide/heat-stress-solutions/
[2] More information on this is available at https://safetyequipment.org/industryimpact/

- Administrative controls, such as changes to workloads or work schedules, can aid as a heat illness prevention step, reducing heat exposure. This is particularly important for new hires as they acclimate to a new environment. Other crucial administrative components include work rest cycles, water breaks, buddy system, education on heat stress prevention. When not required, these are often overlooked, especially in a productivity/reward work culture.

- Access to water. Some employers provide workers with hydration packs. Use of these devices allow employees to carry more than a liter of water as they work and complete their tasks on the job site. This prevents time away from their teams or the task. This also allows them to drink as needed. In addition, large workplaces install water stations where workers can refill their own water bottles. In these cases, the water stations are cleaned daily.

Alternatives to pallets of water bottles. Given the Administration's commitment to the environment, it seems OSHA could align with the President to urge alternatives to hydration practices that have negative environmental outcomes, especially placing pallets of plastic water bottles at a worksite. First, this clearly generates a vast amount of plastic waste. Second, the temperature of the water in the bottles rises to the ambient air temperate, which limits the cooling value of the water. Third, the bottles and their caps are often covered in dust likely to include silica and other toxic construction particulates. Other means of worker hydration are both economically and technologically feasible.

- Cooling PPE, when worn correctly and usage instructions are followed, can reduce the surface of the skin temperature and maintain core body temperature. Cooling PPE should be worn on areas where there are large blood vessels located near the surface of the skin (neck, arms, and core). Studies indicate cooling PPE coverage on the body is directly correlated to its effectiveness.

Some employers provide sources of cold water where cooling towels can be recharged. In addition, some employers provide washing stations with hot and cold running water. This not only allows for hand washing, but also places where cooling towels can be recharged.

ISEA is aware there is some criticism of phase-change jackets and vests. NIOSH, in 2016, stated once the cooling elements have discharged their cooling properties, the garment can become a source of heat stress. ISEA finds it hard to see how this could be the case in the field. Safe use instructions, training and common sense would prevent an end-user from continuing to wear a phase-change garment beyond its effective time frame.

- Use of high visibility clothing. In the summer, many employers provide t-shirts compliant with ANSI/ISEA 107 standard for high visibility safety apparel. These light-weight garments can be used for day and nighttime conspicuity as an alternative to ANSI/ISEA 107-compliant vests.

- Industries whose employees use fully encapsulating garments for protection from hazardous exposures often wear phase-change cooling vests to maintain an even core body temperature.

(27) Are OSHA's existing efforts and authorities adequate or effective in protecting workers from hazardous heat in indoor and outdoor work settings?

OSHA's current efforts have raised national awareness, but more must be done.

ISEA members often encounter employers who commit to following OSHA regulations, but not more. To protect the nation's workforce from heat stress hazards OSHA must propose a heat stress rule and publish it as final.

Heat prevention standards are workable. Following publication of California's Heat Injury Prevention rule, employers and employees worked cooperatively to implement it. "We and the agency have been successful in protecting more than 450,000 employees who work in California agriculture every day during our peak seasons," Bryan Little, Director of Employment Policy for the California Farm Bureau Federation, told the House Education and the Workforce Committee in 2019. In fact, Mr. Little noted the success of California's Heat Injury Prevention (HIP) rule reduced agricultural fatalities to "two heat-related deaths … between 2014 and 2016, one in 2017, and two deaths last year [2018],[3]" also stating that one death is one too many.

(28) What additional efforts or improvements should be undertaken by OSHA to protect workers from hazardous heat in indoor and outdoor work settings?

A foundation of required water, rest, shade, and basic awareness has proven to be a good first step at mitigating the effects of heat related illness. Additional considerations for PPE, specifically in indoor applications, could provide an improvement in heat stress prevention. Enforcement would drive compliance, even if OSHA uses the General Duty Clause as a heat stress enforcement tool while there is no specific standard.

(29) What are the gaps and limitations of existing applicable OSHA standards, as well as existing campaign, guidance, enforcement, and other efforts for preventing occupational heat-related illness in indoor and outdoor work settings?

While the Water, Rest, Shade campaign is a good first step. It provides details to employers on how to address each component more specifically, aiding in overall effectiveness.

[3] House Education and Labor Committee hearing, July 11, 2019, ""From the Fields to the Factories: Preventing Workplace Injury and Death from Excessive Heat" Testimony from Bryan Little. link (accessed Jan. 11, 2022)

- WATER: Location of work being done and proximity to water source. Water should be cold or cooler than ambient air.

- REST: Considerations should be made around the type of working being done, how strenuous it is and in turn, how often breaks should be taken.

- SHADE: There can be limitations in outdoor settings as work must be performed in areas where exposure to direct sunlight is unavoidable. Rest breaks in vehicles are not advised unless there is always adequate space for all employees. Providing a shade structure to block direct sunlight can reduce temperatures by 15ºf degrees.

(34) Would any elements of the state standards not be feasible to include at the Federal level?

California and Washington are the two states with outdoor heat stress standards.

Minnesota is the only state with an indoor hear stress standard. One challenge of the indoor heat stress standard is the requirement of the Wet Bulb Globe Temperature (WBGT) reading, which is a difficult measurement to accurately obtain. It also requires continuous readings in each work zone.

(61) Are certain controls that are more effective or more feasible than others? If so, which ones? Do effectiveness and feasibility of controls differ due to setting (indoor/outdoor, business size, arrangement of work, etc.)?

- See answer to question (11)

- Cooling PPE, when worn correctly and when use instructions are followed, can reduce the surface of the skin temperature and aid in maintaining core body temperature. Cooling PPE should be worn on areas where there are large blood vessels located near the surface of the skin (neck, arms, and core). Studies indicate cooling PPE coverage on the body is directly correlated to its effectiveness. An example being a vest that covers the core is more effective at cooling the body than a towel or bandana on the neck. For high heat indoor settings with limited air flow, or if an impermeable suit is worn, evaporative products are not ideal. In these work environments a phase-change product should be worn. While there is weight with a phase change vest and it adds and additional layer, it is can also help reduce or maintain the core body temperature, allowing for a safer work environment and increased productivity.

Additional comments

ISEA asks that record keeping requirements be updated to include heat stress. Even if non-mandatory, any type of data that OSHA can gather will help to inform the agency’s decisions and will supplement data from the Bureau of Labor Statistics.

Please contact me at 703-525-1695 x115 or at sgardner@safetyequipment.org with any questions or for more information about these comments.

Sincerely,

Stephen Gardner

Steve Gardner
Interim President and CEO