Phylmar Group® Environmental Health & Safety Social Responsibility

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California DOSH of Industrial Relations
1515 Clay Street
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RE: Heat Illness Prevention in Indoor Places of Employment 24 October 2018 Draft

Dear Ms. Neidhardt:

The Phylmar Regulatory Roundtable (PRR) appreciates this opportunity to provide comments on DOSH's 24 October 2018 revised draft proposal for Heat Illness Prevention in Indoor Places of Employment. PRR is a group of 36 companies and utilities; 15 of the member companies rank among the Fortune 500. Combined, PRR members employ more than 687,600 individuals in the U.S. and have annual revenues of more than $843 billion. PRR members are committed to improving workplace safety and health. Toward that end, PRR provides informal benchmarking and networking opportunities to share best practices for protecting employees. In addition, participating entities work together in the rulemaking process to develop recommendations to federal and state occupational safety and health agencies for effective workplace regulatory requirements.

PRR recognizes that prevention of heat illness in indoor work environments is a complex area and appreciates Division of Occupational Safety and Health (DOSH) staff for its efforts during this collaborative process and for considering PRR recommendations from four previous sets of comments filed in 2017 and 2018. Some PRR members have had procedures in place for years to protect employees from radiant heat sources; a number of members have implemented programs for employees working outdoors.

These comments were developed based on experience, guidance and recommendations of PRR members. Nevertheless, the opinions expressed below are those of PRR, and may differ from beliefs and comments of individual PRR members.

PRR comments and recommendations are listed under the appropriate sections as identified in the 24 October 2018 draft. Any revised and/or additional content PRR recommends is in **bold;** suggested deletions are in ~~strikethrough~~). We offer the following comments and recommendations for your consideration:

Subsection (a) Scope and Application

A. Recommendations for (a)(1)

CONCERN 1: PRR supports limiting the scope to the conditions of indoor work areas identified in (a)(2)(A)-(D). However, members with cleanrooms believe that the language is confusing with section (a)(1) followed by (a)(2) and they are uneasy about compliance officers interpreting the conditions differently than we understand the intent to be. PRR members believe that a revision in the text of this section will result in less confusion, particularly in the high-tech electronics and pharmaceuticals industries with temperature-controlled cleanrooms where employees wear clothing to protect the process. We believe it is important to clearly set forth that, regardless of the conditions identified in (a)(2)(A)-(D), indoor areas that do not reach the temperature identified in (a)(1), are **not** subject to this regulation.

Recommended Language for (a)(1):

(1) This standard applies ***only****-to* ~~*all*~~ *-indoor work areas…*

This article does not apply if the indoor work area is less than 85 degrees Fahrenheit regardless of the work area conditions as identified in (a)(2)(A-D).

Rationale for Recommendation:

a) Some PRR members in the high-tech electronics and pharmaceuticals industries operate indoor rooms (i.e., cleanrooms) that are kept between 68 - 72 degrees Fahrenheit (F) due to product quality specifications. Based on the structure of this subsection, it seems that the standard applies to indoor spaces below 82° F because one of the conditions listed later in (a)(2)(C) includes "clothing that restricts heat removal." This appears to include employers with temperature-controlled cleanrooms because workers wear polyester coveralls, enclosing hoods, nitrile gloves and booties that technically could restrict heat removal. We understand from DOSH staff that the intent is that workspaces under the temperature threshold identified in (a)(1) would not be subject to this standard. However, concern about potential confusion interpreting the language remains.

b) PRR members believe that ambiguity is created by the draft language of (a)(2). In most regulations, either each item of the scope stands alone, or the second sentence clarifies the intention. Typically, we see a broad scope in the first sentence, with the second sentence clarifying that the article does not apply elsewhere. For example, please see General Industry Safety Orders Section 3292 (General Physical Conditions and Structures Orders, Article 6, Powered Platforms and Equipment for Building Maintenance); and Section 4189 (Points of Operation and Other Hazardous Parts of Machinery, Article 55, Power Operated Presses) below as examples (text in bold demonstrates the verbiage and structure we are referring to):

§3292. General.
Scope.
(1) This article covers powered platform installations permanently dedicated to interior or exterior building maintenance of a specific structure or group of structures. ***This article does not apply to suspended scaffolds used for construction work and covered under Article 23 of the Construction Safety Orders.***

§4189. Scope.
The requirements of this article apply ***only*** *to those mechanically or hydraulically powered machines that shear, punch, form, or assemble metal or other material by means of tools or dies attached to slides, commonly referred to as power operated presses.* ***Pneumatic power presses (as defined in section 4188), hot bending and hot metal presses, forging presses and hammers are excluded from the requirements of this article.***

c) Finally, members believe that additional clarity in this section will assure that employers and compliance officers understand the intention of the scope, resulting in more effective and consistent compliance and reducing unnecessary appeals.

CONCERN 2: PRR members persist in their strong support of the scope in the DOSH 16 May 2018 draft which identified the trigger temperature to be 85-degrees Fahrenheit (F). PRR believes that responsible public policy dictates that the regulation should be based on the workplace risk of heat illness, and that setting a trigger that is within the range of temperatures recommended by various governmental agencies and standard-setting bodies is inappropriate.

Recommended Language for (a)(1)

(1) This standard applies ***only*** *~~to all~~ indoor work areas where the temperature equals or exceeds* ***85*** *~~82~~ degrees Fahrenheit…*

Note: PRR recommends deleting all references to 82 degrees Fahrenheit and instead using 85 degrees Fahrenheit.

Rationale for Recommendation:

a) Maintaining the threshold at 82° F as proposed in this draft for all indoor work areas will challenge the power grid in California and is not a sustainable energy practice. Flex Alerts are periodically issued by the California Independent System Operator (ISO), a nonprofit, public benefit corporation that operates the high voltage grid in California and in parts of eight western states. The ISO does not own transmission lines or power plants, but does tell power plants when to generate electricity, how much to generate and where the electricity will be delivered. The ISO is regulated by the Federal Energy Regulatory Commission. The Flex Alert summer

recommendation to save energy and prevent service interruptions for residences and business is to set thermostats to 78º F or higher.

b) In addition, maintaining the threshold at 82° F does not allow a reasonable temperature differential from recommended indoor temperatures issued by several responsible sources: see list and references (i) – (iii) below, to trigger assessment and control measures set forth in subsection (e) and potential violations of the Indoor Heat Illness regulation. Many employers have followed these guidelines for years. Since 82° F (as recommended by the ASHRAE Standard) is within the recommended range of temperatures, an 82 degree trigger is not reasonable; 85° F would allow for a +3 degree temperature differential, a more appropriate regulatory threshold.

(i) The U.S. DOSH of Energy (DOE) recommends maintaining thermostats at 78° F in the summer.
(ii) The CDC/NIOSH, recommends indoor operative temperatures range from 75º - 80.5º F in the summer.
(iii) The **ASHRAE Standard** 55-2013, Thermal Environmental Conditions for Human Occupancy, notes that for thermal comfort purposes, temperature could range from between approximately 67 and 82 °F.

CONCERN 3: As previously recommended, and as included in DOSH's 16 May 2018 draft, PRR persists in recommending limiting the scope of the requirement to the nine industries identified in the DOSH's previous draft where the risk of heat illness from indoor work environments has been documented. The enabling legislation contemplates this, and specifically permits DOSH to limit its rule to "certain industry sectors."

Recommended Language for (a)(1):

*(a)(1) This standard applies…**in the following industries, operations, or locations when employees are present:***

(A) Agriculture;
(B) Commercial and institutional kitchens;
(C) Commercial and institutional laundries;
(D) Construction;
(E) Manufacturing;
(F) Mining;
(G) Oil and gas extraction;
(H) Steam plants, geothermal plants, steam tunnels, and boiler rooms;
(I) Warehousing and storage

Rationale for Recommendation:

a) PRR believes it is important that DOSH to craft risk-based regulations; conscientious public policy is rooted in establishing regulatory requirements for work groups at risk, not in creating blanket requirements for all employers.

b) Limiting the scope to industries already identified by DOSH accomplishes the goal of focusing on those work environments where there is a risk of heat illness from exposure to high heat. We continue to believe that requiring *all* employers to prioritize indoor heat illness prevention trivializes the serious risk of heat illness in those environments where there is a hazard. We believe that limiting the scope will go far to protect workers at risk of heat illness in indoor work environments and educate employers who have not been aware that the risk of heat illness needs to be addressed. It will also ensure that company resources are not wasted on indoor workplaces where there is virtually no chance that heat illness will occur.

c) PRR members are concerned the regulation may actually negatively impact other safety efforts by the employer. Requiring employers to implement a program to address a hazard that employees do not experience and do not see ever occurring, takes attention away from other workplace risks. Asking workers to participate in and perform tasks that support regulatory compliance but do not benefit their well-being may negatively impact the positive safety culture and trust they have in the system. We believe that the regulation should target high risk industries and activities where hazard and risk mitigation will make a difference.

d) This approach aligns with multiple government agencies that have released data identifying industries where there is a risk of heat illness from work environments. For example:

   i. Bureau of Labor Statistics: Occupational Injuries and Illnesses from Environmental Heat released data on non-fatal occupational injuries and illnesses (reported for 2015) caused by exposure to environmental heat that identified the following industries of being high risk for heat illness:
      1. Transportation and Material Moving (720 incidents)
      2. Production (390 incidents)
      3. Protective Services (350 incidents)
      4. Installation, Maintenance, and Repair (330 incidents)
      5. Construction and Extraction (280 incidents)
      6. Building and Grounds Cleaning Maintenance (150 incidents)
   ii. United States DOSH of Labor (U.S. DOL), Occupational Health and Safety Administration (OSHA), has also identified high risk industries and provides industry specific resources to aid in protecting workers from occupational heat exposure
      1. Agriculture
      2. Baggage Screeners
      3. Construction
      4. Emergency Response and Cleanup
      5. Health Care
      6. Military
      7. Oil and Gas

iii. Centers for Disease Control (CDC) and The National Institute for Occupational Safety and Health (NIOSH) has identified the following **indoor** workers to be at risk for heat stress:
    1. Firefighters
    2. Bakery workers
    3. Farmers
    4. Construction workers
    5. Miners
    6. Boiler room workers
    7. Factory workers

iv. California Code of Regulations, Title 8, Section 3395 currently requires the following industries to maintain a Heat Illness Prevention Program for outside operations:
    1. Agriculture
    2. Construction
    3. Landscaping
    4. Oil and gas extraction
    5. Transportation or delivery of agricultural products, construction materials or other heavy materials (e.g. furniture, lumber, freight, cargo, cabinets, industrial or commercial materials), except for employment that consists of operating an air-conditioned vehicle and does not include loading or unloading.

CONCERN 4: PRR members have many remote, unstaffed structures that were built to protect equipment; these would be considered "indoor" as currently defined in subsection (b) and subject to this rule, even though an employee may be present only once a year. These structures, e.g., pump houses, rate control stations, electrical storage buildings, and equipment sheds, provide security, noise attenuation, protection from inclement weather, and aesthetics. The expense of implementing engineering controls and will not provide commensurate employee protection.

Recommended Language for (a)(1) EXCEPTION:

EXCEPTION: Isolated unstaffed buildings such as pump houses, rate control stations, electrical storage facilities, and equipment sheds constructed to protect equipment, and not intended for continuous human occupancy, are not subject to this Standard and are regulated under 3395.

Rationale for Recommendation:

a) PRR members have these unstaffed buildings (e.g., pump houses, electrical substations) that are operated remotely. Some members have hundreds, while others have more than 1,000 of these types of units across the state. Most of these are substations and utility buildings, typically the size of a standard conference room. For security, noise attenuation, and aesthetic reasons, these buildings are usually

enclosed with walls, roof and a door (thus qualifying them as "indoor" under the current definition). They do not have ventilation or cooling systems because they are not staffed for the vast majority of the time. (Some may have an exhaust fan to move air but because pumps are typically electric there are no exhaust issues.) On occasion (one day every year or so), an electrician, mechanical technician or even a painter may visit these facilities to perform preventative maintenance or trouble-shoot a problem. On these occasions, the worker is usually solo and has been trained in outdoor heat illness prevention as required by Section 3395.

b) As stated above, a worker is rarely present at these types of facilities. The majority of the times when workers are there, they operate solo and there is no supervisor or designee present. Without a supervisor or designee, the employer cannot ensure that the operation is being conducted in accordance with the requirements of (c)-(g). This will result in the employee being solely responsible for *all* subsections of this standard, beyond conducting and recording the temperature or heat index measurements as required in (e)(1)(A)-(B). PRR members believe that this work situation is outside the scope and intent of the Indoor Heat Illness Prevention Plan and puts them at risk of violating the standard when employees are already protected under Section 3395. Members are particularly concerned about providing subsection (d) Access to Cool-Down Areas; and implementing subsection (e)(2)(A)-(C) control measures. Members believe that the current language would require them to send out a professional Emergency safety and health professional, necessitating additional budget for full-time employees and could impair or delay the operation.

c) The only way employers can ensure compliance in this situation is to require and train all workers who may occasionally work at these substations to be responsible for all provisions. One PRR member estimates that 250 of these types of buildings may be visited by a range of employee types (e.g. field technicians, painters, electricians) a few times every few years; this will require training and employer internal oversight of thousands of employees. In addition to being costly with no benefit to worker health or safety, this is an unreasonable request to place on the workers, especially since these work groups are already trained on the hazard of heat and measures to protect themselves. Doing this also has the potential to require contract negotiation and a change in employee job classifications for multiple employee groups such as field technicians, painters, and electricians, which is burdensome and time consuming for the employer, employee and representatives. PRR members believe that considering these buildings as part of the scope is inappropriate.

d) Due to the high number of isolated and unstaffed structures that have a low probability of having workers attend to them, requiring employers to implement control measures in (e)(2)(A) – (C): Engineering and Administrative controls, and Personal heat-protective equipment) in these buildings is unreasonably burdensome, not practical, and will not result in employee protection. Limited resources should be spent where risk is high.

e) Workers currently servicing these remote service areas and facilities are already trained in Heat Illness Prevention as required in 3395; PRR members believe this has proved effective in preventing heat illness and is the best approach. In addition, some PRR members currently have what is called a "Solo Worker Program" that helps protect the health and safety of employees performing tasks by themselves. The Heat Illness Prevention Plan under 3395 is a large component of the program, in addition to provisions that allow the employer to know where employees are located and supports two-way communication as needed to ensure safety. PRR members are confident that participants in the Solo Worker Program are well aware of the need for water, shade, rest from the heat, and to call in when they are not feeling well.

CONCERN 5: PRR members believe that the location of the exception, following (a)(1), leads one to believe that the exclusion requiring that workers are present is not applicable to subsection (a)(2). We recommend that DOSH move it from following subsection (a)(1) to below section (a)(2) to apply to both (a)(1) and (a)(2). Also, PRR members believe that the conditions in (a)(2) (A)-(D) apply only when employees are present and recommends that the regulation clarify this.

Recommended Language for subsection (a)(2) Exception:

(2) Conditions under which an indoor work area is subject to all provisions of this standard, including subsection (e):

(A) The temperature equals or exceeds 90 degrees Fahrenheit; or
(B) The heat index equals or exceeds 90 degrees Fahrenheit; or
(C) Employees wear clothing that restricts heat removal; or
(D) Employees work in a high radiant heat work area.

EXCEPTION: The employer is not required to comply with subsection (e), Assessment and Control Measures, when employees are not present; or if the indoor work areas do not contain any of the conditions listed in subsection (a)(2).

Rationale for Recommendation: PRR members believe that this revision further clarifies DOSH's intent with regard to the scope of the regulation; i.e., that it applies only where workers are present.

B. Recommendation for (a)(3):

CONCERN 1: PRR recommends deleting this subsection because it is unnecessary verbiage as an Order to Take Special Action is an enforcement tool that is available to DOSH.

Rationale for Recommendation: Employers are well aware that an Order to Take Special Action in an industry or operation not currently covered by the scope of a standard obviously expands the scope to include the employer(s) to whom DOSH issued an Order to Take Special Action.

C. Recommendation for (a) NOTES:

CONCERN 1: PRR suggests deleting (a)(4) NOTE NO. 2, as it is more likely to create confusion than provide clarity. Some may erroneously believe that the prohibition on retaliation or discrimination does not extend to other Title 8 regulations where it is not specifically stated.

Rationale for Recommendation:

This note states that it is a violation of Labor Code sections 6310, 6311, and 6312 to discharge or discriminate in any other manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees. PRR agrees with Chief Sum's point, made at the 8 February 2018 Advisory Committee meeting, that the Labor Code already prohibits discrimination or retaliation in any form, and adding a provision so stating to individual regulations may lead some to wrongly conclude that there is no prohibition on discrimination or retaliation in regulations where it is not specifically stated.

PRR members believe that employees should not only be protected against retaliation, but that employers would be smart to offer incentives to employees for reporting hazards, as many PRR members do, so that hazards are acted upon before an injury occurs. We are concerned that the language implies that unless this Note is included in a regulation, employees are not protected from discrimination or retaliation for exercising their rights.

CONCERN 2: There are situations when employees work alone, and no supervisor or designee is available to implement the assessment or control measures. We believe that certain steps should be taken by employees in such cases, and recommend that the regulation address these types of situations.

Recommended Language for NOTE No. 2:

NOTE NO. 2: When employees are working alone and a supervisor or designee is not present, the employer should ensure that workers are aware of the following: 1) the potential exposure to heat when working alone; 2) the procedures to follow when indoor temperatures rise and present a health risk; and 3) the personal responsibility employees have in these situations.

Rationale for Recommendation:

a) When employees work by themselves and a supervisor is not present, subsections (c)–(g) are nearly impossible to comply with. PRR members believe that this regulation has been developed through a limited lens focused on fully staffed, traditional indoor operations, and that the proposed standard does not allow employers (and employees) to manage one-off and atypical indoor work

environments. PRR recommends that these situations should be addressed in (a) Scope and Application.

b) PRR is aware of many California employers, both large and small, that have employees who work by themselves. This can happen regularly or on occasion and is quite common after normal business hours (sometimes without a supervisor's knowledge). During these times, specifically after business hours and on weekends, a facility operator (who is not the employer if the space is leased) will increase the temperature on the HVAC systems. (This not only reduces cost but is a sustainable business practice.) In addition, in order to efficiently manage and control indoor temperatures, many facility operators restrict access and limit who has control of the HVAC system, not only after hours but at all times; this requires any adjustments to be requested (employees working after hours and/or, on the weekends would need to make this request in advance). In such a situation, it is virtually impossible for the employer to administer the provisions of this standard. The only way for employers to ensure compliance with the temperature threshold will be to require that all facilities maintain an indoor temperature of less than 82° F at all times (which will challenge the California power grid and is not a sustainable energy practice). In addition, employers cannot and should not limit employee access to facilities after hours or require a constant "buddy" whenever an employee is working indoors. PRR members believe that the only way to protect employee health and safety is to ensure workers are: (1) aware of the potential exposure to heat when working alone; (2) trained on the procedures to follow when indoor temperatures rise; and (3) understand the personal responsibility they have in these situations.

The following encompasses all of PRR's recommendations for subsection (a) Scope and Application:

(a) Scope and Application:

(1) This standard applies only to indoor work areas where the temperature equals or exceeds 85 degrees Fahrenheit in the following industries, operations, or locations when employees are present:

(A) Agriculture;
(B) Commercial and institutional kitchens;
(C) Commercial and institutional laundries;
(D) Construction;
(E) Manufacturing;
(F) Mining;
(G) Oil and gas extraction;
(H) Steam plants, geothermal plants, steam tunnels, and boiler rooms; Warehousing and storage

This article does not apply if the indoor work area is less than 85 degrees Fahrenheit regardless of the work area conditions as identified in (a)(2)(A-D).

EXCEPTION: Isolated unstaffed buildings such as pump houses, rate control stations, electrical storage facilities, and equipment sheds constructed to protect equipment, and not intended for continuous human occupancy, are not subject to this standard and are regulated under 3395.

(2) Conditions under which an indoor work area is subject to all provisions of this standard, including subsection (e):

(A) The temperature equals or exceeds 90 degrees Fahrenheit; or
(B) The heat index equals or exceeds 90 degrees Fahrenheit; or
(C) Employees wear clothing that restricts heat removal; or
(D) Employees work in a high radiant heat work area.

EXCEPTION: The employer is not required to comply with subsection (e), Assessment and Control Measures, when employees are not present; or if the indoor work areas do not contain any of the conditions listed in subsection (a)(2).

NOTE NO. 1: The measures required here may be integrated into the employer's written Injury and Illness Program required by section 3203, the employer's written Heat Illness Prevention Program required by section 3395 or maintained in a separate document.

NOTE NO. 2: When employees are working alone and a supervisor or designee is not present, the employer must ensure that workers are aware of the following: 1) the potential exposure to heat when working alone; 2) the procedures to follow when indoor temperatures rise and present a health risk; and 3) the personal responsibility employees have in these situations.

Subsection (b) Definitions

PRR members support the language in the following definitions: acclimatization, cool-down area, environmental risk factors for heat illness, globe temperature, heat illness, heat index, personal risk factors for heat illness, preventative cool-down rest, radiant heat, relative humidity, shielding, and temperature.

PRR members also support the revised definition of "Clothing that restricts heat removal" which includes the following exception:

"EXCEPTION: "Clothing that restricts heat removal" does not include clothing with flame or arc-flash resistant properties demonstrated by the employer to be all of the following:
(1) Constructed only of knit or woven fibers; and
(2) Worn in lieu of the employee's street clothing; and
(3) Worn without a full-body thermal or moisture barrier.

Adding this "EXCEPTION" will help to ensure that people do not interpret the section (2) of the definition that reads "clothing that is designed to protect the wearer from a chemical, biological, radiological, or fire hazard" as including exposure to electric arc and flame, such as during electrical faults. Currently work shirts, pants and coveralls with flame-resistant (FR), arc-rated (AR) properties are worn extensively in various industries. These rated garments are manufactured of fabrics that are similar to unrated garments in water, vapor and air permeability and heat loss. We believe that FR/AR clothing should not be included in the definition of "clothing that restricts heat removal" because *FR/AR shirts, pants and coveralls do not restrict heat removal beyond other typical unrated work shirts, denim jeans and coveralls.* Also, most full-body clothing worn for protection against chemical, biological, radiological or fire hazards is worn *over* daily wear clothing and those multiple layers would restrict heat removal. However, FR/AR shirts/pants or coveralls worn as an outer layer do not restrict heat removal any more than typical work clothing does.

This is consistent with the National Institute for Occupational Safety and Health (NIOSH) publication entitled *Criteria for a Recommended Standard - Occupational Heat and Hot Environments (DHHS 2016-116)* which states: "Studies of clothing materials have led to the conclusion that the insulation provided by clothing is generally a linear function of its thickness. Differences in fibers or fabric weave have only very minor effects on insulation, unless these directly affect the thickness or the vapor or air permeability of the fabric."

Breathable flame-resistant clothing is not a significant contributor to heat stress and can be helpful in mitigating heat stress. According to NIOSH, workers should be encouraged to wear clothing that is breathable and loose-fitting.

The revised definition better defines clothing that traps water and heat and to prevent the inadvertent inclusion of FR/AR work clothing that is like other typical work clothing. That being said, in response to section (a)(2)(C), PRR members suggest additional clarification to the definition of "clothing that restricts heat removal." Please see below for detail.

Recommendations for subsection (b) Definitions

D. Recommendation for "Clothing that Restricts Heat Removal"

CONCERN: In response to DOSH adding "clothing that restricts heat removal" in section (a)(2)(C) as a condition triggering compliance with (e) Assessment and Control Measures, PRR members are concerned about part (3) of the definition: "Designed to protect the wearer or the work process from contamination" because it does not differentiate among different types of clothing. For example, lightweight clothing which does not add to the heat burden on the body is often provided to workers to protect a process. PRR members therefore suggest an exemption to the definition.

Recommended Language:

(3) Designed to protect the wearer or the work process from contamination.

EXCEPTION: Light weight protective clothing that is used to maintain cleanliness and contamination standards in indoor facilities where workers are not exposed to high radiant heat sources are not subject to provision (e) in this Standard.

Rationale for Recommendation:

a) Lightweight protective clothing is used in cleanrooms, and depending upon the cleanliness levels, smocks, masks, hair covering, and even shoe protectors are worn to prevent contamination in ultra-fine cleanrooms. While these cleanrooms are typically climate controlled, in some cases there may be working components in the areas that generate heat, so it is conceivable that selected areas of these rooms may be above 82 degrees Fahrenheit for short periods of time. These types of protective clothing do not significantly retain heat to a level that warrants the measures as required in subsection (e).

b) Some PRR members have indoor operations (e.g., cleanrooms) that are not high risk, heat intensive operations, and because of their design and engineering control measures, will never reach 90° F, but the employees working in them wear light-weight protective clothing to maintain cleanliness standards. PRR members believe that these types of operations should not be subject to the Assessment and Control Measures in (e). The current definition would require electronic manufacturing, assembly equipment or component manufacturing, medical equipment and drug manufacturing operations to be covered by (a)(2)(C).

E. Recommendation for "High Radiant Heat Area"

CONCERN: PRR members question the scientific basis for the five-degree differential between the globe temperature and the "temperature" defined in this subsection and they were not able to find support for it in the scientific literature. Further, members do not believe that five degrees is a substantial enough difference to define a "High Radiant Heat Area."

Recommended Definition:

*"High radiant heat work area" means a work area where the globe temperature is at least ~~5~~ **15-degrees** Fahrenheit greater than the "temperature," as defined in this subsection.*

Rationale for Recommendation:

a) Basic physics establish that when a physical object heats up it emits radiant heat. For example, a metal warehouse will heat up depending on its interior surface characteristics (dark color vs. white or aluminum). Also, if sun shines through a window, it will produce radiant heat in the area the sun shines on. It would not be uncommon for an area like this to be five degrees higher than the temperature in the

room. It is not reasonable for employers to be required to monitor and measure random areas in indoor spaces that may have "hot spots" that change minute by minute.

b) We believe that DOSH's intent for this definition appropriately should be for areas producing "high" heat that can cause heat illness. PRR members believe that a five-degree differential from the standard temperature in the room does not qualify as a "high" heat risk especially if indoor temperatures (as required in this rule) are to be below 82 degrees Fahrenheit. For example, employees may be exposed to an area that is five-degrees higher than the rest of the room when working with industrial tools—this example seems to meet a definition of "radiant heat area" but does not qualify for "high" nor is the exposure a high risk.

c) PRR members believe that the five degrees is too low, particularly if the trigger temperature is 82° F. For example, if the bulb temperature was 82° F, a "high radiant heat work area" would be 87° F and, under subsection (a)(2)(D), would require subsection (e) assessment and controls be administered. This is not in line with the 90° F trigger for subsection (e). PRR suggests one option: the temperature differential for a "high radiant heat source" should be the number of degrees higher than the minimum standard. For example, if the temperature trigger under this standard is 82°F, a "high radiant heat area" should be +8° F higher; if the standard is set at 85° F, (as PRR recommends) the "high radiant heat area" should be five degrees higher.

d) The outdoor heat standard, Section 3395, requires high heat procedures when outdoor temperatures are 95° F. This trigger is 15-degrees higher than the baseline temperature of 80° F set forth in 3395. It is also important that working outdoors has an increased risk of heat illness due to exposure to direct sunlight; this is a risk factor that is not present "indoors." Because of this, PRR members believe another option for "high radiant heat" to align with Section 3395; high radiant heat work area is an area 15° higher than the area temperature.

F. Recommendation for "Indoor"

CONCERN 1: For the most part, PRR supports the revised definition in the 24 October draft. However, members recommend further clarifying the definition so that non-traditional indoor areas are not subject to the standard. An interpretation of the current draft definition is that if three sides of a perimeter are enclosed and one is exposed, that area is considered "indoor" and subject to the Standard. PRR members do not believe that DOSH intends the definition to be as broad as it is and request clarification.

Recommended Language:

"Indoor" refers to a space that is under a ceiling or overhead covering and ***is enclosed along its full perimeter by walls, doors, windows, dividers or other***

physical barriers, whether open or closed. *All work areas that are not indoor are considered outdoor and covered by section 3395.*

Rationale for Recommended Language:

a) PRR believes that the intent is to cover work areas that are truly indoor. The current definition will include structures that we believe should not be considered indoor. For example, areas that are occupied intermittently and for short durations (e.g., electrical rooms, boiler rooms, vaults, utility basements).

b) The proposed language will ensure protection of all workers and will make sure there are no gaps or "loopholes" in the regulatory framework, as those employees who may be working in "ambiguous" workspaces are clearly covered by the outdoor heat illness prevention regulation (Section 3395). Absent this language, there will be undue administrative burdens placed upon employees and employers, as they will be tasked with performing duties that do not create greater safety such as logging temperatures. These tasks will utilize worker resources that could alternatively be deployed to perform safety activities with greater benefit. The key in this recommendation is to ensure all workers are protected; by providing clarity, employers and employees can focus on worker protection and not on determining which regulatory section applies in atypical situations.

c) The current language does not provide clarity for workers that work in both indoor and outdoor conditions and begs the question: at what point do they switch between the outdoor and indoor standard? To illustrate, PRR members have "yards" that hold rock, trench spoils, dirt, etc. These areas have three walls that are approximately 10-15 feet high and a roof (not connected to the walls) to keep out rain. Under this definition, this area would be considered "indoor." We do not believe that this makes sense or is DOSH's intent, and clarification is essential.

d) PRR members believe that spaces such as tents, garages, temporary structures, and, partially enclosed outdoor restaurant or cafeteria seating are not seen as "indoor," and employers should not be required to treat them as such. For example, members have employees working at maintenance facilities that provide support and house equipment. These structures have a roof and four sides but one, many times two, of those sides can be fully opened to the outside for movement of equipment. It is unreasonable that these types of structures would be managed as indoor work areas. Instead, we believe that they should continue to be managed under Section 3395. Another example that would fall under "indoor" as this standard is written is an outdoor amphitheater, but as common-sense dictates, this is clearly "outdoor" and should be regulated as such.

<u>Subsection (d) Access to Cool-Down Areas.</u>

G. Recommendation for (d)(2)

CONCERN: PRR members remain concerned with the language in (d)(2)(A) which reads "[employees] shall be monitored and asked if he or she is experiencing symptoms of heat illness." We suggest that it be deleted because asking this question could easily be interpreted by an employee to mean that either the employer does not want them to take a rest break, or that they should only take a cool-down break when they are experiencing heat illness symptoms. The intention of the requirement and the desire of PRR members is that employees take the break **before** experiencing heat illness symptoms. In addition, PRR believes that a note should be added to address when employees are working alone.

Recommended Language:

(2) Employees shall be allowed and encouraged to take a preventative cool-down rest in a cool-down area when they feel the need to do so to protect themselves from overheating. Such access to cool-down areas shall be permitted at all times. An individual employee who takes a preventative cool-down rest ~~(A) shall be monitored and asked if he or she is experiencing symptoms of heat illness;~~ (A) shall be encouraged to remain in the cool-down area; and (B) shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the cool-down area.

Rationale for Recommendation:

a) The primary purpose of a preventative cool down rest period is to prevent heat related illnesses by removing the worker from the heat source and reducing the internal heat generated by physical labor. Employees should be encouraged to take frequent preventative cool down breaks to prevent heat related illnesses. This is an administrative control to prevent employees from experiencing signs and symptoms of heat illness, which would then need to be quickly addressed. PRR members believe strongly that it sends the wrong message to ask an employee whether they are experiencing symptoms of heat illness every time they take a *preventative* cool-down rest break. This could give them the impression that they should only take a cool-down rest when they are *experiencing* heat related signs and/or symptoms.

b) PRR members are diligently working to develop positive safety cultures and believe that having a requirement that supervisors ask an employee if they are experiencing heat illness symptoms is not helpful in developing and continuing open dialogue and a transparent relationship. This type of questioning may be viewed as "big brother" and result in the employee not wanting to take a cool down rest period when needed.

<u>Subsection (e) Assessment and Control Measures</u>

H. Recommendation for (e)(1)(A)

CONCERN: PRR members are concerned that this NOTE requires that temperature measurements be retained for the duration of employment plus 30 years. The significant

number of temperature measurements taken in multiple work areas at multiple times, should be retained for a reasonable period of time. However, requiring employers to retain and make available temperature measurements for all employees and all work areas for 30 years plus the duration of employment will not add any benefit to employee health or safety.

We recommend deletion of the NOTE following (e)(1)(A).

Support for deletion of the previous (e)(1)(B): PRR members were concerned about the requirement in the 5/16/18 draft rule for written exposure assessments to be retained as employee exposure records for the duration of employment plus 30 years. We support the deletion.

Rationale for Recommendation to Delete: Section 3204 requires that employers preserve, maintain, and provide access to employee exposure and medical records for the duration of employment plus 30 years. Keeping records of temperatures in various work environments during the hottest time period will result in the need for many measurements over time. Numerous temperature measurements will be required to demonstrate compliance; there is no benefit to retaining the records for duration of employment plus 30 years. Of course, employee medical and exposure records will continue to be retain and made available as required by 3204 and Section 3203.

I. Recommendation for subsection (e)(1)(B)(2)

CONCERN: PRR members believe that the focus of requirement that measures be taken "again when they are reasonably expected to be ten degrees or more above the previous measurement" is misplaced. The focus should be significant changes of any kind in the work area that would increase the heat load to the body.

Recommended Language:

~~*Measurements shall be taken again when they are reasonably expected to be 10 degrees or more above the previous measurements.*~~ ***Applicable work areas shall be reassessed when significant changes occur in the factors considered in the assessment.***

Rationale for the Recommendation:

PRR members believe that an initial assessment should be valid for as long as no significant change occurs in the factors considered in the assessment. The words "reasonably expected" bring in much ambiguity that employers will find confusing.

J. Recommendation for (e)(1)(B)(1)

CONCERN: PRR members are concerned about this provision which requires that measurements "… shall be taken *as soon as subsection (e) applies."* We recommend that

employers be provided with a phase-in period of at least a year from effective date of the regulation to complete the measurement and documentation indoor temperatures.

Recommended Language for (e)(1)(B)(1):

EXCEPTION: Following final approval of this rule, employers have one year to complete initial temperature measurements.

Rationale for Recommendation:

Considering the thousands of locations some employers may have, completing initial temperature measurements as soon as an indoor space reaches 90 degrees is not practicable. PRR recommends that there be an initial phase-in period for employers to complete measurements. Employers typically conduct annual inspections of each facility, and it is during these inspections that they may measure the temperature, if they have not already done so. For example, if employers need to install instruments to measure the temperature, they will need time to acquire, schedule, and install the devices.

K. Recommendation for (e)(1)(D)(1)

CONCERN: PRR members believe that involving the worker, who is the expert on how the work is done, is essential in developing and maintaining all workplace safety and health programs. Members therefore support the requirement that employers "…obtain the active involvement of employees…" in the development of the program and identifying and evaluating work areas for heat illness risk. However, the word "performing" in subsection (e)(1)(D)(1) could be interpreted as requiring that *employees* conduct measurements and record them. The employer is held responsible for providing a safe and healthful workplace and for compliance with all Cal/OSHA regulations and cannot delegate that responsibility to an employee to take and record measurements.

Recommended Language for (e)(1)(D)(1):

The employer shall have effective procedures to obtain the active involvement of employees and their union representative in: ~~performing the following:~~

1. *Designing, conducting, and recording the measurements of temperature or heat index, as applicable.*
2. *Identifying and evaluating all other environmental risk factors for heat illness.*

Rationale for Recommendation:

a) PRR believes that employee involvement is critical in establishing and maintaining a safe and healthy work environment. Employers, however, are responsible for compliance with regulations and must therefore actually design, conduct and record

measurements to demonstrate compliance. Participation from employees in identifying "hot spots" in order to design and conduct measurements is essential.

b) Any time an employer takes an exposure measurement, employees and representatives have the right to understand the process, witness it, and be apprised of the results. (Section 3204). The employer is accountable for taking and recording of a measurement, however.

c) Also, the use of the word "performing" implies an additional responsibility an employee will have. This may require a change in worker's classification as well as to the collective bargaining agreement. PRR believes this is an unnecessary obstacle and will result in zero improvement to worker safety and health.

d) A number of issues may surface with the inclusion of this requirement causing unnecessary complications, including: 1) Not all employees have a union representative; 2) Maintaining the involvement of the union may confound the collective bargaining process on safety issues; and 3) If the employer's procedure is unsuccessful in obtaining the active involvement of the employee and/or union in these tasks, it could be argued that the employer's procedures are ineffective and not compliant with the regulation, which seems unfair given a good faith effort.

L. Recommendation for (e)(2)(A)

CONCERN 1: Some PRR members in the utility industry are concerned that engineering controls must be used in all indoor work areas, even those which may be unstaffed.

Recommended Language for (e)(2)(A):

Engineering controls shall be used to reduce the temperature or heat index, as applicable, to below 90 degrees Fahrenheit ~~or to the lowest temperature or heat index possible~~ ***to minimize the adverse effects of heat stress,*** *except to the extent that the employer can demonstrate that such controls are not feasible or practicable…*

Rationale for Recommendation:

a) Depending upon what DOSH decides regarding the scope of this regulation, (see discussion of isolate, unstaffed buildings under Scope, above), there are situations in which this requirement will add little benefit to employee health at great cost. For example, one PRR member has approximately 1,000 isolated unstaffed buildings (e.g., substations, pumping plants) throughout its service area. It would be very costly to implement an engineering control (e.g. air conditioning, cooling fan, cooling mist fans, local exhaust ventilation) for a structure that may have a worker present one day a year or every few years.

b) For large warehouses and manufacturing facilities, engineering controls, like installing an HVAC system will require retrofits for older buildings; this is costly and will likely require significant capital investment.

c) In addition, limiting energy use as opposed to installing electric engineering controls is a sustainable practice that supports multiple California initiatives to reduce greenhouse gas emissions and stress on the power grid.

Subsection (g) Close Observation during Acclimatization

M. Recommendation to (g) Close Observation during Acclimatization

CONCERN 1: PRR members are pleased that DOSH accepted the recommendation that an outdoor "heat wave" has no relevance to indoor heat illness risk and revised subsection (g) as to when the "Close observation" is required. However, as PRR has noted in previous comments, confusion in general industry remains about what exactly is meant by "Close Observation during Acclimatization," and we recommend revising this section for clarity. In addition, PRR members believe that because of the nature of the hazard and the number of employers to be covered, this should be a risk-based regulation, and that an employer must take precautions during acclimatization. We believe that these precautions are far broader than simply "close observation" of an unacclimatized employee.

Recommended Language for (g)(1):

(g) ***Precautions*** ~~*Close Observation*~~ *during Acclimatization*

(1) ~~*All employees shall be closely observed by a supervisor or designee.*~~ ***The employer shall take precautions when employees are present*** *when the temperature in the work area is at least 10 degrees Fahrenheit higher than the average high daily temperature in the work area during the preceding five days.* ***These precautions may include increased supervisor or designee observation, oversight or checking affected employees as well as other administrative controls.***

Rationale for Recommendation

a) PRR members understand that the concept of "close observation" appears in the current 3395 regulation, but a significant number of employers in a variety of industries are not covered by that rule, and these employers have no frame of reference for or experience with this requirement. Employers may use a variety of precautions when the temperature in a work area increases by ten degrees; for example, the administrative control of job rotation, a system for logging in or communicating with employees, and/or additional training regarding precautions. PRR members believe that the employer must have written precautions for how to address temperature increases, train supervisors and employees, and implement precautions when necessary.

b) From a practical standpoint, indoor temperature changes should be relative to what the employee experiences instead of what changes occur in a particular work area.

For example, if a worker is transferred to work on the loading dock from the refrigerated section of the warehouse, the change that the employee experiences is more relevant than the change in temperature of the dock from day to day.

Subsection (h) Training

N. Recommendation for (h) Training

CONCERN: PRR supports the current training topics and suggests that DOSH include an additional topic in the training requirements: the responsibilities, precautions and procedures an employee should follow when they may experience temperatures above the trigger when working alone in an indoor structure.

Recommended Language for (h):

(J) The employee's responsibility to be aware and monitor indoor temperatures when working alone, and procedures to follow in the event temperatures rise and present a potential threat of heat exposure.

Rationale for Recommendation:

As stated previously, PRR members are concerned that the draft rule does not address situations where an employee works alone and believes that an additional topic to be covered during the training will better protect workers.

Subsection (i) Heat Illness Prevention Plan

O. Recommendations for (i)(2) Heat Illness Prevention Plan

CONCERN: PRR members believe that an effective Heat Illness Prevention Plan should not focus solely on recorded measurements and suggest revising the language to make it more practical.

Recommended Language for subsection (i)(2):

Procedures, in accordance with subsection (e), to ~~measure and record the temperature or heat index, as applicable,~~ ***assess work areas for heat illness risk factors,*** *and to implement control measures.*

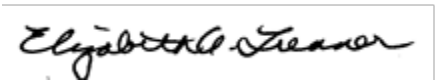
Rationale for Recommendation: ~~Revision~~

Members believe that this revision will encourage employers to perform the required assessment and identify changes that significantly affect the validity of that assessment, rather than focusing solely on recorded measurements.

Closing:

In conclusion, PRR supports the intent of the regulation, to reduce the incidence of heat illness in indoor work environments and appreciates the opportunity to submit comments and recommendations. We look forward to continued participation in this important process.

Sincerely,



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