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Mr. Douglas L. Parker
Assistant Secretary of Labor for Occupational Safety and Health
U.S. Department of Labor
Occupational Safety and Health Administration
200 Constitution Avenue, NW
Washington, D.C. 20210

RE: Notice of Proposed Rulemaking: Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings (Docket No. OSHA-2021-0009)

Dear Mr. Parker,

The American Waterways Operators (AWO) is the tugboat, towboat, and barge industry's advocate, resource, and united voice for safe, sustainable, and efficient transportation on America's waterways, oceans, and coasts. Our industry is the largest segment of the nation's 40,000-vessel domestic maritime fleet and moves 665 million tons of cargo each year safely, sustainably, and efficiently.

On behalf of AWO's more than 300 member companies, we appreciate the opportunity to comment on the Occupational Safety and Health Administration's (OSHA) proposed Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings standard to set forth employer obligations and measures to protect employees from hazardous heat in their workplaces.

AWO members are deeply committed to ensuring the safety of all maritime industry employees, including shoreside workers whose working conditions are subject to OSHA jurisdiction. This commitment encompasses preventing heat-related illnesses and injuries, which is crucial to protecting employees' health. In the spirit of cooperation toward our shared goal of worker safety, AWO is pleased to offer these comments.

The maritime industry is a vital and unique sector of our nation's economy, with characteristics unlike those of other industries affected by the proposed standard. While other industries' work sites are fixed, maritime work sites are naturally transient, requiring shore-based vessel-support personnel to travel and meet vessels wherever they are operating that day. The location may depend on the cargo being transported, customer or regulatory requirements, or any number of other factors, including the weather. A work site may be a well-established port, terminal, or shipyard facility, or a less permanent and predictable location. This is especially true for vessels working the inland river system. Further, maritime industry employees often adhere to unconventional work schedules, working several days or weeks on followed by several days or weeks off.

The shore-based workers of the maritime industry that this proposed standard could impact include cargo tankermen, who handle a wide array of liquid bulk products, from essential fuels and petrochemicals to alternative, emerging fuel sources. Their work underpins the smooth operation of domestic and international trade and ensures that vital commodities reach their destinations safely and efficiently. These tankermen work on a "call schedule" and can find themselves dispatched to different work sites day-to-day. Other shoreside workers who could be affected by the proposed standard include shore-based engineers, maintenance teams, and company safety representatives, who conduct critical inspections and repairs or address maintenance concerns with little advance notice. Given the distinctive nature of these and other maritime industry operations, compliance with the proposed standard would be particularly burdensome and potentially infeasible, with no significant improvement in mitigating heat-related injuries and illnesses.

OSHA Jurisdiction

We want to take this opportunity to assert that per the United States Coast Guard's (USCG) Memorandum of Understanding (MOU) with OSHA,[1] OSHA does not have the authority to enforce the proposed standard in question with respect to seamen and employers of seamen aboard inspected vessels. According to CPL 02-01-047, a *seaman* is defined as an individual engaged or employed in any capacity aboard a vessel, who has a substantial connection (i.e., 30% or more of the seaman's time) with a vessel or fleet of vessels, and who contributes to the function of the vessel or to the accomplishment of its mission, which includes navigation of the vessel.[2]

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[1] "Memorandum of Understanding Between the United States Coast Guard U.S. Department of Transportation and the Occupational Safety and Health Administration U.S. Department of Labor Concerning their Authority to Prescribe and Enforce Standards or Regulations Affecting the Occupational Safety and Health of Seamen Aboard Vessels Inspected and Certified by the United States Coast Guard," March 4, 1983: https://www.osha.gov/laws-regs/mou/1983-03-04

[2] CPL 02-01-047 (5)

There exist situations where maintenance personnel, who would otherwise be considered shore-based workers, can be considered seamen.[3] If the employer can demonstrate 30% or more of the employees' time, including transit time to and from the vessels, is spent performing maintenance on an inspected vessel or an identifiable group of inspected vessels, the employees can be defined as seamen and thus not subject to the proposed standard in question.

Additionally, seamen on an inspected vessel might need to rig an uninspected vessel or barge for tow, and also may be required to serve as crew on the uninspected vessel for short periods when it is towed; however, since said seamen are performing work for an inspected vessel, they are still considered seamen when performing work activities on the uninspected vessel,[4] meaning they are not subject to this proposed standard's requirements.

Work Sites

The proposed standard would require employers to develop and implement a site-specific heat injury and illness prevention plan (HIIPP), comprising further requirements, for each work site at which their employees operate. OSHA defines a *work site* as "a physical location (e.g., fixed, mobile) where the employer's work or operations are performed."[5] Due to the unique conditions of the maritime industry, employers often oversee operations at or dispatch operators to numerous work sites simultaneously – in some cases, managing hundreds of fixed and transient locations – many of which have conditions beyond their control. If implemented, this provision and broad definition will require maritime industry employers to develop and effectuate highly individualized HIIPPs for each work site where their operations are performed, regardless of number, while concurrently monitoring compliance of facilities not within their control.

For example, an employer who oversees 30 different work sites may be required to develop and administer 30 HIIPPs synchronously, with each requiring site-specific information, including recording indoor and outdoor heat temperatures, conducting heat hazard evaluations and documenting identified hazards, providing a comprehensive list of work activities conducted at the site, and identifying and equipping a heat safety coordinator, among other provisions. For many maritime operations, such as those that call at customer-controlled petrochemical terminals or conduct vessel repairs, work site locations can change daily or hourly, making this requirement infeasible in practice.

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[3] CPL 02-01-047 (13)
[4] CPL 02-01-047 (14)
[5] 29 CFR § 1910 (70773)

Though the proposed standard does accede that if an employer oversees work sites that are "substantially similar" in nature, their HIIPP "may be developed by work site type rather than by individual work sites so long as any site-specific information is included in the plan,"[6] employers must incorporate this site-specific information, including a comprehensive list of work site activities, designated heat safety coordinators, workplace heat stress hazards, emergency contacts and procedures, and break area and water locations. Regardless of substantial similarity, in practice, including such expansive site-specific information means employers will still be required to produce individualized HIIPPs for each work site.

If employees are operating at a work site outside of their employer's control, the employer must incorporate "policies and procedures in their HIIPP to protect their employees entering these locations not controlled by the employer,"[7] including the locations of break sites and drinking water. Shore-based cargo tankermen are often dispatched to work site locations that are identified mere hours before a transfer is to occur, yet this provision assumes employers have awareness of site conditions and can obtain and communicate to employees the location of cooling sites and resources in advance. This requirement is operationally infeasible as it requires prior knowledge of work sites that cannot realistically be obtained and holds employers improperly liable for conditions beyond their scope, custody, and control.

Taken together, the proposed standard's HIIPP requirement and the associated requirements for each individual work site will pose significant operational burdens for maritime operations at large. To mitigate these burdens while also effectively minimizing risks of heat-related injuries and illnesses for employees, we recommend that maritime industry employers be allowed to create one heat illness and injury prevention policy applicable to all work sites under their control. This policy would encompass the company's tactics for preventing heat-induced ailments (i.e., hydration and breaks), identified heat hazards (e.g., direct heat exposure), and employee training. Implementing this change would ensure compliance with this provision is operationally realistic and achievable for maritime industry employers while ensuring effective, comprehensive measures to protect employee health and safety are in place. Additionally, creating a widely applicable policy rather than site-specific plans lessens the infeasibility of requiring employers to have prior awareness of work site conditions beyond their organization's control.

Training

Per the proposed standard, employers will be required to provide thorough training on heat, heat effects, and the employer's HIIPP at five main occurrences: (1) at the time of hire; (2) annually; (3) whenever any changes occur that affect employee exposure to heat; (4) whenever

[6] 29 CFR § 1910 (70773)
[7] 29 CFR § 1910 (70773)

any changes are made to the HIIPP; and (5) whenever a heat-related injury or illness transpires that results in time off, severe injury, or death to an employee.[8] Providing training at each of these contingencies would prove especially onerous to employers and could impede operations to a crippling degree. Assuming multiple new hires and changes to the HIIPP occur within a given year, employers would be required to provide numerous, expansive training sessions per year, which would prove not only burdensome for administrators but repetitive for employees and inefficient for operations to arguably no avail.

For the benefit of operational efficiency and assurance of thorough employee understanding, we recommend training on heat effects and the HIIPP be required: (1) at the time of hire, and (2) bi-annually. Employees, rather than being required to undergo re-training every time a change is made, should simply be notified of any changes made to the HIIPP and whenever a heat-related incident occurs. In the event a heat-related incident does occur, employers can include a link to a digital version of the HIIPP or supplemental training resources for employees to review in their notifications.

Monitoring

The proposed standard's monitoring requirements require that employees' exposure to heat be monitored with "sufficient frequency."[9] Employers may be exempted from monitoring if they provide suitably cool and readily accessible drinking water amounting to one quart per employee per hour.[10] Shore-based cargo tankermen, engineers, and maintenance personnel frequently work alone at work sites their employers do not control, making it infeasible for their employers either to frequently monitor them or to qualify for an exemption given that they are not present or able to anticipate work site conditions.

In addition, employers must update their monitoring plan to account for any increase in the possibility of heat exposure at the trigger levels whenever a change in production, processes, equipment, controls, or substantial temperature increase ensues. According to the proposed training requirements,[11] such an update would be a change to the HIIPP and would result in required re-training for all employees.

Depending on role and function, maritime employees' duties and exposure often change daily, not adhering to a set schedule or expected rate of heat exposure. The often-unpredictable demands of the functions determine the resulting rates of exposure. Furthermore, any changes in production, processes, equipment, controls, or substantial temperature increases are not

[8] 29 CFR § 1910.148 (71072)
[9] 29 CFR § 1910.148 (71070)
[10] 29 CFR § 1910.148 (71070)
[11] 29 CFR § 1910.148 (71072)

always possible to anticipate, and even if they can be anticipated, they may be of short enough duration to make it inefficient and excessive to update the HIIPP monitoring plan, especially if such changes affect multiple work sites.

At the high heat trigger point, employers must enforce a mandatory buddy system in which employees observe one another for signs of heat injury and illness, or enact a supervisory observation system, with no more than twenty employees observed at a given time by a supervisor or a heat safety coordinator.[12] This proposed system is infeasible for shore-based personnel and tankermen employers to implement because, as mentioned, most of these personnel work alone and unsupervised at varied, dispersed, and often remote work sites.

To make this requirement more practicable, we recommend that OSHA modify this provision to permit alternatives to direct observation where direct observation is impossible. The requirement that employers maintain two-way communication and contact employees every two hours is sufficient to mitigate the risk. If applicable, alternatives to the proposed buddy system could include wearable technology that allows employers to effectively monitor employees operating at distant work sites and alerts the employer if the employee becomes ill or incapacitated.

Acclimatization

The listed gradual acclimatization schedule[13] is a highly generalized, blanket recommendation that overlooks the differences in bodily fitness, health conditions, age, and other biological factors that influence one's needed time to acclimate; and, in overlooking these factors, poses potentially significant efficiency implications for operations and potential harm for employees who may need to acclimatize at a different rate, all while holding employers liable. People are likely already somewhat or fully adapted to their region's particular heat conditions as a result of already living and operating in that region, or, may live in areas hotter than the areas in which they work, and thus may not need to acclimatize at the provided rates over a five-day period.

Additionally, this provision fails to consider fluctuating, inconsistent temperatures and their effect on acclimatization protocols. For instance, if the initial or high heat trigger were to be met on a given day for a work site, but in the days following, the work site experienced a temperature dip, with temperatures all below the initial or high heat trigger, it would prove needless to then initiate the gradual acclimatization requirements as proposed in the standard; and, implementing the proposed rates of employee exposure once a heat trigger is met would severely impede operations. As many maritime tasks occur exclusively outdoors, it is not

[12] 29 CFR § 1910.148 (71071)
[13] 29 CFR § 1910.148 (71071)

reasonable to expect maritime employers to adhere to such a stringent acclimatization schedule that could impede operations for a week in practice.

Similarly, the provision's re-acclimatization requirements do not consider the unconventional work schedules of maritime employees, and if enacted as is, would subject employees to frequent and burdensome interruptions. Maritime personnel often work for weeks-long shifts, with similar periods of time off in between shifts. The proposed requirement specifies that "each employee who has been away (e.g., on vacation or sick leave) for more than 14 days" must either re-acclimatize by adhering to a 4-day exposure schedule or enact the procedures required at the high heat trigger, all during their first week back on the job.[14] If implemented, this provision would subject maritime personnel to frequent work interruptions, potentially between each shift block, at great cost to both the employees' ability to work and operational efficiency, with no demonstrable betterment of acclimation to heat conditions.

To ensure proper acclimatization based on employees' highly individualized needs that cannot be adequately addressed through the provided blanket rate of acclimatization, we recommend acclimatization be a component of the standard's HIIPP training requirement and that employees discern their own acclimatization rate. Educating employees to recognize signs of heat stress and determine an appropriate rate of acclimatization and re-acclimatization for themselves individually would not only more accurately reflect the specific physical conditions and needs of employees, but likewise ensure acclimatization can be safely attained in a manner more feasible to maritime operations.

Breaks

At the proposed high heat trigger, employers will be required to provide employees with a mandatory, fifteen-minute paid rest break at least every two hours in adequately shaded or air-conditioned areas and encourage employees to take breaks if needed at the initial heat trigger.[15] In the maritime industry, some jobs cannot be interrupted without compromising safety. Cargo tankermen cannot stop a liquid cargo transfer once initiated to take a rest break, as doing so would increase the risk of a pollution incident or other serious accident given the sensitive nature of transfer operations with flammable, pressurized cargoes. Furthermore, tankermen often operate independently, without licensed crew mates available to relieve them of duty and assume supervision of the transfer, should a rest break be mandated.

Considering these industry particularities, we recommend that fifteen-minute rest breaks be encouraged, not required, as operations allow; and, to ensure employees feel at liberty to take breaks when needed without fear of repercussions, we recommend OSHA revise the proposed

[14] 29 CFR § 1910.148 (71071)
[15] 29 CFR § 1910.148 (71071)

standard to require that breaks be implemented immediately, at an employee's judgment, if said employee feels present heat conditions pose an extreme, immediate impact to their health or safety.

Heat Illness and Emergency Response and Planning

Under the proposed standard, employers must develop and implement a heat emergency response plan (HEIR) as part of their HIIPP. Though the standard maintains only one HEIR would be required for each employer,[16] if the employer has multiple, distinct work sites, the HEIR will need to include specifications for each work site or work site type. Such specifications include emergency phone numbers, descriptions of how to transport employees to a location where they can be reached by an emergency medical provider, and clear and precise directions to provide emergency responders en route. Additionally, for employers overseeing numerous work sites that change frequently, the HEIR must "include a clear strategy to account for their changing locations and ensure directions to the work site are readily accessible when needed to provide to emergency dispatchers."[17]

Given the nature of maritime operations, it is too operationally burdensome to compile the required HEIR information for each work site, and ultimately redundant as maritime operations that fall within the scope of this proposed rule – those involving cargo operations, maintenance, or similar operations for moored vessels – must already provide employees with a vessel or facility emergency plan that includes contact information for local and national emergency responders who are well equipped to deal with various illnesses and injuries. Additionally, if the existing emergency plan is not readily available to a worker, employees are trained to call 911 rather than peruse the HEIR to find emergency personnel contact information. Further, it is impractical to require employers to direct emergency personnel to their work sites, when in all other emergencies, it is expected that first responders know how to navigate to locations within their district. Though OSHA maintains the proposed standard does not require an HEIR for each work site, its requirements necessitate gathering highly individualized information that may be difficult to obtain, making this provision, in practice, no different than creating a separate HEIR for each site.

Formulating an emergency response plan in the event of heat-related injuries or illnesses is indisputably of high importance to workplace safety; yet, as it stands, the HEIR provision fails to assess the unique conditions and locales in which mariners operate. To ensure proper heat emergency protocols are in place while lessening operational burdens, we recommend that in lieu of compiling and documenting site-specific information for the HEIR, employers develop their own heat emergency policies and provide thorough training of such protocols during each

[16] 29 CFR § 1910 (70794)
[17] 29 CFR § 1910 (70794)

instance of required training. Such training can include actions to be taken if an employee reports or experiences a heat-related injury or illness while working. Additionally, in the event an employee operating at a work site alone experiences a heat emergency, which the employer would be able to detect through our recommended use of monitoring technology, we recommend that this provision's language be amended to provide that continual, live communication (e.g., phone, handheld device, radio, etc.) is equivalent to continual in-person monitoring.

Recordkeeping

The proposed standard requires that employers measure and keep written or electronic records of indoor and outdoor work site temperatures for a minimum of six months.[18] In practice, employers must conduct on-site temperature recordings at each work site, including all indoor areas wherever reasonable expectation exists that temperatures may meet or exceed the initial heat trigger. Such extensive recordkeeping requirements will prove operationally burdensome to maritime operations, considering not only the length of time these records must be maintained, but the frequency one can fairly assume such measurements will need to be taken and the transient nature of maritime work sites – which have the potential to move from the Great Lakes to the Gulf of Mexico in less than a week's time, rendering maintenance of temperature recordings burdensome and lacking value for reducing the risk of heat illness or injury.

Additionally, clarification is needed as to the reporting requirements applicable for work sites not in the care, custody, and control of the employer. As previously noted, tankermen and shore-based maintenance employees might find themselves operating alone and without employer supervision at a work site outside of their control for short periods, rendering it burdensome, time-consuming, and ineffective to measure and record heat.

Trigger Points

The proposed trigger points of 80- and 90-degrees Fahrenheit are inadequately generalized suggestions and do not accurately reflect different regions' particular heat conditions. These triggers will subject regions where temperatures often exceed 80 degrees Fahrenheit to frequent work disruptions, while exempting cooler areas, where temperatures do not often exceed 80 degrees, to fewer interruptions. Further, this provision contradicts the nature of acclimatization, as workers are likely somewhat or fully adapted to their region's particular temperature conditions as a result of already living and working in the same areas. In addition, these trigger points do not consider contributing factors, such as wind, time of day, and humidity, which can lessen or exacerbate heat conditions.

[18] 29 CFR § 1910 (70799)

To more accurately reflect high heat temperatures within geographic regions under OSHA jurisdiction, we recommend that OSHA create a comprehensive regional heat map and determine heat triggers for each zone reflective of the average annual high heat temperatures within each zoning area. In practice, we recommend the United States Department of Agriculture's (USDA) Plant Hardiness Zone Map[19] as a model for what such a regional heat map could look like.

On behalf of AWO, thank you again for the opportunity to comment on the OSHA's proposed Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings standard. We greatly appreciate OSHA's consideration of our comments and would be pleased to answer any questions or provide further information to assist in your decision-making.

Sincerely,

Jennifer Carpenter
President & CEO

[19] 2023 USDA Plant Hardiness Zone Map