OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

INFORMAL RULEMAKING HEARING
FOR HEAT INJURY AND ILLNESS PREVENTION
IN OUTDOOR AND INDOOR WORK SETTINGS

Compilation of Public Hearing Questions

NOTE:

This document is a list of the questions that OSHA asked participants at the agency's informal rulemaking hearing on its proposed rule for heat injury and illness prevention in outdoor and indoor work settings. The questions have been edited slightly for clarity and brevity. For a verbatim recitation of what was stated on the record, please refer to the official hearing transcript in the rulemaking docket at www.regulations.gov/document/OSHA-2021-0009-25560. Citations to the hearing testimony should be made to the official transcript of the hearing in the rulemaking docket. The purpose of this document is to assist those who filed a timely Notice of Intention to Appear (NOITA) in preparing their post-hearing comments. Only NOITA filers may file post-hearing comments. The period to file post-hearing comments closes on September 30, 2025.

Contents

Acronyms

AIHA	American Industrial Hygiene Association
HIIPP	Heat injury and illness prevention plan
JHA	Job hazard analysis
NIOSH	National Institute for Occupational Safety and Health
NPRM	Notice of Proposed Rulemaking
OSHA	Occupational Safety and Health Administration
PPE	Personal protective equipment
SBREFA	Small Business Regulatory Enforcement Fairness Act
USPS	United States Postal Service

DAY 1, JUNE 16, 2025

American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)

1. In your written comments, you recommended that OSHA mandate employers prioritize the hierarchy of controls when implementing heat injury and illness prevention programs. Can you further explain how you envision such a requirement working?
2. Can you talk about your advocacy for cooling personal protective equipment? Do you have any information on the feasibility of maintaining the cooling properties of PPE during employees' work cycles?
3. In your written comments, you indicated that the heat standard should include additional procedures for extreme heat conditions. Can you provide any more specific recommendations on how or when control measures for extreme heat should be incorporated?
4. If OSHA were to adopt a performance-oriented standard that required employers to develop a heat injury and illness prevention plan that incorporated several elements, like water, rest, shade and training, would you envision a minimum specification for any of the elements for when and how they should be implemented? Any information you could provide on how OSHA could ensure that a performance-oriented standard is protective would be very helpful.
5. In your testimony, you recommended that OSHA require employers to maintain a written heat incident log to record all heat-related incidents that are identified by the employer or reported by a worker or their representative. Are you advocating for this approach for all covered industries, and, if so, do you have any information that you could share on the costs and economic feasibility of such a requirement?
6. Under what specific conditions, if any, do you believe that electrolyte supplements should be required for employers to provide?
7. Have the members of your affiliated unions worked for employers who have tried fans, and if so what's their experience with fans? If not, are there any alternatives currently being used to keep employees cool?
8. In your written comment, you discuss prioritizing and investing in technologies that mitigate extreme heat. Are there any other advances you are aware of that are either currently available now, or just on the horizon that might make cooling the work environment more technologically feasible?
9. What personal cooling devices and cooling PPE have you observed in the workplace? What are workers' experiences with personal cooling devices/cooling PPE?
10. Could you share with OSHA a bit more about your thoughts on lone worker observation protocols? What kind of triggers have you seen where these observations might start?

11. OSHA heard from many commenters that they opposed the exemption of indoor sedentary workers. If you are aware of any literature or data that demonstrates that these workers are at risk of heat-related injuries and illnesses, can you share those in your post-hearing comments?
12. Could you clarify how you envision keeping a record or obtaining information from employees about their symptoms and potential heat-related illnesses that they're experiencing but also maintaining confidentiality and protecting them from potential retaliation?

U.S. Chamber of Commerce

1. In your comments, you described alternative options for acclimatization. Can you elaborate more on the options that you've described and how you believe they are more flexible than what was outlined in the proposed standard?
2. The proposed rule provides flexibility for maintaining temperature records in a written form or electronically. Many electronic monitoring devices are readily available on the market that are easy to use and have storage capacities to retain records for the proposed six months. Do you think that using electronic monitoring devices would make the proposed recordkeeping requirements less burdensome?
3. You recommended that OSHA should consider a more performance-oriented standard. In such a performance-oriented standard, would you envision there to be a minimum specification for any of the components such as water, rest, shade, or training for when and how they should be implemented?
4. What could employers use as a basis to ensure that the heat injury and illness prevention plan they come up with is protective?
5. In your written comments, you stated that if OSHA moves forward with a rule that requires employees to be allowed and encouraged to take paid rest breaks as needed to prevent overheating, that that could result in opportunities for misuse, and it could expose employers to claims of retaliation if they try to address misuse. Is there information that you're aware of, such as instances of employers who offer at-will breaks to prevent overheating and have experienced misuse, or perhaps industry surveys or studies on this issue?
6. Are there specific approaches you would suggest to support employers in addressing situations where they believe employees' use of as-needed rest breaks exceeds what's needed to prevent heat injury and illness? The Employers Heat Illness Prevention Rulemaking Coalition suggested that OSHA should provide some guardrails in the form of non-mandatory guidance about what would be typically expected in terms of rest break use to prevent overheating. Is this an approach the Chamber would agree with?
7. You noted in both your written comments and your testimony that the proposed schedule for 15-minute mandatory rest breaks every two hours when the temperature is at or above the high heat trigger wouldn't be feasible for all employers. Would you please further

discuss how you suggest OSHA should modify the proposed rest break timing requirements to help provide more flexibility while still being protective?

8. In your written comments, you express concern with the requirement for pre-cooling vehicles used as break areas. What requirements for using a vehicle as a cool down area for a break should be implemented or included?
9. The submitted comment mentioned that there are some situations where the required communication could introduce additional injury risk such as tree-trimming, working at heights, and driving. Is there an alternative means of communication that would protect workers? How do they communicate to workers on the ground or supervisors during this period?
10. If OSHA went to a completely performance-oriented approach, how would an OSHA inspector know when an employer had done enough to adequately protect workers? Do you think that the mere existence of a single incident would be enough to determine whether or not there had been a violation of a performance-oriented standard? How do we prevent arbitrary and capricious decisions by an OSHA inspector, if there are no benchmarks other than a completely performance-oriented approach?
11. In the Chamber's comment on the proposal you wrote, "The requirements regarding fans are complex and vague. Many employers will not be equipped to determine if fan use is harmful when ambient temperatures exceed 102 degrees Fahrenheit." Can you describe what a reasonable alternative approach might look like and describe the evidence or data that would underpin that approach?
12. You mentioned Nevada's new standard, which requires an initial job hazard analysis and seem to suggest that there is not a requirement to continuously monitor once the job hazard analysis is conducted. Would you agree that an annual hazard analysis needs to be conducted, or perhaps a new analysis needs to be performed when there are changed circumstances in the work environment? For instance, for employers that don't have fixed work locations where there might be different work environments that they're exposed to, how you would envision this requirement to apply for them?

U.S. Small Business Administration, Office of Advocacy

1. SBA Advocacy recommended that OSHA address the needs for small businesses by adding a scope exclusion for employers that employ fewer than 20 employees. OSHA is requesting additional information on the basis for this exclusion. Can you provide OSHA with any evidence that the agency could use to support such an inclusion? For example, evidence of a lower risk of heat-related injury and illness in small businesses with fewer than 20 employees, or significantly increased burden for protecting those workers.
2. To clarify, when you were saying bump the exclusion up to 20, was it for the written program component? That was your main concern?
3. A follow-up question on one of the alternatives you mentioned, which was that OSHA adopt a training-only standard—would you envision that there would be only training

requirements on elements like water, rest, and shade, but not any requirements for employers to actually develop and implement a heat injury and illness prevention plan that includes water, rest, and shade?

4. Do you think that a training-only alternative like this would be sufficiently protective? And if so, if you have any evidence on the effectiveness of a training-only standard in reducing the risk of heat-related injuries and illnesses, could you share that evidence?
5. You mentioned that you had heard feedback that some of the terms in the proposal are vague or confusing. If you could provide more information on which terms, that would be very helpful for us.
6. In your written comments regarding road construction, you mentioned that requiring artificial shade and temporary structures may be and can introduce greater hazards due to vehicular traffic and the work environment. Can you elaborate on the hazards that this introduces?
7. Can a portable structure be placed off the road or on the shoulder or another staging area?
8. Are there any other types of structures that OSHA should consider for use as shade?
9. In the matter of scheduled mandatory rest breaks, you suggested that OSHA could offer variances for situations where they may not be feasible or safe. Another or perhaps a related possibility -- in Oregon's rule, there's a provision that allows for the use of technology such as cooling vests, water dampened clothing, or what it terms, similar effective measures in cases where the employer can demonstrate that providing access to rest in shade is not safe, not possible, or interferes with the ability of employers and employees to complete the necessary work in a particular situation. Do you have thoughts on whether this flexibility is something that could be beneficial to employers should OSHA move forward with a final standard? Are you aware of any employers using these cooling measures and how effective they are?
10. What would be an appropriate schedule or trigger for employers to review their heat injury and illness prevention plan, or HIIPP? Are there any additional flexibilities that you recommend OSHA consider for the HIIPP requirement which could support compliance for small businesses?

National Federation of Independent Business (NFIB)

1. In your written comments, you recommended that OSHA address the needs of small businesses by adding a scope exception for employers with 50 or fewer full-time employees. Can you provide OSHA with a basis for this exclusion, and any evidence that you might have to support such an exclusion, such as lower heat-related injury risk, or increased cost or feasibility concerns?
2. In your testimony, and also your written comments, you recommended that if OSHA proceeds with the rule, it should issue a more performance-oriented standard that allows employers to make adjustments to their heat injury and illness prevention plan as long as they achieve the objectives that OSHA proposes to set. Could you provide any more

information on how you would suggest OSHA structure such a performance-oriented standard, and if you'd envision any minimum specifications for any of the elements in the standard, such as water, or rest, or shade, or training?

3. Are you aware of any of your members having some way of identifying employees who might be at higher risk?
4. For an employee who may not have exhibited any lack of tolerance to heat, how would an employer get that information given that, that would be personal information the employee would have to share? Do you have any thoughts on how that might work in that situation?
5. In your written comments, you recommended that OSHA tie triggers to the National Weather Service heat advisories. Can you clarify how you envision OSHA would use these advisories and what provisions you think should be required once these advisories have been issued? Would you envision the trigger to be the same for indoor workplaces as well or something else?
6. Can you provide evidence to support that the incidence of heat-related injuries and illnesses [predominately] occur when a heat advisory is issued?
7. In your written comments, you recommended that employers be allowed to account for geographical factors in their heat injury and illness prevention plan. Can you point to any evidence to justify having trigger levels based on geography? For instance, evidence indicating a lower incidence of heat-related injuries and illnesses when temperatures are above the proposed triggers in certain geographical regions?
8. You mentioned in your written comment that you welcome the exemption of the written HIIPP for employers with less than ten employees but also mentioned that having a verbal HIIPP only could create a burden, as they would be required to provide proof of the verbal HIIPP. Do you have any suggestions for OSHA on this concern?
9. In your testimony, you mentioned that portions of the proposed standard are vague. Could you provide further detail on portions of the proposed standard which could be further clarified for the regulated community?

National Safety Council

1. In your written comments, you expressed support for adding a third trigger to account for heat waves. Do you have any thoughts on how OSHA could define a heat wave in a manner that would be easy for all covered employers to understand?
2. OSHA has received comments today, and also written comments, that the agency should adopt a more performance-oriented standard that would allow employers to adjust their heat injury and illness prevention plans as long as they meet set objectives. In your written comments, you indicated that performance-oriented standards can sometimes cause confusion during enforcement and compliance. If OSHA were to adopt a more performance-oriented standard, how you would suggest that OSHA do it in a way that would avoid confusion?

3. What specific elements do you believe employer-developed acclimatization schedules would need to incorporate in order to be effective?
4. In your written comments you talked about work activities where there is no reasonable expectation of exposure at or above the initial heat trigger, and that there may be some activities that need to be done, including monitoring and others that OSHA did not account for. Can you expand on that and explain what you envision that would require in terms of frequency?
5. Are you suggesting that OSHA should require some monitoring for everybody, some kind of baseline? Or do you think that people will look at that and say, how do I know I'm in compliance?
6. You mentioned that supervisors and managers should receive the same training as workers, and maybe some additional trainings related to emergency procedures. Could you elaborate on why you think this is important?
7. Can you further explain why you believe that OSHA should consider defining excessively high heat areas as something other than a work area where ambient temperatures regularly exceed 120 degrees Fahrenheit? Are there other factors that OSHA should consider in this definition?
8. How important is it that workers get involved in the development of the plan and implementation of the plan?
9. What would a reasonable timeframe be to have that plan available?
10. Are you aware of any research or data that validates the values derived from the newly-developed AIHA app, and if so, could you share those in your post-hearing comment?

American Society of Safety Professionals (ASSP)

1. In ASSP's written comments, you recommended that OSHA recognize the specific requirements of the ANSI/ASSP A10.50 Standard for Construction and Demolition as an additional example of what could be implemented in a federal OSHA standard. Could you highlight any requirements of the A10.50 Standard that OSHA is currently missing from its proposed standard and which you believe should be included in an OSHA standard?
2. Could you discuss any challenges in maintaining water at cool temperatures at remote or mobile work sites, especially during long shifts or on very hot days? Could you offer any recommendations for measures that could help with these challenges?
3. In your comment, you had proposed including acclimatization schedules and a non-mandatory appendix to any rule. Could you provide some examples of what you think OSHA should consider including in such an appendix?
4. Do you have any information about vehicle cabs? What percent of trucks have cabs that are cooled? What considerations did you give to workers who are spending time driving, or in a cooled cab, and how would that affect what their employer should be doing?

5. You indicated that the proposed recordkeeping requirements need additional clarification. Can you identify the specific aspects that you believe OSHA should clarify?
6. Are you aware of any research or data that validates the values derived from the newly-developed AIHA app, and if so, could you share those in your post-hearing comment?

International Union, UAW

1. A number of speakers said that they think that smaller employers should be exempt from having a written plan. Do you have thoughts on that, and if so, at what size should OSHA consider too small to have a written plan?
2. Can you expand upon your thoughts on employee involvement—when should it be required? Do you have specific language that OSHA should consider?
3. Your comments mentioned that supervisors and heat safety coordinators may need some additional training, such as a job hazard analysis. What specific changes would you suggest that OSHA make? In your experience, are these things that people on staff already know or would this represent a change?
4. Has your organization looked at the impacts on things like absenteeism, turnover, and workers' compensation costs associated with not having a plan or reductions where people do have plans for heat injury and illness prevention?
5. In the written comments submitted, you mentioned the use of cooled seats and benches. Would you provide more information or details regarding the use of cooled seats or benches for rest breaks?
6. Can you describe how successful the use of personal cooling devices and body cooling accessories has been in the field? This includes things like vests, neck bands, headbands, cooling towels, neck fans, hard hat cooling top pads, and so forth. Which, if any of these, have you found particularly effective?
7. Can you describe your members' experience with formal work-rest break schedules when the heat reaches a certain trigger point? Have they had any problems with following these schedules, and where do the employees take breaks for cooling?
8. What control technology should be included as an alternate to air-conditioning and fans?
9. Have your members tried fans, and if so, what is their experience with fans? Do employees work in places where fans cannot be used frequently or for extended periods of time, and if so, what is currently being used to keep employees in those spaces cool?
10. You recommended that OSHA require the use of wet bulb globe temperature instead of heat index. Could you speak to whether you think conducting on-site measurements of wet bulb globe temperature is feasible for most work sites and employers?
11. OSHA has heard from many commenters that they oppose the exemption of indoor sedentary workers from the rule. If you're aware of any literature or data on the risk of heat-related injuries and illnesses among these workers specifically, could you share that in your post-hearing comment?

12. In some comments, there are calls for flexibility in the timing of the mandatory breaks above the high heat trigger. How does the UAW respond to these calls for flexibility for employers who are engaging in work processes that may come up against the timing of the mandatory breaks?

DAY 2, JUNE 17, 2025

Conn Maciel Carey's (CMC) Employers Heat Illness Prevention Rulemaking Coalition

1. You note that an element of the HIIPP requirement requires employers to include all policies and procedures necessary to comply with the rule, which you say is burdensome. What alternatives would you suggest to ensure employees are protected and understand the policies that keep them safe?
2. How would OSHA explain to the public what a requirement pertaining to water quantity should be? Can you provide some examples of what you have seen and how that requirement plays out?
3. As a guidance document would not be enforceable, is there language that you would suggest for a regulation, especially in consideration of smaller employers that often do not have in-house expertise?
4. You had said in your written comments that balancing flexibility and performance with clarity can be achieved by incorporating limited essential prescriptive elements within an otherwise performance-oriented framework that uses non-mandatory appendices. Can you describe which elements of the heat injury and illness prevention plan you think should be prescriptive in an approach like this, and which you think should be handled through nonmandatory appendices? OSHA would appreciate anything you can share from your member companies' approaches, such as JHAs.
5. In your testimony, you recommended that OSHA allow for self-managed acclimatization through health awareness training. What would the training entail, and how could employers demonstrate that self-acclimatization is effective so as to be in compliance with any acclimatization provision in a standard?
6. In your written comments, you recommended allowing employers to implement alternative effective methods for acclimatization, and you suggested proactive monitoring, or wearable technologies that might monitor individual physiological responses. Do you have any examples of such technologies that your members or employees are exploring or using? If you're currently using such approaches, what actions would be triggered by abnormal readings?
7. Can you share further information about how frequently self-paced rest breaks are used, how long they tend to last, and the general heat conditions and other prevention strategies that are prevalent in members' facilities where these self-paced rest breaks have been

used successfully to avoid overheating? Any further information on concerns about retaliation claims in cases where employers might try to address an instance of overuse of self-paced rest breaks as well is welcome.

8. Based on your testimony today, you mentioned difficulty for some employees safely accessing break areas, specifically tower workers and construction workers. Can you explain what employers are currently doing, or could do, as an alternative to prevent heat-related injuries and illnesses for these workers?
9. In your written comments, you mentioned facilities that are difficult to cool, including temperature-sensitive environments. What types of employers have you found with temperature-sensitive environments where cool air could not be provided, and how did they ensure employees were able to cool off?
10. You noted that many of your Coalition members find observation for signs and symptoms requirements too vague, as there are many signs and symptoms that are not outwardly visible and not unique to heat illness. What suggestions do you have to make the observation requirements more specific and feasible?
11. In your submitted comment, you say that OSHA's cost estimates of mandatory rest breaks do not incorporate any, "cost for the inefficiencies associated with work interruptions at inopportune time." Can you elaborate on these work interruptions, and if possible, provide OSHA with any estimates of the average time loss associated with these work interruptions?
12. Can you provide the time estimates to develop your HIIPP?
13. In the Coalition's written comment, you suggested that OSHA could include references to the National Weather Service excessive heat watches and excessive heat warnings to represent the initial heat trigger and high heat trigger. If you have any data to support that the incidence of heat-related injuries and illnesses predominantly occur when one or both are issued, could you share those?
14. You mentioned geography as an important factor to consider. Can you point to any evidence that employers would use to craft trigger levels based on their specific location?
15. Can you describe what a reasonable and appropriate frequency for monitoring might be, and share any information on what frequency your Coalition members currently use for conducting monitoring?
16. In the Coalition's comment on the proposal, there was reference to the fan use provision. You wrote that your Coalition's members think that evaluations of fan use can be based on temperature alone, and that it can be based on employers' reasonable determinations of harmful fan use. In coming to this conclusion, can you discuss how your members accounted for the scientific literature cited by OSHA that indicated humidity is an important factor to consider? Can you clarify how you would envision employers determining harmful fan use?

17. You also wrote, on the same topic, that the table provided by OSHA on page 70783 is overly complex and confusing. Can you describe if there are ways OSHA could communicate that information in a clearer way?
18. Is there anything that you have in place, or your members have in place, that will not discourage employees from taking needed rest breaks? In particular, is the proposal's anti-retaliation provision necessary to ensure that employees are encouraged to take rest breaks when needed, to report their symptoms early on so that they can be addressed before a heat-related injury or illness develops? Or are your members finding that, with their current plans, that they have a system in place that allows employees to self-manage, to take rest breaks as needed without fear of retaliation?
19. If you are able to, can you share either your plan or an outline of the components of your plan, and how you address and implement heat prevention measures at your workplace?
20. There was mention about lone worker programs being very unique and individualistic. Can you provide some summary or explanation as to how you address lone workers currently?

National Employment Law Project

1. You urged clarity that host employers are responsible for confirming that any temporary worker on site is already acclimated. What evidence or documentation would you propose a host employer should require from a staffing agency or directly from the worker to confirm this prior acclimatization?
2. In your comments for the NPRM, you stated that preventative rest breaks should be mandatory, not only at the high heat trigger, but also at the lower heat trigger of 80 degrees Fahrenheit. And you expressed concern that OSHA's proposed requirement for employers to allow and encourage as needed rest breaks would not be sufficient to achieve the goal of preventing overheating. In support of your recommendation, you refer to several tragic cases of worker deaths from overheating, where a lack of adequate breaks may have been a factor. Can you provide more information to help OSHA fully understand the working conditions and the heat conditions in particular that were experienced by those workers?
3. You referred to widespread reports of workers being denied or discouraged from taking breaks by employers. Can you provide further information about the types of work and conditions experienced by workers who are making reports of being denied or discouraged from taking rest breaks?
4. Can you provide any data, evidence, or resources that you are aware of that could speak to changes in worker experiences in states that have implemented heat regulations?

Coalition for Workplace Safety

1. You mentioned in your testimony that there should be more flexibility for acclimatization, rest breaks, and some other topics. Can you describe any specific

alternatives on these topics, particularly on acclimatization or rest breaks that you'd like the agency to consider?

2. Can you provide some suggestions or recommendations on how OSHA should structure a performance-based standard, and particularly, if you'd envision there being any prescriptive elements? And if so, which ones would you envision to be prescriptive, and which would be performance-based?
3. Regarding the scope exemption for short duration employee exposures at or above the initial heat trigger of 15 minutes or less in any 60-minute period, can you elaborate on your comment that OSHA should take a more risk-based approach, rather than tying it only to time of exposure?
4. How often should HIIPPs be updated?
5. Do you have any alternatives to a heat safety coordinator that you or your members would suggest?
6. In your written comment, you suggested that more flexibility should be provided in monitoring methods. Can you expound more on what you think that should look like and what a monitoring provision would entail?
7. In the Coalition's comments, there's a statement in the rest break section that says, "the overwhelming majority of members we surveyed indicated that providing mandatory rest breaks of 15 minutes at least every two hours creates significant operational challenges." Can the Coalition provide OSHA with either the results of the survey that this is referencing or a discussion of them that goes into some detail?
8. Oregon's rule has a provision that allows for the use of cooling technologies, such as vests, water dampened cotton clothing, or other measures. Some people have mentioned circumstances where an employer can demonstrate that providing access to a shaded rest area either isn't safe (e.g., some have mentioned this in reference to tower climbing situations) or because it interferes with the ability of employers and employees to complete the necessary work (e.g., some have mentioned possible issues with concrete pouring). Can the Coalition provide comments on these topics?
9. Can the Coalition share examples of job hazard assessments and describe how they are used in the risk-based assessment for risk management strategies addressing heat conditions?
10. You mentioned that you wanted OSHA to offer flexibility for solo or mobile workers related to supervision, temperature monitoring, and rest breaks. What would flexibility with regard to observing solo or mobile workers for signs and symptoms look like?
11. Can you further explain how the recordkeeping requirements for indoor work areas will create excessive administrative burden?

Service Employees International Union (SEIU)

1. You recommended that OSHA include a provision requiring employers to document their employees' feedback on the development and implementation of a heat injury and illness

prevention plan, and then to provide a reasonable explanation for accepting or rejecting their employees' feedback. Can you share how you think that might work and if you know of this currently being done in any workplaces right now for heat or other hazards?

2. Is SEIU advocating for the inclusion of a cooling PPE provision in your written comments recommending the hierarchy of controls? And if so, do you or your members have any information on how feasible it is to maintain the cooling properties of PPE?
3. What controls have you seen implemented to reduce exposures to radiant heat sources, such as with laundry workers, line cooks, fast food workers, etc.?
4. Are there areas in any of the workplaces you cover where isolation of heat-producing equipment would not be feasible, or are there any alternatives you have seen to reduce employee exposures in these areas?
5. OSHA received a few comments on situations when fans are not safe or appropriate for use, but air-conditioning is also not available. Can you provide some examples of alternative control measures that you believe would be appropriate for employers to implement when fans are not appropriate, but also air-conditioning is not available? This can be in the form of examples you've seen implemented successfully in workplaces or that you would prefer to see implemented.
6. Are you aware of instances of workers not reporting heat-related injuries and illnesses to their supervisors? If so, can you share the circumstances surrounding that and reasons why workers aren't reporting those?
7. In your written comments, you recommend that OSHA should omit the currently proposed exemption for sedentary workers, because these workers often work in areas with poor ventilation or inadequate cooling. Are there specific industries in which your members who perform sedentary work have reported experiencing heat illnesses because of poor ventilation or inadequate cooling?
8. In your submitted comment, you recommended that OSHA should require employers get input from all employees, not just some employees. Can you provide examples of effective ways that employers could get input from all employees that are also economically feasible?

American Federation of State, County and Municipal Employees (AFSCME)

1. How would you envision the hierarchy of controls to work, particularly for outdoor workplaces and engineering controls?
2. Is AFSCME advocating for the inclusion of cooling PPE and, if so, do you have any information from the experience of your members on the feasibility of maintaining the cooling properties of PPE?
3. Can you share a copy of the paper you mentioned by Adam Dean and Jamie McCallum?
4. In AFSCME's comment, you urged OSHA to require the use of on-site wet bulb globe thermometers. Do you think conducting on-site measurements of wet bulb globe

temperature is feasible for most work sites and employers? Do you have any examples of employers already doing that?

5. You've advocated for the provision of safe toilet facilities, such as porta potties for remote workers without access to nearby facilities as part of the employer's heat injury and illness prevention plan. When your members report that essential work often takes place in settings where they are not able to access a bathroom, can you give examples of these types of settings or jobs, and the specific duration workers are typically without access?
6. What specific language or criteria would you propose for the HIIPP requirements to ensure on-site provision of safe toilet facilities for remote workers?
7. Are there specific methods of ensuring water remains at cool temperatures at remote or outdoor work sites throughout a shift that you've seen successfully implemented by employers?
8. Can you expand on the examples from Washington State that you provided, specifically equipping each vehicle with clean water containers and providing ample free access to ice and water at the work site? What are the best practices for managing these logistics effectively for large mobile workforces?
9. You mentioned in some of your previous comments that employers, employees, and their duly authorized representatives should be invited to review and give feedback on the HIIPP. Should OSHA be more specific about what type of employee involvement is required, and, if so, what do you suggest?
10. Are there protocols that you could suggest for reaching employees who are in hard-to-reach areas or areas with poor broadband connection?
11. Are you aware of any data on the number of your members who worked in a vehicle or buildings without adequate climate control?

American Federation of Government Employees (AFGE) National Veteran's Affair Council (NVAC)

1. Can you talk about how your members are currently doing acclimatization, if at all?
2. In the AFGE comment, there was a recommendation that OSHA clearly define "sufficient frequency" in the context of monitoring under paragraph (d). What does the panel suggest as an appropriate frequency of monitoring heat index or wet bulb globe temperature at work sites?
3. Some of your members are in states with existing heat standards, some are not. Have you conducted any internal analysis or made any observations regarding the effectiveness of these existing state standards on worker outcomes?
4. If you're in a state that has a state heat standard, but you are a federal employee in that state, how would that kind of difference in coverage affect the federal employees, like turnover and their job choices?
5. Do you have information on worker types who are exposed to indoor as well as outdoor heat and states with climates similar to Alaska?

6. Are there cases in your members' experiences where it might be difficult or unsafe for them to take a 15 minute break every two hours as opposed to some different schedule, given the nature of their job? And if so, are there any revisions to the proposed mandatory break schedule that your membership would suggest?
7. OSHA heard from others that employers wanted geography-based triggers. Do you agree with this and why or why not? If you do, can you help OSHA understand what that might look like?
8. What types of materials do you find the most effective for training?
9. Could Mr. Burke and Mr. Hernandez explain cemetery workers' experience taking breaks, whether that is breaks as needed or breaks that are scheduled or mandatory?

DAY 3, JUNE 18, 2025

Associated General Contractors of America & Kwest Group

1. Your written comments indicated that the rule should not apply to employees whose primary job functions are related to the inspection, oversight, and coordination of work tasks. Can you further explain this and describe these employees' work activities with respect to heat exposure?
2. You have indicated that the proposal is too prescriptive for the construction industry and should provide more flexibility and be more performance-oriented. Can you provide recommendations on how OSHA could structure a more performance-oriented standard? Are there any elements in a heat injury prevention plan that you would envision to be prescriptive versus more performance-based?
3. Can you share with OSHA the one-page heat addendum that your company uses, or if not, a summary of what it contains?
4. In your written comments you expressed concerns about the proposed rule's lack of consideration for the dynamic nature of the construction industry and advocated for a construction-specific standard. Could you provide specific recommendations for how OSHA might revise the proposed rule to better accommodate variability in site conditions and resources across the construction industry?
5. Are there examples of effective performance-based standards that OSHA could use as a model?
6. Could you elaborate on the specific aspects or changes of the construction industry that you believe necessitate a separate standard than the current proposal and what components or criteria would you recommend OSHA include in a construction-focused standard?
7. With respect to observing employees for signs and symptoms of heat-related illness, what's a feasible ratio of the heat safety coordinator or supervisor to employees?

8. You have expressed concerns that “suitably cool” for water temperature is too subjective, which may lead to inconsistent enforcement. If OSHA were to provide a more detailed definition using a temperature cutoff, would that help alleviate your concerns? Do you foresee any issues requiring a specific temperature cutoff for water?
9. Can you provide information on the controls implemented in your workplace?
10. In your testimony you mentioned that monitoring for temperatures might not be representative of actual working conditions as they continue throughout the job site. How are you currently determining when to implement or use controls to prevent overexposure to heat?
11. In your testimony, you mentioned that some of your work areas are up to 40 miles long. Have you had any difficulties with relocating break areas and water as workers move through locations on the work site?
12. How close should OSHA require the break areas to be to workers, and when should a break area be considered too far away? How do [members] in states with heat standards currently comply with this requirement?
13. In construction, some commenters stated that a mandatory 15-minute break every two hours would be too rigid due to the types of work being performed and asked for flexibility with this requirement. Can you describe how you would suggest OSHA modify the proposed rest break timing requirements to allow the flexibility that would help address this concern, while still being protective?
14. Oregon's rule has a provision that allows for the use of cooling vests, either with fans or ice packs, water dampened cotton clothing, or similar effective measures in lieu of shade, when the employer can demonstrate that providing access to shade is not safe, or when it interferes with the ability of employers and employees to complete the necessary work in a particular situation. Can you explain if this flexibility would be beneficial to employers, or if you are aware of any employers using any of these cooling measures?
15. In your written comments, you wrote that the triggers proposed by OSHA failed to properly account for climatic differences among the various regions in the United States, and OSHA heard something similar in your testimony. If OSHA were to account for this, what geographic area would you propose that OSHA consider for establishing any such triggers, for example, at the county level, state level, or regional level? And what data would you propose OSHA rely on for establishing these triggers? Do you foresee any issues with members complying with differing triggers across the country, particularly those that have operations in multiple states or regions?
16. You mentioned in your testimony an emphasis on considering “unusually warm” days. Should there be any protocols or control measures implemented on days that are warm, but maybe not meeting what you would consider to be unusually warm? Are you already doing something on those days, and if so, what are those controls? Can you share any definitions that you currently use for “unusually warm” at your work sites?

Associated Builders and Contractors (ABC National)

1. You said that for the construction industry, the proposed rule's acclimatization schedule for new and returning employees would be particularly onerous and suggested that OSHA focus on hazard awareness training and allow employers to develop acclimatization protocols tailored to their work site. Can you provide information on how employers in the construction industry are currently conducting acclimatization or what protocols they may be using?
2. You mentioned flexibility and the need for feasibility to ensure compliance. Can you discuss any of the items in the proposed rule that would be impossible to comply with?
3. When you recommended that OSHA should allow supervisors and employees to work together to coordinate safe approaches for rest breaks, did you mean that in the sense that they should communicate in advance of the work beginning to make a break plan for the day, or were you speaking more about people communicating during the work process?
4. Can you share the results of the survey of your membership that you've referred to in your comments or as complete information as you're able to give about the different conditions where flexibility for rest breaks is needed?
5. In your written comment you wrote that the heat trigger should be determined by the contractor and those deemed competent persons. Can you describe what data, evidence, and literature you believe the contractors would use to determine their own triggers and if they're already doing this, what they currently use? For those who maybe aren't already doing this, do you believe most construction employers would have the capacity to do this for their work sites?
6. You commented that if OSHA moves forward with heat triggers in the final rule, they should be tailored to geographic regions. Which geographic area would you propose that OSHA consider (e.g., county, state, regional level), and what data would you propose OSHA rely on for establishing those? Do you foresee any issues with members complying with those different triggers?
7. What are your member companies currently doing to prevent exposure to heat and reduce exposure to heat? And how do your member companies determine when to start using these measures?
8. Can you provide OSHA with any information about cooling spaces that are provided to workers? Do they include fans or air-conditioning and what have the difficulties been, if any, that you've encountered when providing shade and cooling spaces?

Construction Industry Safety Coalition (CISC)

1. Can you provide more information or specific recommendations on how you think OSHA should structure a more performance-oriented standard? You mentioned that, in the proposal, there are some requirements that are too vague. Can you recommend how those might become more prescriptive or how OSHA could change those requirements?

Conversely, for the ones that you believe are too prescriptive, can you recommend how OSHA might revise or change those requirements?

2. You said acclimatization should focus on heat awareness training and allow employers to develop their own protocols for their current management methods. Can you provide specific recommendations?
3. You said the training requirements are overly prescriptive. How do you recommend modifying them so they are better suited to the construction industry?
4. In your testimony, you said that acclimatization provided no benefits to workers. Can you elaborate and provide OSHA with any data or studies that support that statement?
5. Can you share any information from your members on current practices related to their heat plan, what kind of plan they have, and the controls and other protocols that they're using to address heat in their workplaces?
6. Should OSHA account or not account for geography in any potential revisions to the triggers? If so, what geographic area do you propose OSHA consider for establishing any geographic based triggers and what data do you propose OSHA rely on for establishing these? Do you foresee any issues with members complying with differing triggers across the country, particularly those that have operations in multiple states or regions?

National Association of Home Builders (NAHB)

1. With regards to your comments on a construction specific rule, can you provide the agency with some examples of effective, performance-based and simplified standards that OSHA might use as models?
2. The NAHB stated that their members have provided examples of workers performing their duties for three to six hours with little or no rest breaks, then resting in a shaded or air-conditioned area during the time when it's the warmest outside or the hottest, when the sun is at its peak. Is this time resting paid? What are the challenges and benefits associated with this type of schedule structure?
3. In your SBREFA comments, you discussed microclimate variation within warm regions. Can you expand on what the issue is there and how employers are currently dealing with issues of microclimate with regards to designing their plans, monitoring the temperature, and keeping their workers safe?
4. What are your member companies currently doing to prevent exposure to heat and how do they determine when to start using these protective measures?
5. Can you provide OSHA with information about cooling spaces that are provided to employees, including if they include fans or air-conditioning? What have been the difficulties you've encountered when providing shade and cooling spaces to employees?

National Electrical Contractors Association (NECA)

1. You mentioned that many of your members already have heat safety plans. Can you discuss how those plans are different or structured differently from what's in the proposal? If possible, can you submit any of them?
2. Can you elaborate on what portions of the proposal or what specific requirements you think would be infeasible to take place during emergency restoration work and why? What percent of work done by your member companies is emergency versus non-emergency work? Are there other industries or types of workers who are performing similar work alongside you that OSHA should consider including if this exemption were to be included? Are there components of the standard that you think are infeasible for workers performing routine work for NECA employers versus when it's an emergency?

Dimeo Construction Company

1. Can you describe how you or your subcontractors provide shade and the types of shade that are provided on your jobs? Have you encountered any difficulties when providing shade? Can you describe the types of cooling spaces that are provided, whether they include fans or air-conditioning, and any difficulties or challenges with those?
2. You mentioned a severe weather JHA that you utilized for your company and perhaps for your subcontractors. Can you provide a sample or a summary of what that includes?
3. Do you have a recommendation as to how to implement multiple employers' different plans at the same work site, i.e., whether the general contractor controlling employer plan should dictate the work environment or if there is a way to tailor to task specific jobs that could be incorporated or considered when implementing plans? Any insight in terms of how the contracting workplace works and how that would play out would be helpful.

North America's Building Trades Unions (NABTU)

1. Mr. Seal had said that you have found that rest breaks did not affect productivity. Can you speak more to that topic? Could you give an estimate of how often folks may have been taking breaks?
2. In your written comment, you recommended that OSHA not allow employers to use heat index forecasts to comply with the monitoring requirements under paragraph (d) and encouraged on-site monitoring instead. Do you support the use of cell phone-based apps such as the OSHA-NIOSH Heat Safety Tool app, or would you support any similar forecast data sources that rely on more than just nearest airport monitoring data?
3. In your experience, how often and with what equipment do employers in the construction industry currently monitor heat conditions at the work site?
4. Do you know of any employers in the construction industry who currently use on-site wet bulb globe thermometers, and if so, do you have any details or examples about their experience with that?

5. Can you describe your experience with the use of personal cooling devices or body cooling accessories in the field that would include things like vests, neck bands, headbands, cooling towels, et cetera? Which of these have been found to be particularly effective?
6. Do your members supply electrolytes in drinking water? Do you have any success stories to share regarding supplying drinking water containing electrolytes and have there been any downsides to doing so?
7. Do you have any experience working in conditions where vapor impermeable clothing PPE is required, and if so, can you describe your experiences?
8. Should workers wearing vapor impermeable type clothing have biomonitoring devices on as well? How should employers address privacy concerns when biometrics are collected? What privacy safeguards would be needed?
9. Your written comment recommended that OSHA require employers to implement observation protocols at the initial heat trigger. What specific observation protocols do you recommend that OSHA establish at the initial heat trigger?
10. Your written comments mention OSHA should not allow assigning large groups of employees to a single supervisor or heat safety coordinator for observation. During your testimony, you recommended and mentioned the buddy system. In workplaces where a one-to-one buddy system ratio is not possible, what would be a feasible ratio of heat safety coordinators to employees to observe for those signs and systems of heat illness?
11. What would be an appropriate distance for employees to be in proximity to their buddies?
12. You mentioned anti-retaliation information being provided in hazard alerts. Are there reasons why you recommend including this information in the hazard alert versus training?
13. Can you provide any information from your members on how much time they would expect to spend observing their buddy for signs and symptoms of heat illness? Can you share any information on the current use of the buddy system for other (non-heat-related) reasons within the industry?

National Roofing Contractors Association

1. Do you have any specific recommendations on how OSHA should structure a performance-oriented standard? Particularly, which elements do you think should be prescriptive to provide enough clarity to employers to know that they're in compliance and which should be more performance-oriented?
2. How would employers be able to ensure that a self-managed acclimatization process was actually protective for employees, and that they, as the employer, would also be in compliance with the standard?
3. With regards to commercial roofing jobs and larger industrial projects, can shade be provided on the rooftop? If so, what kind of shade is typically provided? For those

circumstances where it might not be feasible, how close are any shaded rest areas and water access to the working area?

4. Do employers use fans or other types of air movement for cooling in the work areas or break areas?
5. With regard to residential roofing, how close are shaded rest areas and water access to the project?
6. Are you able to share any HIIPPs that your members have? And with those, can you provide any information about how long it took to develop those HIIPPs?
7. You mentioned that taking weather measurements would be technologically infeasible. Can you elaborate on why that's infeasible and to what extent in your industry outdoor temperature monitoring is already part of your process for other reasons (scheduling work, etc.)?
8. How do your members currently consider and account for radiant heat, or specifically, the effects of the sun when assessing heat hazards on job sites? How do your members measure radiant heat or predict it?

NATE: The Communications Infrastructure Contractors Association

1. In your testimony, you mentioned that members sometimes rely on phone apps to monitor the heat index. Have members ever had issues with cellular service and if so, what do they do in those types of situations?
2. You mentioned some of the training materials that you use for heat. Can you provide any of those?
3. You expressed concern about requiring employers to climb down the tower for cooling breaks. You mentioned that some employers shift work to cooler parts of the day as a way to reduce exposures. Can you discuss any other actions that are currently being taken by employers to ensure employees stay cool and to prevent heat illness when working from these heights?
4. How do employers currently protect employees when they're in direct sunlight working from heights? Do they do anything additional?
5. In light of the concerns that you've raised with the proposed rule's requirements for mandatory scheduled breaks, are there any specific suggestions that you would make for how you believe OSHA could modify proposed rest break requirements to add flexibility that's needed for cases that you described, while still being protective broadly?
6. Oregon's rule has a provision that allows for the use of PPE, such as cooling vests or "similar effective measures" in lieu of shade when the employer can demonstrate that providing access to shade isn't safe or interferes with the ability of employers and employees to complete the necessary work in the given situation. Would your membership find this kind of flexibility beneficial?

7. Do you or your membership have any thoughts on the use of portable shade structures? Are they in use in any situations that you're aware of or are there any issues or constraints that you would note about them?
8. In your written comments you talked about structural analysis and that it would increase cost to have to perform this analysis. Can you provide an idea of what things need to be evaluated and cost estimates for this type of analysis?
9. Your written comment talked about the responsibility for maintaining broadcast transmission for national news and radio infrastructure as mandated by the Federal Communications Commission (FCC). What percentage of work performed by your members is attributed to maintaining these systems?

National Association of Letter Carriers

1. In your written comments, you mentioned that an increase in mail sorting automation has increased the portion of the workday that the letter carriers are spending outdoors. Has your organization looked into any correlation with the increased time outdoors and an increase in heat-related illness or injury? If so, can you provide any evidence of that?
2. Are you able to provide Dr. Bernard's unpublished analysis or report referenced in your submitted comments?
3. In their submitted comments, USPS talked about the different provisions that they have in their HIPP. Are there any of the measures such as training, emergency procedures, provision of water, uniform options, stand-up talks, posters, videos, postal bulletins, screensavers, laminated cards, stickers and vehicles, home mailings, and daily messaging reminders that your members find to be the most effective in their experience?
4. Can you provide your thoughts on the cost analysis performed by USPS in November 2024?
5. Typically, where do letter carriers take breaks? Are they taking them in the truck and going to a break area?
6. How do letter carriers typically have access to water? Are there coolers in the truck?
7. You mentioned that most delivery vehicles are not equipped with air-conditioning. What procedures are in place for cooling mail carriers who work from their vehicles along the route?
8. Are there any limitations on when fans in those vehicles can be used or when they should be used? Any guidance on that?
9. What controls are in place for cooling employees who deliver mail on foot?
10. What controls are you aware of, if any, that have been tried and did not work? Why didn't they work?
11. When your members might be experiencing heat symptoms, are they able to access any kind of assistance in the way of first aid? Does the USPS have any kind of policy or procedures for providing those services while they're on their routes?

DAY 4, JUNE 20, 2025

UFW Foundation

1. Do you have any information on the percentage of workers in agriculture that are paid on a piece rate basis?
2. In your experience, what are the most common challenges for employers in consistently providing cool water throughout the workday, especially in large fields?
3. What would be the maximum reasonable distance a worker should have to walk to get water? How would you define readily accessible? How would you define that so that it's able to capture the agricultural setting?
4. Do you believe OSHA-provided, non-mandatory guidance on as-needed rest breaks could help to normalize the use of as needed breaks? And furthermore, if you do think that could be helpful, what specific information do you think it should contain?
5. Among your survey results, some workers reported that their employers were not compliant with provisions like training, despite being in states like California, Washington, and Oregon with state heat standards that require compliance with such provisions. Do you think this noncompliance is due to a compliance lag, for example, the compliance takes time or any other factors?
6. In one submitted response to the survey, a worker from Washington State reported that instead of providing required breaks, the employer sent them home. How prevalent are cases such as this one, where employers stop work instead of providing paid breaks?
7. Is there any relationship to the geography as far as the stop work situations?
8. OSHA has heard from several commenters that the proposal is unrealistic for the farming and agricultural industry, including the requirements to monitor for environmental conditions using heat index sensors and to provide fans and shade. Has this been the experience of your members?
9. What are members observing at their work sites in terms of control measures to reduce exposures to heat?
10. Are fans ever used to cool work areas? And if so, what has the experience been with fans and are there any places where fans could not be used?

Farmworker Association of Florida

1. Are you recommending that OSHA should include a provision in the rule to address heat waves? And if so, how would you recommend that the agency define a heat wave?
2. OSHA heard some testimony that the agency should consider allowing employee self-managed acclimatization through health awareness training. Do you have any thoughts on this approach and its effectiveness for the agriculture industry?

3. In your comment, you mentioned the need for PPE to protect workers and that additional clothing can exacerbate heat stress. Can you elaborate a bit more on issues around vapor-impermeable PPE and PPE in general? What should be considered in a HIIPP?
4. In your comments, you mentioned water not being sufficiently provided in large enough quantities or being replenished frequently enough. What are some of the logistical reasons that employers are telling you that they're not able to either provide enough water or that it's not being replenished?
5. You advocated for a specific temperature mandate for drinking water, for example, 60 degrees or cooler. From your own experience or from what your network has observed, how are employers able to achieve that throughout the workday?
6. You mentioned workers in greenhouses and some of the controls and some of the issues that they encounter. Could you expand on what controls have been effectively implemented in those situations for those workers?
7. Regarding the use of cooling towels and cooling PPE, under what circumstances, if any, should OSHA require those, and should OSHA allow those types of PPE in lieu of other controls?
8. OSHA has received some comments that the agency should provide guidance for both workers and employers on the use of as-needed rest breaks. Can you provide your thoughts on whether guidance of this kind could help normalize the use of worker-determined rest breaks in the agricultural industry and if there's any specific information that you would recommend OSHA include in such guidance?
9. Have you been able to quantify results from the interviews that you discussed in your submitted comments, on topics such as the number or the percentage of workers that reported signs of heat stress, average distance to a bathroom, and the percentage of workers that are able to take breaks as needed?
10. If you're able to provide any information or data on rest breaks provided/taken among unionized piece rate workers versus non-unionized piece rate workers, that would be helpful.
11. You referred to some research papers about mental health and heat buttons used by greenhouse workers. If you have not yet submitted those, could you include those in your post-hearing comments?

Northeast Dairy Producers Association (NEDPA), New York Farm Bureau, New York Center for Agricultural Medicine and Health, and Cornell Agricultural Workforce Development

1. You mentioned issues in your testimony with needing to acclimatize new workers, some of whom may already be acclimatized. Could you speak to whether you think the exception to acclimatization in the proposal for workers who had previously worked in

the same or similar conditions would address your concern or might it need to be changed in some way?

2. In your written comments, you mentioned the use of fans, misters, and automated climate control systems in dairy farms. Could you share more about the ventilation and climate control systems that are currently being used in dairy operations?
3. Can you tell OSHA about difficulties, if any, that your members have had when using or implementing those types of climate control systems?
4. Are these types of controls used nationwide? And if not, do you think they could be implemented nationwide?
5. The NEDPA comment stated that most farms already have a comprehensive plan that includes rest breaks. What strategies are employers using that encourage employees to take breaks if they're needed to prevent overheating without the fear of retaliation or loss of pay?
6. In your submitted comments, you noted that most of the farms in your organization have plans for heat injury and illness prevention, including the monitoring of heat conditions. Could you provide some examples of the existing plans, and particularly, could you provide the typical time expended for each of the components of those plans?
7. The Northeast Dairy Producers Association noted that compliance costs are underestimated in OSHA's preliminary economic analysis. Can you provide for the record specific details on which compliance costs are underestimated and what adjustments you would recommend for those unit cost estimates with details on the provisions that the unit cost estimates apply to?
8. You mentioned towards the end of your testimony a need for additional research. Could you expand upon this? What specific areas of the literature do you feel are inadequate at the current time?

WeCount!

1. Do you have any thoughts on how employers can ensure they are effectively communicating the hazard alert to their employees who speak other languages? What methods or tools have you found to be effective for language translation?
2. Do you have any concerns about message fatigue or suggestions for differentiating between hot conditions and extremely hot conditions?
3. Can you describe some specific types of employment relationships or arrangements that you believe are currently falling through the cracks or where employers might evade the responsibilities of providing these protective measures?
4. Could you provide some examples of successful multi-employer work site arrangements where the heat protocols have been shared and enforced?
5. How might employers' policies be structured to minimize potential conflicts over control and responsibility, while still ensuring comprehensive heat protection for all workers?

6. Could you provide recommendations to the agency for practicable means of scheduling and designing rest breaks for work sites where the workers may be in remote locations or otherwise have difficulty, such as communication towers, highways, or bridge construction?

Elizabeth Rojo

1. Could you speak to absenteeism, worker turnover, and costs associated with workers' compensation claims as a result of heat injury? If you have any data and studies that you can direct our attention to, that would be appreciated.

Nancy Rudner

1. You mentioned high rates of urine specific gravity-defined dehydration. What are the main barriers to adequate hydration among these workers that you've observed?
2. You mentioned symptoms like fainting, dizziness, nausea, and vomiting. Are you aware of instances of workers not reporting these symptoms or heat-related injuries and illnesses to their employer?
3. OSHA assumed that in states without current heat rules non-union piece-rate workers are currently not provided with any rest breaks and that unionized piece-rate workers are provided with some rest breaks. Are these assumptions consistent with the experience of farmworkers that you are aware of?
4. Could you provide any data that you're aware of on current breaks provided to piece rate workers?

National Cotton Ginners Association

1. In your comments, you mentioned that the requirement to seek input from non-managerial employees on the HIIPP and the training requirements for supervisors were not feasible, nor practical for ginning operations. Could you help OSHA understand what makes your industry different?
2. You mentioned that you have a heat safety program. Could you share a copy of your program and any information on the resources it would take to comply with provisions in the proposal?
3. In your comment, you noted that the training requirements should be flexible and "allow the inclusion of other training options as a component of a broader safety program." Are there ways that you see the training requirements for this rule as being in conflict, or could be better incorporated with other, more general safety training?
4. Could you elaborate on the conditions that make using air-conditioning difficult in your facilities?
5. You said you have fans in those areas. Do those provide cooling?

6. Does the air in these work areas ever reach ambient temperatures above 105 degrees Fahrenheit? And if so, how do you protect employees in those situations from heat stress?
7. Can you please talk a little further about strategies that members of your association use to ensure that your workers are encouraged and feel safe to take breaks as they need? Perhaps, strategies that could be usefully applied in agriculture more broadly?
8. Is there anything in your plans, in terms of helping to ensure that that culture (i.e., the culture of taking care of your workers) is maintained with guidance or training, for example?
9. Is there any information that your membership can provide to the record pertaining to the typical length and frequency of the intermittent breaks that are common for your members?
10. The NCGA presented an estimate of recordkeeping costs of $1,200 annually to comply with the proposed rule. Could you provide details on that estimate? Could you clarify whether that represents incremental costs beyond what you're currently doing for other OSHA standards, such as cotton dust, and other standards that you comply with? What is represented by that estimate for recordkeeping costs?
11. There are temperature monitoring devices that automatically store temperature readings. In the preliminary economic analysis, OSHA assumed that employers without such devices would utilize these devices and would not incur additional recordkeeping costs. Would there be additional costs that OSHA should include in our estimate of recordkeeping costs associated with the temperature monitoring systems?
12. Could you share how you currently monitor temperature readings in your establishments?
13. What requirements of the OSHA proposed standard go beyond what your members are currently doing? What member practices do you find most effective against heat-related injuries and illnesses?
14. How do your members currently determine whether an injury on a job site was heat-related? For example, is a physician or other medical professional making an on-site determination or some other process?

The Oklahoma Farm Bureau

1. You mentioned that the triggers in the proposal don't account for geography. OSHA heard from other witnesses that they'd like to see geography-based triggers. Do you agree with this approach?
2. Which geographic areas or boundaries would you propose OSHA consider for establishing such geographically-varying triggers, for example, at the county, state or regional level? Are there data you think OSHA should rely on if the agency were to establish those?
3. Could you share your best estimate of the number of small farm establishments in Oklahoma and how many of those have fewer than ten employees?

4. OSHA has heard from several commenters that the proposal is unrealistic for the farming and the agricultural industry, including the requirements to monitor heat conditions using heat index sensors and for providing fans and shade. Has this been your experience?
5. Do you know if any of your members are currently using fans at all to cool work areas?
6. OSHA is interested in learning more about fan use in these sorts of workplaces. If you could submit any extra information you have on the use of fans and any of the difficulties that were overcome with their implementation, that would be helpful.

California Rural Legal Assistance, Inc.

1. You mentioned moving the hazard alert to the initial heat trigger from the high heat trigger. Do you think that may cause folks to become immune to the warning (i.e., could it lead to message fatigue)? Do you have any suggestions on how the agency might address that issue if OSHA were to make such a change?
2. Are there any further strategies, either within the text of the rule or in supplementary guidance, that you would suggest to help support compliance with requirements for as-needed breaks if OSHA moves forward with finalizing that part of the rule?
3. You mentioned your staff observing that worker requested rest breaks are discouraged or disallowed in some cases; is any of this information documented in a form that could be submitted to the record in post-hearing comments?
4. Based on your knowledge and experience, what percentage of employers are not complying with the California State standard?
5. What types of compliance challenges are you finding with the implementation of the California State standard?

Farmworker Justice & Migrant Clinicians Network

1. Could you talk a bit about why you think mandatory rest breaks are necessary and why you think rest breaks as-needed are not sufficient?
2. OSHA has received comments suggesting that certain employees may not report heat-related injuries and illnesses that they experience to their employers. Do you agree that there are instances of workers not reporting these injuries and illnesses to their employer?
3. Are you aware of any research or data validating the values derived from the AIHA app, particularly the inputs that need to be provided by the user? If you are aware of such data, could you share those in your post-hearing comments?
4. In your written comment, you referred to the various types of work areas for farmworkers and how they may not be easily classifiable as indoor or outdoor. Can you talk more about these different indoor settings and the types of ventilation, airflow, and other cooling properties that may be in those work areas?
5. Are you aware of any instances of farmworkers who perform sedentary work indoors experiencing heat-related illnesses or injuries? If so, it would be helpful if you can share that data in your post-hearing comments.

6. Section 11(c) of the Occupational Safety and Health Act makes it illegal to “discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act." What type of anti-retaliation provision beyond this would you suggest for this specific rule?

Lideres Campesinas

1. Do you have any experience with the buddy system at work? If yes, how often are you checking in with each other? How far away are you from each other, and what's working and what could be improved?
2. Do you have any concerns or issues with online training as an option to comply with any training requirements?
3. Given your vast experience working on farms, could you help clarify for OSHA the size of the farms that you work on? Were they more than ten employees or were they small farms?

Alianza Nacional de Campesinas & Grupo Amor

1. In the written comments, you had suggested having a graduated framework for the length and frequency of rest breaks. If you have any recommendations on how OSHA might structure rest breaks in the standard, if you could include those in your post- hearing comments, that would be helpful for us.
2. In the comments submitted by UCLA's Labor Occupational Safety and Health Program, they mentioned that the absence of a heat safety coordinator role under the California standard has, at times, limited compliance with and effectiveness of the required controls. As you have many members in California, OSHA would like to know if you have a similar experience.
3. Have your members experienced better communication about policies for scheduled rest breaks than they have had for policies for requested rest breaks?
4. To help address the issues that you've raised about intimidation, pressure, and a lack of adequate communication about the policies where they are in place, are there any suggestions that you would make on how OSHA's proposed heat standard might be changed to better address those issues?
5. Are workers in your industry who are paid a piece-work rate paid for time spent on break? And if so, how are they paid for that time?
6. In your comment, you stated that OSHA should consider an alternative approach to calculating the regular rate or piece-rate for employees. What are the alternative approaches and factors that OSHA should consider in addition to what OSHA already specified in the proposed rule?
7. When workers are working in the field, they're presumably exposed to direct sunlight. If you could confirm that, and also, if you could clarify what type of clothing they're

wearing while they're working in the field. Are they wearing long sleeves and long pants? Do they have PPE that they are wearing while they're working in the fields?

El Futuro es Nuestro

1. OSHA received comments asking if the agency would allow virtual trainings as an option. Do you have any concerns or issues with online training as an option to comply with the training requirements?
2. Do you have any other experiences with annual training for farmworkers; any recommendations of what's most effective?
3. In your comment, you've highlighted many worker stories of employer retaliation against employees for taking action such as asking for water or taking a break. Do you have any recommendations for stronger anti-retaliation protection in the proposed standard?

Linda Pryor

1. In your experience, what are the most common challenges for employers in consistently providing suitably cool water throughout the workday, especially in remote or large agricultural fields?
2. What do you think is the maximum reasonable distance a worker should have to walk for water in an agricultural field? If you could share how you handle it on your farm, that would be helpful.
3. Are there other provisions of the rule that you would find infeasible on your farm that would prevent you from doing normal daytime operations?
4. Can you expand on your SBREFA comment and describe any strategies that could be used to ensure workers are encouraged and feel safe to take breaks as needed?
5. Some commenters have suggested that OSHA should provide guidance on as needed breaks to make sure that employers and workers understand what kind of frequency or duration might be usual for preventive rest breaks and when the frequency or duration of worker-requested breaks should be considered as a possible sign of a heat-related illness. In your opinion, could guidance or training of this kind help employers and workers normalize the use of as needed rest breaks?
6. OSHA has heard a few comments about workers not being forthcoming about their symptoms. Could you discuss your experience with this on your farm and maybe why this is the case in general and what can be done to improve this?
7. Some commentors have expressed concern that it might be challenging to implement some of the proposed emergency response and training provisions at some types of work sites, like those that are in remote or isolated areas. Can you explain if you agree or disagree and how your practices could be feasible in these types of work sites in more rural settings?
8. You testified to the importance of training here and in your SBREFA comments. Could you expand on the training programs that you implement? Would you be able to share

any materials with OSHA in post-hearing comments and any other details on your program such as the materials that you cover and the frequency of training?

DAY 5, JUNE 23, 2025

National Association of Manufacturers

1. Can you provide additional thoughts on the elements of a performance-oriented approach that the agency should incorporate? In particular, OSHA is interested in benchmarks or criteria that could be built into a performance-oriented standard that would allow employers the flexibility to tailor a heat plan to their business, while also ensuring that workers are adequately protected.
2. You expressed concern regarding the requirement of no more than 20 employees per heat safety coordinator. Can you provide any recommendations on what you think would be a reasonable number of employees to be observed by each heat safety coordinator? Do you have any additional changes or recommendations to the scope of the heat safety coordinator role?
3. What methods, if any, have been utilized by your members to isolate radiant heat from those heat generating sources? If none, what is being done to protect those employees from exposure to radiant heat?
4. Are there any controls that OSHA should consider that were not mentioned in the proposal?
5. Would there be any difficulties using certain controls at indoor work sites like yours? What would be beneficial?
6. How do your members currently generally handle rest breaks on production lines that require continuous coverage? Can you elaborate on how the required rest breaks might increase your head count?
7. Can you share any examples of your members' current heat injury and illness prevention plans with considerable detail, where possible, in terms of types of controls, expenditures for those controls, the utility expenses, and labor hours per component of the HIIPP?
8. Can you provide examples of the measurements and controls that you have particularly found to be effective in helping to mitigate heat exposure?
9. Could you elaborate on what frequency you have in mind when you suggest an increased rate of communication with new and returning workers?

Independent Lubricant Manufacturers Association

1. ILMA stated that many of its members already employ protective measures such as rest breaks. Can you expand on how and when rest breaks are provided? How do employers ensure that workers are not exposed to heat for an excessive period of time and that they're getting the rest breaks that they need?

2. In your written comments, you urged OSHA to replace the proposed acclimatization schedule with more pragmatic approaches, such as additional rest breaks and increased supervision. In the proposal, there was an option that OSHA had provided for employers to put the high heat trigger provisions in place for the first week of work when the initial heat trigger is exceeded for new and returning employees, and the high heat trigger provisions included observing employees and having scheduled breaks. Would this option address your concern, and if not, what other specific changes could you offer or recommend to the agency?
3. What are some of the more common controls for cooling being provided right now in the work areas and break areas of your member companies?
4. In your written comments, you recommended the use of job hazard analyses in lieu of OSHA's proposed heat triggers. Are ILMA members already performing job hazard analyses? If so, can you provide detail on what the incremental labor burden, materials, and equipment costs (i.e., above the baseline of what you're currently doing for OSHA standards or environmental standards) would be required for this heat illness and injury prevention rulemaking and how they are tied to the particular components of the job hazard analysis in association with a heat prevention program (e.g., monitoring, training, breaks, a heat safety coordinator)?
5. Can you provide detail on what type of data and personnel would be required to complete the job hazard analysis?
6. You mentioned that you surveyed your members. Can you share the results of that survey?
7. In your written comment, in reference to the survey of your members, you wrote, in the small handful of instances where ILMA members recorded heat-related injuries and illnesses, they reported that the occurrence was short-lived and remedied with on-site first care. How and where do your members currently document or record these incidences? Can you share any internal data on heat-related injuries and illnesses (i.e., in an anonymous dataset or a summary)?
8. How do ILMA member employers currently determine whether an injury that occurs on the job site was heat-related? For instance, does a physician or other medical professional help make an on-site determination, or is there some other method? If there are cases where it is unknown if heat contributed, how are those handled?
9. How do local weather conditions currently influence operations and safety measures among your member employers? How do they take into account those data and what data do they rely on?
10. You mentioned that there were a lot of controls in place such as ventilation and other controls that would help relieve the environment of potential heat stress. Are these environments climate-controlled or are you referring to hybrid environments like the one that was described by the last testifier, National Association of Manufacturers, and Bruce

Lundegren's question about hybrid workplaces? Do these spaces have ambient temperatures above 80 degrees as a regular course?

Alliance for Chemical Distribution (ACD)

1. Could you describe in more detail the existing measures that are already in place among ACD members to protect workers from heat-related illnesses? What's the difference between what your industry is already doing and what is being proposed by OSHA?
2. Could you provide any specific recommendations on how OSHA might structure a more performance-oriented standard? Could you speak to any elements in a heat injury and illness prevention plan that you'd envision to be prescriptive in nature, so that employers would know they're in compliance with the standard, and then any elements that you envision to be more performance-based?
3. Could you share any information about engineering controls being used, like air-conditioning or fans, or any controls being used to reduce exposures to heat generating processes and radiant heat sources?
4. Can you explain what controls or protections are in place for employees who work at remote work sites or who do deliveries off-site?
5. You stated in your written comments that your members offer paid rest breaks at elevated temperatures. Can you clarify what you meant by elevated temperatures? Are member employers using specific temperature triggers? Are there member employers within ACD who currently develop rest schedules for work at elevated temperatures?
6. In ACD's written comments, ACD stated that they were concerned with the potential for OSHA inspectors to expect documented implementation of heat monitoring. Can you provide a further explanation as to what concerns ACD has with inspectors requesting documentation for heat monitoring records during their inspections?
7. Has ACD conducted a survey of your drivers and those who are reaching remote areas? Have you done any profile analysis? Do you collect any survey data on activities involving your drivers? Information about typical activities conducted by the drivers in terms of their work activities, typical temperatures they're exposed to, what percentage of the time they're sedentary, what existing controls are in place, etc. would be helpful.
8. Can you provide information on your existing training programs and highlight what you consider are the most effective elements of those programs?
9. In your testimony, you said OSHA should recognize differences in climate across the country. Can you specify how you would recommend OSHA do this in any final rule and what data you would envision OSHA relying on?
10. You mentioned the term regionally high levels in your testimony. If this is a term or concept that ACD members currently think about, can you share any definitions you're currently using or what data you use to think about that?

American Forest & Paper Association and American Wood Council

1. In your written comments, you indicated that OSHA should reexamine its prescriptive approach and greatly increase the flexibility for employers to address heat-related injuries and illnesses in a way that's most effective for their specific work sites and to accommodate technological innovation. Could you provide more specific information on the provisions you propose OSHA change and how you would change them? Specifically, OSHA is looking for information on technological innovations you envision being incorporated into a standard.
2. Could you provide additional information on the experience of your members with wearable technology and how they've incorporated it to protect workers?
3. In your testimony, you mentioned that your industrial sector has established effective programs for controlling heat hazards. Could you tell the agency more about these programs and what's different between what the industry is already doing and OSHA's proposal?
4. You stated in your written comments that OSHA indicates in paragraph (e)(8) that the employer must allow and encourage employees to take paid rest breaks, if needed, to prevent overheating. You suggest that OSHA provide a clear definition for overheating. Is there a definition that you would recommend?
5. You stated in your written comments that the formulaic approach of x percent on day one and y percent on day two, etc. for acclimatization is burdensome. You suggested more frequent and/or longer breaks as a feasible alternative. OSHA proposed a second option for acclimatization that gave employers flexibility to design an acclimatization plan that, at a minimum, implements the high heat trigger provisions—which are alerting employees of heat hazards, observing employees, and scheduled breaks—whenever the initial heat trigger is met or exceeded during the first week. Is this a suitable option for your members?
6. Could you provide more information about the different kinds of jobs that employers in your membership are currently using to rotate workers into to help prevent overheating?
7. Can you further explain what you meant by low-risk environments when you referred to that in your testimony?
8. Is this job rotation the primary strategy for protecting workers from heat-related illness among your membership, or are there also practices of combining job rotation with as-needed or scheduled rest breaks?
11. Could you share data on your current practices? Typically, what is the labor requirement for developing a plan? What labor requirements are involved in ongoing activities with the plan? What are the equipment and labor requirements for training, multi-employer communication (and if you have any challenges there), monitoring, and assigning someone to serve as the heat safety coordinator? What are those responsibilities, and how many hours per week does that person need to serve as the coordinator?

12. If someone were to start up a program as a member of your organization, what would be the new additional burden they would have to take on to conduct a HIIPP?

American Fuel & Petrochemical Manufacturers

1. How can OSHA ensure a performance-oriented plan is sufficiently protective for workers?
2. How do your member employers currently determine whether an injury on the job site was heat-related? For instance, does a physician or other medical professional make an on-site determination, or is another method used? What happens in cases where it's not known if heat contributed to an injury?
3. How do you monitor for heat in your industry? Specifically, what types of measurements are used—wet bulb globe temperature, heat index, or ambient temperature?
4. Have any of your members found local weather reporting or apps like the OSHA Heat App to be accurate compared to the actual workplace conditions?
5. Regarding cool down and break areas at your work sites, have your members encountered any obstacles when setting them up? If so, how did they overcome them?
6. You stated in your comments that your members follow the NIOSH work rest schedule recommendations starting at a 15-minute mandatory rest break per hour at 90 degrees Fahrenheit, with increasing duration as temperatures rise. To the best of your knowledge, what has been your members' experience with following these NIOSH recommendations?
7. In your written comments, it was mentioned that work areas for your members can include remote areas in the United States. How do your members currently communicate with their employees in these situations?
8. Can you share information on your members' current practices with rest breaks? How does the safety coordinator identify the need for breaks and communicate with workers?
9. OSHA has heard concerns about potential abuse of break policies. Can you share what your members' experiences have been?
10. In your written comments you noted that OSHA's preliminary annualized costs and economic analysis have not recognized events such as turnarounds, routine and nonroutine contracting work, and other examples that aren't standard in day-to-day refining and midstream work. How would you recommend OSHA model turnaround, routine, and nonroutine contracting work?
11. Regarding OSHA's preliminary economic analysis, can you share any additional comments and details on your members' current experiences (e.g., what you pay for labor hours, materials, and equipment in your program)?

American Chemistry Council

1. If employers were to set their own initial and high heat triggers, how would you suggest OSHA ensure they are sufficiently protective and compliant with the standard?

2. In your written comments, you further recommended that if OSHA chooses to set its own triggers, OSHA should raise the initial trigger to 90 degrees Fahrenheit and then determine a more appropriate high heat trigger. Are you referring to ambient temperature or a heat index of 90 degrees? If OSHA were to take this approach, would you support implementing the control measures in paragraph (e) for the initial heat trigger?
3. Can you provide more information on which parts of the initial heat trigger requirements should be flexible and which might be prescriptive?
4. What would you suggest for a high heat trigger if the agency were to take this approach, and what data or evidence would your suggestion be based on?
5. Could you share some examples of heat injury and illness prevention programs your members have developed and the level of effort required to develop, review, and implement them? Any specifics on labor hours and equipment costs would be helpful.
6. You mentioned the ACC Responsible Care Program. Do you have data on the percentage of the industry that are ACC members? Can you share what proportion of the chemical industry your members represent, using whatever North American Industry Classification System (NAICS) level you prefer?
7. Does your Responsible Care Program explicitly address heat-related safety measures?
8. If you are able, can you share any comments or information on which program elements were particularly effective in reducing heat injury and illness rates among your membership?
9. Could you share the range of frequencies your members use to measure temperature and why some find certain frequency levels preferable?

The Flexible Packaging Association

1. Could you describe how members of your association or industry currently respond to heat-related illness and heat emergencies, and how they may overlap with the proposed emergency response and planning provisions in the proposed rule?
2. In your written comment, you suggested that OSHA adopt one heat trigger instead of two (90F) or alternatively, identify a range of temperatures such as 80-90F or 85-95F and defer to employers to designate the trigger within that range for their work sites. What types of data or evidence would you envision your members using to determine an appropriate trigger within a provided range, if this were the scenario?
3. In such a scenario, what evidence, if any, should OSHA require employers to show as the basis for selecting their trigger?
4. You mentioned that some of your work areas require total respiratory protection. Do you know if any of those areas would be what you would consider a hot area, or one of the areas that might be covered under the standard?
5. Is there a way to consider how adjustments might be made to the HIIPP for employees wearing vapor-impermeable clothing in a hot area to make sure that they're protected in that environment?

6. Could you elaborate on how the required rest break would lead to longer work shifts? What types of salary structures already currently account for heat in your industry?

United Steelworkers

1. You indicated that the standard should include anti-retaliation provisions to better protect employees. While the proposal includes a training requirement on anti-retaliation, could you expand on what specific changes you recommend OSHA make to address your concern?
2. The proposal requires that employees experiencing signs and symptoms of heat illness be relieved from duty and monitored. The heat coordinator would also have the authority to ensure compliance with the standard. Can you explain how the additional stop work requirements you recommend in your written comment would meaningfully increase employee protection?
3. In your written comments, you mentioned concerns about employers having to limit electrical use during peak summer months when asked to by power companies. Can you expand on this? Do work operations also cease during times when electrical use is limited?
4. You support a 15-minute paid rest break every two hours at the high heat trigger, but other commenters have told OSHA that that is too rigid and hard to comply with. Can you comment on what kind of flexibilities you would suggest for that rest break provision?
5. What is the process for trying to monitor a lone worker?
6. You noted in your comments that there was a case study that was done to show the impact of implementing a heat awareness program based on the NIOSH criteria document. If possible, can you provide a copy of this study or related materials? OSHA would be interested in learning more about what was implemented and any associated costs.
7. Do you have any data or information on current practices regarding heat-related injury and illness prevention in the industry? Any quantitative information—such as the prevalence of HIIPPs or rest breaks—would be helpful.

North American Die Casting Association

1. Could you outline which requirements of the proposed rule differ from what your members are already doing? You mentioned water and acclimatization—are there others?
2. You mentioned the costs of developing written heat injury and illness prevention plans and training materials. If OSHA were to provide materials, such as model templates for a HIIPP or model training materials, would that help reduce the burden and cost for your industry?
3. In NADCA's written comment, you brought up the example provided in the proposal of a forklift driver being considered sedentary but added that these forklifts in your industry

may be transporting molten metal heated to at least 1,200 degrees Fahrenheit for the large duration of a shift. Can you elaborate on situations like this and describe the impact of radiant heat on indoor sedentary workers in your industry?

4. Can you describe how local weather conditions currently influence operations and safety measures taken among your member employers? Any details you can provide about measurements currently taken and how local conditions specific to your members' locations are factored in would be helpful.
5. How do your member employers currently determine whether an injury on a job site was heat-related? For instance, does a physician or other medical professional make an on-site determination or is another method used?
6. Do your members use any methods to isolate radiant heat from heat-generating equipment? If so, what have they tried, and what has been successful?
7. Can you explain in more detail why dehumidification is not an option in the die casting industry? Have your members found any alternatives that work?
8. Should OSHA permit employees to take rest breaks outdoors if weather conditions are cooler and conducive to reducing body temperature, such as in winter or at night?
9. Is it accurate that your rest breaks are unrestricted, so the employee takes breaks when they need them?
10. OSHA has received comments about fear of employees abusing that privilege of as-needed breaks. In your experience, do employees take too many breaks?
11. I know the temperature and humidity in your processes are very important. Is it your experience that people record temperatures now in the facilities? Is it electronic or paper?
12. In your submitted comments, you mentioned a detailed analysis of compliance costs conducted by one of your member companies. If possible, can you submit more details on this analysis and elaborate on whether the estimates consider the baseline of current compliance at the facility (i.e., is this total cost or incremental cost)?
13. NADCA noted that one of your members reported receiving a quote for more than $500,000 for engineering controls to reduce heat exposure. If possible, can you provide additional details on what that included, such as square footage?
14. You noted that one of your companies reported purchasing monitoring tools that record at hourly intervals. Can you provide additional information about this estimate—specifically, the facility size, cost per monitor, number of cells in a typical facility, and the cost of outside calibration?
15. In your written comments, you described some of your members having an onboarding approach that provides de facto acclimatization with the first day dedicated to training and the second day on the shop floor. When employees begin spending time on the shop floor on day two, are any protective measures taken, given that they are new?

American Foundry Society (AFS)

1. In your written comments, you mentioned that the heat safety coordinator role could be vague and challenging to implement. What changes would you recommend to make that role less vague and more workable?
2. You mentioned in your testimony that many of your members already have robust HIIPPs. Can you share any of these existing HIIPPs?
3. Do you think using electronic monitoring devices would make the proposed recordkeeping requirements less burdensome for your workers or your employers?
4. What frequency of retraining or review of the HIIPP would AFS consider appropriate? Are there any events that should trigger retraining or review of the HIIPP?
5. You commented that OSHA's proposal for mandatory rest breaks of 15 minutes at least every two hours would create major operational challenges for foundries because it is not feasible to schedule breaks during certain tasks and suggested that employers should be given more flexibility to provide those rest breaks. Can you discuss how foundries currently provide workers relief from high temperature processes without disrupting operations?
6. In your written comments, you expressed concerns about implementing acclimatization protocols after a facility shutdown. How long do these shutdowns typically last? Do the shutdowns last more than 14 days (as the proposed rule activates acclimatization requirements after that period)?
7. You mentioned that most foundries are providing some type of acclimatization program for new and temporary workers. Can you elaborate and provide specific examples of programs that have been effective and economically feasible?
8. If possible, would you be able to submit the latest version of Foundry Approaches to Control the Heat Exposure of Workers to the docket?

Forging Industry Association (FIA)

1. In your written comments, you stated that mandatory break times, fans, and misting machines could interfere with forging operations. Could you expand on how rest break provisions could be modified to allow enough flexibility for the forging industry?
2. Are there other engineering controls besides fans and misting machines that your industry uses to reduce heat exposure?
3. How do your members handle employees who wish to take breaks outdoors? Are these considered cooling breaks? Do outdoor conditions have to meet certain environmental criteria, such as being shaded, below a specific temperature, or limited to certain times of the day or when it is seasonally cooler?
4. Could you elaborate on the consequences of using fans or chilled air? Are there areas where fans or chilled air cannot be used? Are there concerns about its effects on product or production specs? Are there any other limitations for fans, such as temperature

limitations? Are there places for cooling breaks where air-conditioning is available, and how easy is it to access?

5. You mentioned using shielding and barriers that are radiant reflecting, heat absorbing, and vents and fans to pull heat away from forging cells. Are there obstacles to installing these systems? How have they impacted the process or ability of employees to conduct the actual work? Are there areas where isolating heat-producing equipment is not feasible, and what alternatives have been used to reduce employee exposure?
6. In your NPRM comments, FIA responded to OSHA's question about fan use by stating, "OSHA has not appropriately derived recommendations for fan use." Could you expand on this and share any concerns with OSHA's interpretation of the Foster et al. (2022) paper?
7. In your SBREFA comments, you referred to members providing set breaks for employees. Can you provide more information about those breaks that are outside of the regular meal breaks? After those breaks, is there a rotation or any other kind of administrative controls that are put in place?
8. Do employees take these breaks as needed or only when they begin to not feel well?
9. How do member employers currently record temperatures? Would your member employers consider electronic recording of temperatures (i.e., to avoid a person manually recording the data)?
10. In your SBREFA comments, you mentioned that developing a HIIPP may take a small shop up to two months. Could you elaborate on that estimate—how much time per week staff would need, what type of tasks are involved, and whether the estimate would be reduced if OSHA provided a template for employers to use?

Precision Machined Products Association

1. In your written comment, you discussed the types of procedures your membership has in place to mitigate the loss of an air-conditioning unit. Can you elaborate on these procedures and explain whether you think they're consistent with, or could be applied across, your industry?
2. Are there any work areas where fans cannot be used? If so, what is currently being used to keep employees in those spaces cool?
3. Do your members use any methods to isolate heat from heat-generating equipment? If so, what have they tried that has been successful or unsuccessful?
4. Do most of your member employers keep temperature records? For the companies that currently have electronic recording, is it taking more resources (e.g., money, people, or others)?
5. You mentioned the November 2024 survey in your comments. If possible, can you share any additional results or data beyond what was already submitted?

6. If you are able, can you share any examples of guidance or outreach materials your members are already using?
7. You mentioned in your testimony that OSHA should account for geography in the triggers. Can you describe how local weather conditions currently influence operations and safety measures among your member employers? Specifically, what data do they use, how do they define typical conditions, and how do they define their local area?

Precision Metalforming Association & National Tooling and Machining Association

1. For employees working directly with machinery in your industry, how do you ensure they can take water breaks frequently enough without disrupting critical processes or creating additional safety risks?
2. You stated in your written comment that a gradual acclimatization schedule would be impractical for the industry due to productivity concerns. Is the alternative option OSHA proposed—permitting implementation of the high heat trigger requirements for the first week of work for new and returning employees whenever the initial heat trigger is met or exceeded—more practical?
3. Regarding drinking water, given the hazard of bottles at workstations, have your members successfully implemented any safe and easily adoptable hydration methods during operations?
4. In the written comments from NTMA and PMA, there was mention of One Voice member surveys. Would you be able to submit these surveys and/or their results to the rulemaking record?
5. You mentioned National Weather Service metrics in your testimony. Can you specify which metrics you believe OSHA should use?
6. Depending on the metrics you recommend, could you share any worker-specific health data that support your recommendation for OSHA to use those in the standard?

DAY 6, JUNE 24, 2025

Composite Panel Association

1. Are you proposing that all heat generating processes be excluded from the regulation? When you talk about the Oregon approach, if industrial hygiene controls are used to reduce heat exposures to heat generating processes, how would the agency assess whether those controls were adequate to protect workers?
2. In your industry, do forklift drivers have shade structures attached to the forklifts, or are they in direct sunlight while outdoors?
3. Can you explain how employers in your industry are currently controlling heat exposure, particularly radiant heat?

4. You suggested changing the initial heat trigger from a heat index of 80°F to 90°F and the high heat trigger from a heat index of 90°F to 100°F. Do you have data or evidence to suggest that these proposed triggers would be protective of workers? If so, can you submit that evidence to the record?
5. If the triggers were both increased to your recommended levels, would you envision any controls being needed below a heat index of 90°F, or would that be the only time you think controls would be necessary?
6. Do you have data or evidence to support your claim of natural acclimatization among employees? Do you have any data from your members' workforce? If so, could you submit that?

National Marine Manufacturers Association (NMMA)

1. Comments submitted by the National Marine Manufacturers Association (NMMA) mentioned that during warmer months, outside air is supplied to the manufacturing facility, which provides a cooling effect and could be subject to wide variation in temperature and humidity. Can you elaborate on how large this cooling effect is? Does it keep the ambient temperature below 90°F or below 80°F? Could you provide more specifics on the cooling effect?
2. Do you have additional data on how indoor conditions relate to outdoor conditions? For example, is there a quantitative relationship, such as if the outdoor heat index is some degrees, then the indoor heat index is higher or lower by a certain amount?
3. In your written comments and testimony, you emphasize that workers at your plants are provided with sufficient hydration breaks and work schedules so they can perform their job in a safe and comfortable manner. Can you provide more detailed information on how rest breaks are currently provided to workers in the industry? For example, are rest breaks built into schedules in advance, provided at workers' requests, or a combination?
4. Are there processes in your industry that take several hours to complete and do not lend themselves to taking breaks for rest or hydration? If so, what are they, how long do they last, and how does your industry accommodate a worker's need for a rest break during those processes?

Virginia Ship Repair Association

1. You testified about mitigation methods being implemented when heat hits certain triggers. What triggers do members of the Virginia Ship Repair Association use or do you use in your personal business?
2. What work-rest cycles are utilized by members of the Virginia Ship Repair Association?
3. You mentioned that many of your members have heat safety plans and that mitigations are included in those plans. Would you be able to submit examples of heat injury and illness prevention plans from your members so OSHA could see additional mitigation measures beyond what you mentioned in your testimony?

4. What could OSHA do to make the rule's requirements more in line with your members' existing efforts?
5. You mentioned in your testimony that sometimes workers are on the pier and sometimes workers are seven decks below in the engine room. How do break schedules work for workers in the engine room when the outside temperature might be 100 degrees?
6. What types of controls should be required for the ship repair industry?
7. What controls are your members currently using?
8. Is there a reason why portable shade structures could not be provided for workers in your industry?
9. Can you elaborate on how weather conditions are currently monitored in the ship repair industry? What general patterns exist in the relationship between outdoor and indoor temperatures for your industry?

LBT, Inc

1. Can you share with OSHA how you determine when protective measures should be implemented?
2. You mentioned additional monitoring. Is there a point where you do additional monitoring, say above a certain trigger? What does additional monitoring mean for you?
3. In the comments you provided on the proposed rule and in your testimony, you expressed concerns that the proposed requirements for as-needed rest breaks could be used inappropriately by employees. You mentioned that you believe OSHA should adjust the language of that requirement. Can you provide any specific suggestions for how OSHA could change the language?
4. Earlier in the hearing process, another commenter raised a similar concern and suggested that OSHA provide non-mandatory guidance to accompany rules. In that guidance, OSHA could include discussion around break use to help provide guardrails for as-needed breaks. Does your company agree that this could be helpful, and do you have any suggestions for what that guidance should contain?
5. In written comments, you say the cost of monitoring is underestimated in OSHA's preliminary economic analysis. Some factors you believe were omitted include restrictions on groups, line-of-sight interference from equipment like metal trailers, and the need for multiple monitors within the facility. Could you elaborate on why you would need to purchase additional monitors or replace your current system because of the rule?
6. Do you believe there would be areas you are not currently monitoring that would require additional monitors if the rule were adopted as proposed?
7. Could you provide specific estimates of the labor burden required to do your current monitoring, such as who performs it, their job title, and how long does it take to do each measurement, et cetera?
8. Does your current monitoring system log or store measurement data over time?

9. In OSHA's preliminary analysis, OSHA assumed as-needed breaks may increase break time by 10 minutes per day on average. In your experience, what is your estimate of how much of your employees' workdays are spent in as-needed breaks?
10. You mentioned that some of your employees use cooling PPE in their welding helmets. Could you elaborate on that and explain what steps you take to ensure the cooling properties of that cooling PPE in helmets are maintained?

Drycleaning & Laundry Institute

1. One solution recommended by other hearing participants is a performance-oriented approach toward the rule. One of the tensions with this approach is if an agency issues a performance-oriented rule, sometimes small businesses will say "I don't know what you want of me; how do I know when I've done enough?" How does OSHA add flexibility that will allow your members to protect workers while providing enough benchmarks so that they know when they've met their obligations?
2. How do members currently monitor heat or collect any data about heat in their workplaces?
3. This question is about the two acclimatization options that OSHA proposed. The first option for acclimatization would be that employees would gradually have their exposure to heat increased over the first few days of work. The second option would be that employers can develop their own plan that, at a minimum, implements the procedures of the high heat trigger whenever the initial heat trigger is met or exceeded during the first week. Could you speak to whether those options are feasible based on the experience of your members, and if they're not, what sort of revisions might make them feasible for your members?
4. Could you elaborate on the types of heat exposure that are unique to your industry? And how long is the typical duration of heat exposures during a workday?
5. In OSHA's notice of proposed rulemaking, the agency provides cost estimates—for example, it would take so much time to produce a heat injury and illness plan, it would take x amount of time to do training per employee, it would cost this much to provide water. Do you have any thoughts on whether or not our cost estimates were accurate for your industry?

National Apartment Association & National Multifamily Housing Council

1. You talked a lot about the mobile workforce and the high degree of independence your workers have while they're out working on properties. What should employers have to do to protect a mobile workforce and ensure that those workers are in fact safe while they're out working on properties?

2. In your testimony, you mentioned some mitigation efforts, such as off-peak working hours. Regarding acclimatization, are there any additional measures taken for newly hired employees or those that were not working for a while and have now returned to work?
3. Could you elaborate on the challenges of providing warning signs when the ambient temperature regularly exceeds 120 degrees?
4. What are some of the instances where temperatures during the workday would be 120 degrees or more in indoor work areas?
5. Can you share how your member employers currently account for geography in their health and safety policies and specifically what data they use to inform those customizations? Could you include any specifics or examples?
6. When maintenance workers and other employees are taking at-will rest breaks, is that paid time, or is it covered by their pay structure, or is it unpaid time?
7. What methods have your members adopted that have been effective in the prevention of heat-related illnesses?
8. In your experience, which occupations in your industry are most at risk for heat-related illnesses?

IAAPA, The Global Association for the Attractions Industry

1. Do you have any thoughts or recommendations on how the agency could ensure that workers get rest breaks when they're experiencing heat stress without posing an undue burden on employers?
2. Other witnesses have suggested that OSHA should revise the proposed triggers, such that the triggers vary by geography. Would you agree with that suggested approach?
3. If OSHA were to provide triggers that vary by geography, what boundaries would you propose OSHA use—for instance, county level, state level, or regional level—and what data would you propose OSHA rely on to determine those?
4. Would you be able to share the studies you mentioned, and any details on data your member employers currently collect or use to determine safety protocols in their environments?
5. You mentioned that many operators in your network use wet bulb globe temperature to monitor heat conditions on job sites. For those who currently collect that data, how do they use it? Do they use these monitoring data to determine when certain controls should be put in place, or do they use the data in another way?
6. In the temperature measurement study performed by your members mentioned during your testimony, can you clarify whether the 80 and 90 degrees they were measuring against in these studies referred to heat index or wet bulb globe temperature?
7. OSHA proposed two approaches for heat triggers: one based on heat index thresholds of 80 and 90 degrees, and another using wet bulb globe temperature (WBGT) along with calculating the NIOSH Recommended Alert Limit (RAL) and Recommeded Exposure Limit (REL), which incorporate factors like workload and PPE. Would any of your

member employers envision themselves using the wet bulb globe temperature option? Have your members measured or compared the two approaches, and do they have any preferences or data they are willing to share on that comparison?

8. How do your member employers provide access to water, and what is the typical quantity or amount of water provided?
9. How much time and other resources would you anticipate to update training programs to comply with the requirements of the proposed standard? What changes could be made to the proposed training requirements to provide flexibility?

American Short Line and Railroad Association

1. What are short line railroads doing to protect workers from heat, and how do they ensure that these measures are adequate, particularly for a mobile workforce where workers don't have defined work settings or workplaces?
2. Could you elaborate on your association's comment noting that including a list of work activities covered by the heat injury and illness prevention plan (HIIPP) was unnecessary? How would you ensure that the HIIPP adequately addresses all heat-related hazards without identifying the affected work activities?
3. While creating a HIIPP, do you think that the different types of work tasks performed by different employees are important with respect to protecting workers from heat?
4. If a supervisor were also assigned as a heat safety coordinator, do you anticipate any substantive changes to their work?
5. You mentioned that your workers have access to shaded areas and breaks. However, other commenters have stated that access to shade and frequent breaks aren't realistic for railway workers. Could you discuss your experience with these controls and any alternatives that have been used?
6. Do you have any suggestions on how to make hazard alerts more effective?
7. Can you tell OSHA about the size of your industry, and whether you would consider all your members small businesses?
8. Do you happen to know approximately how many employees are in the short line railroad industry?

Farmrail System

1. What particular aspects of OSHA's proposed heat rule would be unduly burdensome for you?
2. Does your heat mitigation program include specifics on monitoring heat conditions, and if so, what does that typically look like?

International Association of Sheet Metal, Air, Rail and Transportation Workers – Transportation Division

1. The Association of American Railroads provided written comments stating that the challenges of complying with the standard's requirements related to heat emergency procedures would be particularly challenging for the railroad industry. Do you have thoughts on that comment?
2. Do you have any information on the underreporting of heat-related illnesses in the railroad industry?
3. Your organization's written comments urged that thermometers in locomotive cabs be "self-reporting". What was meant by self-reporting in this context?
4. Can you provide any details on what you have observed with regards to current monitoring practices in work areas?
5. You mentioned several challenges faced by workers, especially during equipment breakdowns. OSHA is interested in learning more about what controls are currently in place and being used to prevent heat-related illness in those situations.
6. While troubleshooting equipment breakdowns and walking long distances, do your members use any sort of cooling PPE or do they take CamelBaks (water backpacks) or anything like that with them in these situations?
7. Can you provide any data or information about temperatures inside the train when the train is stopped. Are these temperatures similar to outdoor temperatures? Higher, lower?
8. Can you elaborate on the current level of rest breaks in your industry? How often and how long are they?

Edison Electric Institute

1. Several folks have talked about the need for a performance-oriented standard rather than the prescriptive approach. Do you have any thoughts on how OSHA could write such a standard? For example, how should the agency express a requirement for rest breaks? Some commenters have suggested that rest breaks as needed could lead to abuse by some workers, but if OSHA provided a more specific timeframe, there might be a greater hazard in having to stop work at certain prescribed times. Your thoughts on this would be greatly appreciated.
2. If a crew member is doing a critical and/or dangerous task and is in need of a break, what's the current practice of using that as-needed break?
3. You mentioned that in your experience, as-needed breaks are an effective tool in preventing heat illness. Could you describe the length of time and frequency of these as-needed breaks, how they're used by employees in member companies, and the percentage of employees within these organizations that use them? Is this in addition to other types of breaks, such as lunch or other scheduled rest periods?

4. You discussed concerns with the heat safety coordinator role, including scenarios when the coordinator was out sick or there was turnover. What do member companies do now if a supervisor, foreman, or similar role is on leave? Do you have any suggestions for alternatives to the heat safety coordinator role requirement?
5. Some commenters have stated the term “suitably cool” is vague. Can you elaborate on your view that OSHA should not mandate a specific temperature range for drinking water?
6. In your submitted comments, it was mentioned that some members mandate breaks when air temperatures reach their heat illness prevention plans' targeted temperature threshold. What is that threshold, and does it get reevaluated based on results or if there is a heat-related incident?
7. You stated that restoration of power during post-storm operations or other scenarios should be exempted. One could imagine that in those situations workers would be asked to work faster, harder, or longer than usual due to the pressure to restore power. How do you ensure the safety of those workers in those scenarios with respect to heat?
8. When there's a potential heat emergency and someone needs rapid cooling, your comments talked about financial and logistical challenges of providing rapid cooling for workers, particularly in mobile workforces. Can you talk more about those challenges and how you would address such a situation?
9. You talked about some of the cost constraints with cooling interventions. If there are any specific cost estimates you could provide for the different requirements, including emergency cooling interventions, OSHA would appreciate that.

International Safety Equipment Association (ISEA)

1. OSHA has heard from many witnesses about a desire to switch from a specification-oriented standard to a performance-oriented standard. One of the things OSHA is curious about is biomonitoring equipment for heat stress. Are any of those witnesses members of your association or does ISEA have knowledge of such equipment?
2. If OSHA went in a performance-oriented direction, how would employers know when enough cooling PPE had been provided so that rest breaks were not needed, or when the cooling PPE was no longer effective and needed to be replaced or replenished?
3. Do manufacturers generally provide adequate instructions on limits of technology?
4. How are employers determining safe working conditions when workers are wearing impermeable or non-breathable PPE?
5. What has been your experience with any biomonitoring for heat stress? Have you seen it used in the field?
6. Is there any cooling PPE available that could be used with FR (fire-rated) clothing?
7. OSHA has received comments that shade is not feasible for some employees who work in highly mobile areas. Are you aware of any shade alternatives available for mobile work crews? If so, can you describe some of those options?

8. In ISEA's written comments, you talked about how extensively cooling PPE is being used in outdoor environments already. If you have any data or information on the specific industries that utilize cooling PPE, such as information on the industry itself, the estimated share of employers that use this PPE, and you can provide that to us, that would be helpful. Additionally, if you have any information on the average cost of the most commonly used PPE, and you can submit that into the record, OSHA would appreciate that.

American Railroad & Transportation Builders Association

1. In your organization's written comments, you had asked OSHA to expand the definition of emergency response to include a broader range of industries and job titles including construction workers doing emergency road and bridge repair, hazardous debris removal, erosion control, and other structural repairs. During these times it seems like there's an incentive for workers to work longer, faster, harder than they would otherwise in order to restore critical infrastructure or services. If there were such an emergency exemption for this sort of work, how would you ensure that workers are safe while doing this work?
2. In your organization's written comments, you referred to a heat injury and illness prevention plan from a contractor in Wisconsin. Would you be able to provide that to the record, as well as any information you might have on costs and benefits of that plan? If that contractor would like to redact their name, that would be alright.
3. What are some of the administrative challenges for small businesses in complying with the heat injury and illness prevention plan provision in the proposed rule?
4. In the written comments, you said your members have long implemented acclimatization protocols. Can you describe these protocols and how they're used?
5. In your organization's written comments, you noted that the gradual acclimatization schedule was impractical for the industry. Do you have any thoughts about the second option provided by OSHA that would require employers to develop their own plan that, at a minimum, follows the high heat provisions during the first week for new and returning workers when the initial heat trigger is met or exceeded? Do you have any ideas of alternatives that could be used instead?
6. In your organization's written comments, you state that members already provide shade. For those situations where shade is provided, can you elaborate on its use, including how the shade is provided, how close it typically is to the work area, and if it's portable so it can relocate as work moves?
7. For those situations where shade can't be used, can you tell OSHA about any alternatives you've seen used or the types of controls your members use to prevent heat-related illness?
8. How do your members determine when to start using heat illness prevention measures?
9. In your comments and testimony, you expressed concerns with the scheduled rest breaks every two hours. One reason you mentioned was the need to execute time-sensitive

operations. You recommended that breaks should instead be flexible and provided as needed. Can you discuss current practices at member employers' work sites on breaks? Are employees typically able to take breaks as needed to prevent overheating? If so, how do supervisors and crews arrange for those as-needed rest breaks during time-sensitive operations?

10. OSHA has received a lot of comments about taking a performance-oriented approach. How could OSHA write a regulation that gives you the flexibility you're asking for while still ensuring some minimum protection for workers against heat injury and illness?

Conn Maciel Carey's (CMC) Employers Heat Illness Prevention Rulemaking Coalition

1. OSHA has heard from a number of witnesses a desire for a performance-oriented approach. OSHA has heard several witnesses mention the Nevada OSHA approach. How should OSHA write a regulation that provides employers with the flexibility you're asking for while also ensuring some minimum level of safety for workers? In particular, you mentioned a job hazard analysis. How does OSHA make sure employers don't just pencil-whip a job hazard analysis and say "no problems here"?
2. In your testimony, you also mentioned sophisticated monitoring systems. What are you monitoring in retail settings? How do employers make decisions based on this information? Are there trigger points? How do employers use that information to determine what's enough to protect workers in these settings?
3. OSHA has heard many witnesses advocating for water breaks as needed and rest breaks as needed. How should OSHA address the issue in a performance-oriented standard of when workers have enough water and rest breaks? The agency has heard some employers express concern about these breaks becoming abused by workers, so how does OSHA do something that's performance-oriented but addresses both sides of the issue?
4. Is the workforce concentrated in areas where the floor space is cooled or are there typically a lot of workers that are working in non-cooled floor space?

Kitchen Cabinet Manufacturers Association (KCMA)

1. Is it your contention that all employers should be required to consider the generated metabolic heat or the workload of employees as they consider heat safety?
2. During the testimony, you talked about using fans and ventilation and other sorts of controls in the workplace. Can you talk about other measures that KCMA members have used to address heat in the workplace?

DAY 7, JUNE 25, 2025

American Building Materials Alliance

1. Could you describe in more detail the existing heat protocols in place in your industry, and the differences between what your industry is currently doing and what was proposed in the proposed rule?
2. In your written comments, you recommended that the standard allow employers with proven safety records and effective plans in place to certify compliance under existing protocols. Could you provide some additional details on how you would envision that working, and what you think OSHA should consider as effective heat management practices under such an approach of certification?
3. Could your alliance provide OSHA with examples of heat safety plans that your members are currently using?
4. The proposed rule provides the flexibility of maintaining temperature records for indoor work areas in either a written form or electronically. Electronic monitoring devices are readily available, easy to use, and often have a storage capacity for six months or more. Would using electronic monitoring devices make it easier for your members to comply with the proposed recordkeeping requirements?
5. Could you provide any information on the current mechanisms your members use for employees to report incidents or heat-related hazards, and if they can report without any fear of retaliation?
6. You mentioned in your testimony that your membership has very robust plans. Could you share any information about rest breaks, and how they are determined, when they are needed, and what the determining factors are for employees to take rest breaks as needed?

United for Respect

1. During the course of the hearing, OSHA has heard from several groups that the proposed standard is too prescriptive and that OSHA should adopt a more flexible, performance-oriented standard. Do you have any recommendations on how OSHA could structure a performance-oriented standard to ensure that it's both sufficiently protective for employees and also provides clarity for employers to be able to ensure that they're in compliance? Specifically, which elements of the heat injury and illness prevention plan do you think would need to be prescriptive in nature, and which could be more flexible and more performance-oriented?
2. OSHA has received comments suggesting that workers may not always report heat-related injuries and illnesses that they experience. Does your panel agree with this statement?

3. Could you share specific reasons that you are aware of that workers do not report heat-related injuries and illnesses, and any evidence to support your stance?
4. Are you aware of any types of work in retail where taking breaks can be difficult for feasibility reasons? If so, can you describe some of the difficulties and whether there are changes, such as to the work process or the way staffing is done, that would make it easier for workers to take rest breaks to prevent overheating?
5. OSHA has received suggestions from stakeholders that any requirement OSHA moves forward with for rest breaks should provide more flexibility in how the mandatory rest breaks are structured, or that the final rule should require employers to allow workers rest breaks as needed to prevent overheating but should not include any mandatory scheduled rest breaks. Could you provide your thoughts about these suggestions?
6. In your testimony, you mentioned the importance of training. OSHA welcomes further comment on the proposed training requirements and your members' experience with acclimatization.

National Restaurant Association

1. Could you provide information on what your members are currently doing to manage heat in restaurants?
2. Related to training, what are your members' current methods of educating employees about heat hazards? Do you have any recommendations for OSHA on the proposed training section?
3. In your written comments, you mentioned how the rigidity of the proposed requirements for mandatory scheduled rest breaks could disrupt the workflows in restaurant operations, particularly during peak service periods. Could you provide your organization's thoughts on how OSHA could modify the proposed rest break timing requirements to allow flexibility sufficient to avoid significant workflow disruption during rushes or other time-sensitive periods, while still providing workers relief from high heat environments to avoid overheating?
4. Where do employees typically take breaks, and are these areas usually cooled?
5. Could you discuss your members' experiences with the feasibility of using air-conditioning and any alternatives? What is currently being used to keep employees cool in work areas that are hot and humid?
6. Do any of your members use methods to isolate radiative heat from heat generating processes and equipment? If so, what have they tried that has been successful or unsuccessful?
7. In your written comments, you stated that the proposed rule mandated extensive recordkeeping and that these requirements present a substantial logistical challenge for operators, particularly those managing multiple locations. Could you explain any of the logistical challenges that operators managing multiple locations would have in your industry due to the proposed requirements for indoor work areas?

8. Do you think that using electronic monitoring devices with logging capabilities would make the proposed recordkeeping requirements less challenging in your industry?

International Foodservice Distributors Association

1. Some witnesses have testified previously during the hearing that a performance-based approach may still need to have at least some prescriptive elements so employers can ensure they are in compliance and that a plan is sufficiently protective. Could you share any thoughts on which elements of a heat injury and illness prevention plan might still need to be prescriptive in a performance-based approach, and which should be performance-based or have more flexibility?
2. In your written comments, you recommended that employers develop acclimatization protocols that are tailored specifically to their work sites. Can you provide examples of what these tailored acclimatization protocols might look like for a typical food service distribution employer?
3. You mentioned water being "readily accessible" and that "readily accessible" is vague. Do you think if OSHA specified what is "readily accessible" in the standard, it would be too restrictive?
4. You mentioned that it is unfeasible for a supervisor or heat safety coordinator to have oversight on employees who are working alone or delivering food alone. What observation can employers have over lone employees who are delivering food, and are there any practices you engage in that you find effective?
5. You mentioned that your members already have many training procedures. Would you anticipate many changes to existing training programs to align with the training requirements proposed in the NPRM?
6. In comments to the proposed rule, you referred to some of your members' concerns about the proposed requirement for mandatory scheduled rest breaks, specifically to a concern that meeting the proposed break frequency could result in a hazard depending on the tasks being performed. Could you provide clarification and further information on what sort of hazards your members are concerned about and how meeting the proposed requirement for scheduled breaks could create those hazards? Could you also provide your members' thoughts on how OSHA could modify the proposed rest break requirements to allow the flexibility that would help address your members' concerns while still meeting protection goals for workers?
7. In your testimony, you mentioned concerns with the triggers and concerns that OSHA didn't account for geography in the triggers. Could you share information on how your members are currently accounting for geography and variations in climate in their health and safety protocols? Could you also share details, examples, or descriptions of the data your members are currently using to make these determinations?

United Food & Commercial Workers Union (UFCW)

1. In your submitted comments, you note that there are at least seven prominent languages spoken among your members, and you highlighted that there was one UFCW-represented meatpacking facility where there were over twenty languages spoken. Do you find it reasonable to require that the heat injury and illness prevention plan is made available in a language that all employees, the supervisor, and heat safety coordinators understand?
2. Currently, how are employers ensuring that your members understand safety and health information when they speak a primary language other than English or Spanish?
3. In your written comments, you noted that OSHA should consider adding a definition of work-related heat illness to the regulatory text. You noted that this would better protect workers. Can you elaborate on why you think OSHA should add this definition?
4. OSHA has received a number of comments that the proposed requirements for mandatory rest breaks every two hours are too inflexible for some workplaces. The suggestions that OSHA has received are mostly either that any requirement for mandatory rest breaks should provide more flexibility for how frequently rest breaks are scheduled, or that a final rule should eliminate any requirement for mandatory scheduled rest breaks and instead rely on allowing workers rest breaks as needed to prevent overheating. Could members of your organization provide any thoughts on these suggested changes to the proposed rule?
5. In the comments OSHA has received requesting more flexibility in rest break requirements, one common issue is that some jobs or work processes make it infeasible to take rest breaks in the middle of the process, even if an employer is willing to allow them. This may be due to the nature of the work or safety risks involved, which are not necessarily at the employer's discretion. In your membership's experience, are there types of work where taking breaks can be difficult due to logistical feasibility or safety reasons when a break from the heat is needed? If so, can they describe the difficulties and provide any suggestions on how to change the work process or staffing to make it easier logistically to take breaks?
6. Can you tell OSHA more about any controls that employers in your covered industries have used to isolate radiant heat or heat generating processes? If you're aware of anything other members are doing that has worked, could you provide that information?
7. If the air-conditioning malfunctions, how long should the system be allowed to be out of order before the scope exemption no longer applies?
8. In your written comments, you stated that the standard should implement a requirement for employer reporting of heat-related incidents that occur at work. Can you explain why you would like OSHA to require employers to develop a heat-related incident log, even if the incidents do not warrant a record on their OSHA injury and illness reporting forms?
9. Could you share any data or information you may have on the percentage of your members working in environments that have heat, such as those working outdoors, those

working in facilities with inadequate climate control, and those working indoors with some type of radiant heat source, either with or without climate control?

10. Mr. Lopez mentioned in his testimony that he's witnessed colleagues passing out or collapsing on the job. Could you share the frequency with which you've observed this—for instance, how often it happens in a month, and among how many coworkers? Could you also share any details on what typically happens in these scenarios? Is there some sort of response from management or coworkers to cool workers or respond to these workers, and if so, what does that response look like typically? (For these questions, OSHA is interested in experiences of the broader UFCW membership, not just Mr. Lopez's.)
11. In your written comment, you address the need for anti-retaliation provisions. What have your members' experiences been communicating about heat-related hazards and injuries to management and what have the responses been?

National Association of Wholesaler-Distributors & National Retail Federation

1. In your testimony, you said that the proposed rule would undermine existing heat-related safety programs that your members have, and that your members already have taken proactive steps to protect workers. Could you describe the steps that your members currently take and why you think the proposed rule would undermine them?
2. Could any of your members (for both National Association of Wholesaler-Distributors and National Retail Federation) share with OSHA some of their existing heat-related safety programs as examples?
3. In your comments, you discussed some concerns with the proposed exemption of short duration employee exposures at or above the initial heat trigger of 15 minutes or less in any 60-minute period. Could you explain how this proposed exemption could be more flexible, or how you'd propose it be changed to better address your concerns?
4. In your written comment, you expressed concerns with the monitoring requirements in paragraph (d) of the proposal. Can you provide details or examples on how member employers currently monitor temperature or heat index at work sites?
5. Could you share any details or examples or any experiences from your member employers in states that currently have heat standards, about how they're complying with the rules in those states?
6. In your comment, you wrote that members already have emergency response plans in place and that members already understand the need for advanced planning. You also wrote that the proposed emergency response and planning provisions in the proposed rule provide challenges. Could you provide some additional details as to what your member employers are already doing (i.e., specifics from the plans that are already in place)? Could you also share how the provisions proposed by OSHA could potentially be modified to be feasible for your member employers while also ensuring worker safety?

7. How often are vehicles not equipped with air-conditioning, and what requirements for cooling areas should be put in place when a vehicle does not have air-conditioning?
8. In the joint comments that were submitted to the record, you recommended that OSHA should withdraw the proposed rule for reasons that included your concerns about the proposed rest break requirements, which you stated would not allow employers to appropriately manage rest breaks in their facilities. If OSHA does move forward with the rule that includes mandatory or as-needed rest break requirements, could you provide your thoughts on what changes OSHA could make to the proposed requirements that would help address your concerns while still being protective of workers?
9. In the joint comments, there was also a concern expressed about the potential for as-needed breaks to be used excessively or inappropriately. A similar concern was raised by other commenters in the hearing. One of them suggested OSHA should provide guardrails in the form of non-mandatory guidance that would accompany a rule and include more discussion about what typical rest break use would look like and other kinds of corollary discussion to help normalize expectations around rest breaks for employers and employees. Do your organizations think such guidance could help address concerns about potential misuse of as-needed rest breaks, and if so, is there any specific information your organizations think should be included?
10. What percent of your membership has existing heat plans in place? Could you provide any estimates or information on how common it is within your industry?
11. In your comments, you mentioned air-conditioning and warehouses. Could you provide more specific information on what share of warehouses across your membership have temperatures maintained below 80 degrees?
12. Mr. Egee mentioned that there was a lack of clarity in some of the requirements for this OSHA standard. Could you highlight these provisions and make recommendations to add clarity?

American Petroleum Institute

1. In your testimony, you mentioned using the 95th percentile and 98th percentile temperatures as the triggers—one as the initial heat trigger, one as the high heat trigger—to account for local conditions and geographical considerations. Are you aware of employers who already take an approach like this? Could you also provide thoughts on what sources employers could use to find the 95th percentile or 98th percentile and whether this would be feasible for small employers?
2. In your written comments, you proposed two alternatives for absolute heat triggers. If OSHA were to keep the triggers, you suggested it should either increase them—for example, to a heat index of 85 degrees for the initial heat trigger and 100 degrees for the high heat trigger—or keep only the initial heat trigger and make the remainder of the rule performance-oriented. Regarding setting triggers at a heat index of 85 and 100 degrees, could you provide evidence to justify these triggers?

3. Where you suggested keeping the initial heat trigger but making the remainder of the rule performance-based, could you explain how you would envision that to work? For example, if OSHA were to take this approach, would the controls at the initial heat trigger in the proposed standard still apply (i.e., paragraph (e) controls)? Do you then envision that employers would be required to determine when and how to implement controls at a high heat trigger that they determine?
4. In your written comment and testimony, you indicated that OSHA does not need to impose specific measures to accomplish the goal of acclimatization and said OSHA should instead allow employers to conduct a job hazard analysis to identify real risk and tailor their response to the specific factors identified. Can you describe how this approach would help new and returning workers become acclimatized?
5. In your written comments, you referred to heater treater buildings which meet the initial heat trigger. Can you further explain the conditions and processes inside these buildings and other indoor areas where workers are exposed to radiant heat sources, and how employers are currently protecting workers from heat exposure in these areas?
6. In your written comments, you gave some recommendations that any rest break requirements should be performance-oriented. You said those requirements should be revised to require workers to act in good faith in requesting breaks and to acknowledge that employers will have to evaluate requests based on the information available to them at the time. Could you provide any specific changes to the language in the rule that you think would capture your intent?
7. Could you provide any thoughts about how performance should be evaluated in a performance-oriented standard for rest breaks?
8. In your comments, you mentioned that employers in the oil and gas industry are already implementing processes to allow rest breaks on as-needed basis or on more fixed work schedules to mitigate heat hazards. Are there any examples you or your members might be able to provide of rest break schedule policies that represent successful mitigation of heat hazards in the industry?
9. Could you provide any examples of the job hazard analyses that you mentioned in your testimony and how these are used to determine what appropriate measures are in a particular workplace?
10. In your written comments, you mentioned lack of flexibility for the break area requirements, specifically in areas like the North Slope of Alaska. What controls do employers in your industry currently use? For instance, can employers use portable shade sources such as pop-up canopies or tents, and if not, why not?
11. Could you share your experience with the feasibility of using shade or any alternatives you've used? Are there any other types of structures OSHA should consider for use as shade?

National Association of Landscape Professionals (NALP)

1. The proposed rule provides flexibility of maintaining temperature records for indoor work areas in written form or electronically. Electronic monitoring devices are readily available in the market, are easy to use, and many have storage capacity to be able to retain records for the proposed six months. Do you think using electronic monitoring devices would make it less burdensome for your members to comply with the proposed requirements?
2. In your written comments and testimony, you stated that the heat trigger should be defined on a regional basis and adjusted to reflect the normal heat exposure of employees. What geographic area would you propose OSHA consider for establishing any new triggers based on geography; for example, at the county level, state level, or regional level? What data would you propose OSHA rely on to establish those triggers? Are you aware of any member employers who are already taking this sort of approach, and if so, what data do they rely on?
3. In your testimony, you mentioned that 90 degrees Fahrenheit would have different impacts in different locations across the country, partly due to varying levels of humidity. Do you believe OSHA's use of heat index and wet bulb globe temperature in the proposal, instead of dry bulb temperature, accounts for this? Why or why not?
4. In your testimony, you touched on the topic of H-2B workers and seasonal workers, and in your written comments, you stated that you believe considerations should be given to workers who are coming from predominantly warmer climates and may already be acclimatized. Is there any specific evidence or methods that your members currently use to verify workers' prior work experience or their prior heat exposure before they begin?
5. In your written comments, you raised some issues for OSHA to consider, one of which highlighted communication practices with workers. What are the methods of communicating with the team leader and the employee, and what's working well?
6. You said in your testimony and written comments that the timing of rest breaks should not be dictated by the rule. Are you recommending that if OSHA moves forward with the final rule, the rest break provision should be limited to as-needed rest breaks and there should be no mandatory scheduled rest breaks?
7. In your comments, you noted that your industry currently uses work breaks as part of normal work practice, and that the frequency and length of these breaks vary depending on the level of heat exposure, type of work, the individual's acclimatization, and other factors. Were you referring to breaks that are primarily planned breaks scheduled based on an understanding of those factors by the employee or supervisor, or as-needed breaks, or a combination that's prevalent in your industry?
8. In your testimony, you discussed the use of breaks currently in your industry. Were you talking about a customary practice, or are there formal policies that your organization has created for its members?

9. Could you share any employers' policies or explanations of how they schedule breaks referred to in your testimony?
10. On average, how many jobs do your members perform annually?
11. In your industry, what types of work make rest breaks more difficult? What percentage of those annual jobs are performing this type of work?
12. How often is it the case that the work that you do is done in multiple work sites across different regions with different typical local temperatures?
13. In your comments, you expressed concern regarding the incentive of pure commission on workers' desire to take rest breaks. What occupations in the landscaping industry are paid by commission? And what percentage of workers in those occupations are paid by commission?
14. In your testimony, you noted that while rest breaks are important, you were concerned about the requirement for mandatory 15-minute rest breaks every two hours during high heat conditions. You also mentioned states like Washington and Oregon that have state heat standards. Could you share your members' experience with mandatory rest breaks in these states?

Georgia Green Industry Association, Inc.

1. In your testimony, you mentioned that the administrative burdens of the proposed rule were significant. If OSHA provided templates for written heat injury and illness prevention plans and training materials for employers to use, would that reduce part of the burden and cost for your member organizations?
2. Are there any alternatives to having a separate HIIPP for each site? For instance, what work site characteristics would you suggest OSHA consider in determining whether a single HIIPP can cover multiple work sites?
3. In your testimony, you mentioned that your members already provide water, shade, rest breaks, and training. Could you provide more specifics on what aspects—such as rigid rest breaks or recordkeeping—would create significant administrative burden beyond what your members are already doing?
4. In your testimony, you mentioned your organization providing best practices and distributing those to your membership. Could you share your best practices with OSHA as an example?
5. In your written comments, you explained that the proposed requirements for mandatory rest breaks are impractical for some employers and that alternative options are needed. Are there any specific changes to the proposed rest break requirements that your organization suggests to make them more practical?
6. In your written comments, you mentioned that proposals for mandatory rest breaks every two hours are impractical for piece rate workers and create payroll complexities. In your experience, how prevalent is piece rate pay in your industry, and what occupations are typically paid by piece rate? OSHA estimated in its preliminary economic analysis that

seven percent of workers are paid by piece rate for any industry. Is this estimate reasonable for your industry?

7. In your written comments, you noted that employers need alternative options for managing acclimatization. Can you provide more specific examples of what these alternatives for acclimatization would be that would be feasible for your members?
8. In his economic impact analysis, Dr. Campbell assumed that workers are already receiving 15-minute breaks every two hours as the industry norm. Is this an accurate representation of your industry?
9. In his economic impact analysis, Dr. Campbell assumed supervisors monitored employees' breaks to ensure the break is taken for the correct length of time. Can you elaborate on why you believe supervisor monitoring of employees' breaks is necessary to comply with the proposed rule?
10. In his economic impact analysis, Dr. Campbell provided an estimate of travel time to and from the work area, of five minutes each way for a total of ten minutes per break. Dr. Campbell's baseline assumption is that employees are taking breaks but are not being paid for travel to and from shaded break areas. Is that consistent with your industry?
11. Are you able to provide the estimates for the cost for San Diego in Dr. Campbell's economic impact analysis? Dr. Campbell mentioned that they were higher, but it was blank on the table that was submitted.
12. In his economic impact analysis, Dr. Campbell used a wet bulb globe temperature of 80 degrees to trigger the proposed requirements. Could you explain why he used wet bulb globe temperature instead of heat index? Is this the heat metric you anticipate GGIA members would use to comply with a monitoring provision? Or would you anticipate that your members would use the heat index?
13. OSHA would be interested in knowing how you balance rest breaks as needed for your members with the production requirements. In your written comment, you mentioned retail garden centers and staffing requirements. For example, OSHA would want to know how your members balance between those two requirements.

Communication Workers of America

1. Could you provide further information that would help OSHA more fully understand the working conditions of your union members, in particular, what their experiences are with accessing rest breaks? Mr. Sallie mentioned in his testimony the wide range of experiences based on two workplaces, but it would be helpful to know what other workers in those places, as well as in other workplaces, are experiencing and any knowledge of safety plans in those workplaces or trigger points for actions that allow workers to access rest breaks, or what indications they're using to seek them.
2. OSHA has heard from multiple witnesses and commenters on a recommendation for OSHA to have a geographically varying trigger or set of triggers. Does CWA agree with this approach? Why or why not?

3. In your testimony, you mentioned the exemption for sedentary indoor workers. Could you share any data that you're aware of on heat-related injuries and illnesses among sedentary indoor workers?
4. Do you or any of your employers have a policy for how long employees may continue to work if the air-conditioning breaks down before contingency plans go into place?
5. Have your members worked at employers who have tried fans? If so, what was their experience with the use of fans? If not, what alternative controls or PPE are currently being used to keep employees in those spaces cool?
6. Are there any protocols you suggest for contacting employees who are in hard-to-reach areas, such as areas without broadband connection?
7. As a union that covers workers across the United States, have you evaluated the impact of state-level heat regulations on employees?

Workers Defense Project

1. OSHA has heard during the hearing that the proposed standard is too prescriptive and that OSHA should adopt a more flexible performance-oriented standard. Do you have any recommendations on how OSHA could structure a more performance-based standard that ensures it is sufficiently protective and provides enough clarity for employers to ensure that they are in compliance?
2. What elements of the heat injury and illness prevention plan do you believe should be prescriptive and which could be more performance-based?
3. OSHA has received a variety of comments that the proposed requirements for mandatory rest breaks every two hours are too inflexible for some workplaces and suggestions, largely from employer associations, that the standard, if it moves forward, should provide more flexibility on how frequently rest breaks must be scheduled, or alternatively, that the final rule should require employers to allow workers breaks as needed to prevent overheating but should not include any mandatory rest breaks. Could you provide comments on whether you see any need for additional flexibility in the way that timing is structured and any thoughts on the suggestions OSHA has received?
4. Some employers and their representatives have expressed concerns about OSHA's proposed break requirement, arguing that it may lead to excessive use of break privileges and lost productivity. Does the Workers Defense Project believe that this will occur? Why or why not?

Laborers' Health and Safety Fund of North America (LHSFNA)

1. Could you share more about your members' experience and the success or feasibility of a buddy system? For example, is it feasible to have more than one buddy or a small pod of workers observe each other? Could you also share any recommendations on how to fulfill an observation requirement in the case of lone workers?

2. OSHA has heard from other witnesses during the hearing that it has failed to account for what they describe as the natural acclimatization that workers develop from living in the same locale as where they work. Does your panel agree with this? Why or why not?
3. Do you represent workers in Alaska or states with similar climates, and what type of indoor workers in these climates are exposed to heat in these environments? Is the outdoor temperature directly related to their exposure? And what type of outdoor workers in these climates are exposed to heat?
4. As a union that covers workers across the United States, have you evaluated the impact of state-level heat regulations on employees?

DAY 8, JUNE 26, 2025

American Federation of Teachers (AFT)

1. OSHA received comments noting that employees are currently working in schools with inadequate climate control and suggested that these employees should be covered by the proposed standard. Can you elaborate on the experiences of your members working in such school buildings? What are typical temperatures? How often are members exposed to conditions above the initial and high heat triggers? How often are these members provided with alternative options such as working virtually and how often are school days start and stop times altered due to heat? OSHA is interested in any data that your organization may have on these topics beyond what has been shared during the testimony and welcome any data on these topics beyond school classrooms and in any other workplaces where AFT members work.
2. How often are fans used as a control measure? Under what circumstances and how often are fans available? Any data you have or examples you can share would be helpful.
3. Are you aware of any employers who currently measure wet bulb globe temperature in work areas? OSHA would be interested in any data or examples of existing use of wet bulb globe temperature.
4. In Ms. Holland's testimony, she mentioned specific groups of workers who may be deemed sedentary and therefore exempted under the proposal as it is currently written. Can you explain why you believe their work would be considered meeting OSHA's definition of sedentary? Please share any data on these workers and any data specifically on heat-related injuries and illnesses among these workers if you can.
5. In the sample Maryland Occupational Safety and Health (MOSH) heat safety program on their website, there are discussion questions where employers can give descriptions of how they are planning to follow the requirements of the rest break provisions in the new MOSH program. Would it be possible to provide any examples of actual programs from employers who are willing to submit them to the record?

6. OSHA received a variety of comments that the proposed requirements for mandatory scheduled rest breaks every two hours are too inflexible for some workplaces or work processes and suggestions that the requirement should either be removed from any final rule and replaced with "as-needed" breaks, or that the final rule should, in some way, make the mandatory schedule of rest breaks more flexible to accommodate different work situations. What are AFT's thoughts on these suggested changes to the proposed rule?
7. In the absence of data on the percentage of vehicles with sufficiently cooled cabs, OSHA's preliminary economic analysis assumes that 50% of school bus drivers work in sufficiently cooled vehicle cabs. Do you think this is a reasonable estimate?
8. Do you have any data on the percentage of operating school buses that lack air-conditioning or climate control and what factors might be correlated with the percentage of buses that have climate control?

National Education Association (NEA)

1. In your testimony, you indicated that OSHA should follow existing state heat standards, such as those in California and Oregon. OSHA also heard testimony from others suggesting that the agency should follow Nevada's heat standard, which does not have triggers but instead takes an alternate approach using a job hazard analysis. Which standards should OSHA follow and why, including what are the advantages and disadvantages of the different state approaches for addressing heat?
2. Could you clarify under what conditions you think electrolyte supplements should be provided? Also, in your members' experiences, are meal breaks and meals eaten by workers adequate for electrolyte replenishment?
3. How do employers currently monitor for heat on school buses? If they do monitor, what types of measurements do they take? If they do not monitor, how do they know when to institute heat protections?
4. Do employers use weather reporting apps like the OSHA-NIOSH Heat App, for instance? If they do, do they find these helpful, and why or why not?
5. What controls do you currently see being used to prevent heat-related injuries for bus drivers? What have you tried that has worked or been successful, and what have you tried that did not work, and why?
6. OSHA assumes that 50% of bus drivers work in sufficiently cooled vehicle cabs below the heat trigger. Do you think that estimate is reasonable?
7. For the proposal, OSHA estimated that 15% of school employees are in facilities where they may be exposed to heat due to inadequate climate control. Can you explain whether you believe that 15% is a reasonable estimate, or if you have any data on this topic?
8. Can you provide any further detail about whether there are specific jobs or work processes where it is particularly difficult, in your membership's experience, to take rest breaks? What are the challenges in those situations, and what potential solutions would your organization suggest?

9. Is your membership aware of any examples of organizations that are doing a good job of giving employees rest breaks, and what are the keys to how that is working well?
10. Throughout the hearing, OSHA received comments from a variety of organizations that the proposed requirements for mandatory rest breaks every two hours are not workable for all workplaces or work processes. Some comments propose removing the requirement for mandatory scheduled rest breaks from any final standard, while others suggest making that part of the rest break requirements more flexible and adaptable to different work situations. OSHA would appreciate any thoughts your membership has about those proposed modifications to the standard.

La Isla Network

1. In the preamble to the proposed rule, OSHA cited a number of studies, data, and analyses to suggest that worker productivity declines in the heat, but that those declines are partially offset by rest breaks. Is this conclusion consistent with your observations and research?
2. OSHA would like your thoughts on whether you agree with OSHA's approach of estimating the offsets in productivity decline. Do you have any suggestions for how OSHA could improve its methodology on the estimates or analysis of the relationship between productivity and rest breaks?
3. In your written comment, you mentioned the newly developed AIHA app for determining wet bulb globe temperature at work sites. If you are aware of any data or research validating the values produced by this app, particularly the inputs entered by the user, could you share those with OSHA?
4. In your testimony, you emphasized the importance of metabolic heat load. Are you aware of any methods for accurately estimating metabolic heat load that could be deployed by most employers, particularly those who may not have an industrial hygienist on staff? If yes, and if you have any data on the accuracy of those methods or real-world examples of their use, OSHA welcomes that information.
5. In your written comment, you mentioned the newly developed HASTE mnemonic for responding to heat stroke. If you have any data or research on the efficacy of this mnemonic, or examples of its successful implementation in workplaces, OSHA welcomes that information. If you could also clarify what you see as the differences between the mnemonic and what OSHA has proposed in its provision on emergency response and planning, that would be helpful as well.
6. In submitted comments, the La Isla Network mentions an ongoing project based on a major construction site in the Midwest United States, focused on the negative impacts of heat and the effectiveness of worker protections to mitigate such impacts. If you are able, could you share any data and analyses resulting from this project?

Solid Waste Association of North America (SWANA)

1. Do you have any thoughts on how OSHA could incorporate more flexibility and adopt a more performance-oriented standard, while still ensuring that workers are adequately protected?
2. How do you manage and provide water, rest, and shade breaks for mobile employees?
3. Can you provide any further detail on how breaks are scheduled, whether they are scheduled in advance, or if they are at the discretion of the workers, or a mix depending on positions?
4. Is there information you can provide to give OSHA a picture of what the specific challenges may be with employees being able to take breaks when they need, or when a few hours have gone by without one? For example, if two hours have gone by without one—it would be good to understand what the challenges are and if there are ways they can be surmounted by changes to the work process or scheduling.
5. OSHA has received a number of recommendations that if OSHA moves forward with the final rule, it should either remove the mandatory scheduled rest break requirements, or develop a variant of the rest break scheduling requirement that is more flexible than its proposal. OSHA is interested in hearing any thoughts on these recommendations.
6. If OSHA were to adjust the triggers by region, what geographic area or boundary would your organization recommend OSHA use? For instance, a county level, a state level, or something larger like a region? What data would you like OSHA to consider in such a geographically varying trigger?
7. Are you aware of any members who are currently accounting for geography and regional climate in their heat injury and illness prevention plans? If so, are you able to share any details or examples?
8. Can you provide details or examples of how your members currently monitor heat hazards at their work sites? Are they consulting forecasts, conducting measurements in work areas, and what have they found works well for them?
9. Typically, in the fleet of waste collection vehicles, is there air-conditioning? Would it be possible to look into that and see if you have any information on the percentage of vehicles?
10. As your members update their fleets, is it more likely or becoming more common that they are buying air-conditioned vehicles?

National Waste and Recycling Association

1. You recommend getting rid of the high heat triggers in paragraph (f). Is it your contention that your members would be adequately protecting their workers if they only had rest breaks as needed and did not have anything required by the high heat trigger?

2. How would you recommend OSHA word a provision to allow the flexibility for rest breaks as needed, while still providing some basic, fundamental level of protection for workers to ensure they have the ability to use those rest breaks when needed?
3. In paragraph (f), there is a high heat trigger requirement for observing workers for signs and symptoms. If OSHA were to do away with the high heat triggers, would you still advocate for monitoring workers for signs and symptoms?
4. Are you aware of any members who account for regional and local climatic conditions in their heat injury and illness prevention plans? If so, can you share any details or examples?
5. For those using National Weather Service advisories and warnings, does that trigger certain controls, or does it trigger notifications to employees?
6. Others have suggested that OSHA should determine a set of geographically varying triggers and propose that instead of the set triggers for the nation. Would you agree or disagree with that suggestion? Can you provide any data to support your position?
7. You mentioned there are large employers, or at least one, who has adopted the California standard across their operations. Are they using the same triggers in the California standard, or are they using something different, and what has been their experience with that?
8. Could you expound on what flexibility you would like OSHA to maintain on fan use in reference to paragraph (e)(6) of OSHA's proposed rule?
9. You mentioned both in your written comment and your testimony the OSHA-NIOSH Heat Safety Tool app. Do you know of any alternatives your members and managers currently use or have considered using for accessing similar heat index forecast data?
10. In the written comments, you mentioned that incineration of solid waste products has been controlled by applying a mix of administrative controls and engineering controls, including restricting access to areas where ambient temperatures are identified as exceeding 120 degrees Fahrenheit. What engineering controls have been used to shield radiant heat during the incineration of waste? Were any found not to be usable or infeasible, and if so, why?
11. For indoor maintenance bays, your written comments mentioned the use of fans for cooling, as they help increase air circulation and promote sweat evaporation. Has dehumidification ever been used or needed in humid environments, and conversely, in arid environments, have you ever used swamp coolers or misters?
12. In your testimony today, you mentioned that workers are already taking two breaks a day and then as needed. Can you tell OSHA about the break areas that workers use with regards to the availability of controls like air-conditioning, fans, or shade? Do indoor and outdoor workers use the same break areas, or are they usually separate spaces?
13. What is the prevalence of air-conditioning in the waste collection vehicles? For those vehicles that are not using air-conditioning, are there any alternatives for cooling that are being used?

14. You mentioned that employees receive text messages for safety and health updates. What type of information is sent via those messages? Is there any sort of process to understand if those messages have been read, or how frequent those messages are sent out? Is there any additional information you could provide on electronic communication that members are using?
15. In your written comments, you mentioned that some members have a program where, in the event of extreme heat, "management will provide daily reminders and increase the allowances for rest breaks until the severe weather passes." Are you able to share more about this program and its effectiveness?
16. In your written comments, you mentioned that some members have said while vehicles or equipment could potentially be used as shade, break areas are also routinely accessible by employee transport to fixed work sites. Other commenters, such as Texas SWANA, said that break areas along the route are not readily available and hence vehicles need to be used as break areas. Could NWRA expand on the availability of break areas along routes?

City of San Antonio, Solid Waste Management

1. How do you currently monitor for heat in your workplace. How often do you check the temperature? Are you doing it daily, hourly?
2. Have you found the local weather reporting and apps, like the OSHA Heat app, to be fairly accurate compared to the actual conditions at your workplaces?
3. OSHA has heard from some witnesses that OSHA should determine a set of geographically varying triggers across the country. OSHA also heard a recommendation from NWRA that employers should set triggers based on their local climates, determine them, and document how they did so in their heat injury and illness prevention plan. Which approach makes more sense in your opinion and for your organization's operations?
4. Can you provide any information on the types of training you currently provide employees on heat safety topics. Which of those have you found to be the most effective?
5. Do you have any suggestions on how to make hazard alerts more effective when temperatures exceed the high heat trigger daily for long periods of time? What would you do to make this type of alert more effective at emphasizing the urgency of a heat-related injury or illness risk?
6. In some cases, municipal operators are allowed to start their day earlier, as noise ordinances are not always applicable. Is this the case in San Antonio? Do you have the ability to start your day earlier in cases of extreme heat?
7. You mentioned that 100% of your vehicle cabs have air-conditioning. In a typical waste collection crew, would all the workers have access to and be able to take a break in that air-conditioned vehicle cab?

National COSH Network

1. OSHA has heard from many employer groups about the need for flexibility with a performance-oriented approach. OSHA has asked these groups how the agency can do that while also providing certain minimum criteria to ensure that workers are protected from heat hazards. If OSHA were to move forward with a more flexible approach, what are the minimum criteria you think need to be included in a regulation to ensure that workers have adequate protection?
2. OSHA specified that at the high heat trigger, workers should receive 15-minute rest breaks every two hours. Some employers have said that at times they are unable to stop work precisely within the specified two-hour time frame. Is there a way to provide more flexibility around mandatory rest breaks, or do you think some absolute minimum criteria—like 15 minutes at least every two hours—is necessary?
3. In your written comments, you also talked about OSHA incorporating the hierarchy of controls in this standard. Do you have thoughts on how the agency might do that, given the many varied types of workplaces that will be covered?
4. Do any of your members have experience with cooling PPE? For example, in relation to flexibility, employers who provide cooling PPE might be able to adjust rest breaks because workers would be exposed to less heat. Do you have any thoughts on how cooling PPE might fit into a final OSHA standard?
5. In your written comments, you talked about refining the heat safety coordinator role with the concept of a competent person and suggested some useful criteria for defining one. Do you have any additional thoughts on this?
6. What are your thoughts on whether difficulty in accessing cool water is something that's focused in specific industries or jobs? Are there specific logistical challenges that need to be worked through with getting cool water to workers?
7. Considering work on an airport tarmac, at times, some workplaces can be significantly hotter than local weather reports may indicate. Can you discuss the use or testing of any weather reporting apps by the National COSH Network and if you found them to be accurate compared to actual conditions in the workplace?
8. How do the employers that National COSH deals with currently monitor for heat in the workplace? Are they using methods like wet bulb globe thermometers or heat index, and would those be feasible for use in the workplaces you deal with?
9. OSHA has heard from several speakers about situations where the air-conditioning breaks or fails and it's not able to be immediately repaired. Are you aware of any employers that have instituted a policy for how long employees may continue to work if the air-conditioning breaks down? If they continue to work, do they have any contingency plans in place to prevent heat-related illness?
10. What control technologies, if any, should be included as an alternative to air-conditioning and fans?

11. How do the workers who testified think that the heat impacts the amount of work that they can complete or finish? If heat exposure decreases the amount of work, how do they think that might be different if they had access to heat protections?
12. Do you think if you worked the normal hours—6 a.m. to 2:30 p.m.—where you are working during the hottest part of the day, you would have got as much done on that shift in the hotter weather than when you started earlier and had access to cooler temperatures?
13. There was testimony from other participants advocating for higher heat triggers for employers and employees in the South because the participants testified that these workers are more accustomed to higher heat. What are your members' and the workers' experiences with heat ranging from 80° to 90°F heat index. This is between the proposed initial heat trigger and high heat trigger. What is your response to the participants who are advocating for this?
14. Do any of your members work in workplaces that have as-needed rest break policies? Are those policies effective in preventing heat-related injury?

DAY 9, JUNE 27, 2025

David Michaels, Jordan Barab, & Debbie Berkowitz

1. OSHA would like to know your thoughts on performance-oriented standards and if there is a way that OSHA could make the regulation more performance-oriented while still providing essential protections to ensure that workers are adequately protected.
2. In performance-oriented approaches, what are your thoughts on what it would take for an employer to properly document that they considered all of the factors such as those raised by [Nevada] to do an adequate job hazard assessment or some other sort of analysis in order to determine what was necessary to protect workers?
3. OSHA has heard assertions that a performance-oriented standard should only rely on outcomes. Do you have any thoughts on how employers should assess those outcomes and any concerns related to signs and symptoms being reported and or recorded by workers?
4. Could you discuss whether you think OSHA should adopt a standard similar to Nevada's, and why or why not? Would you recommend any other specific changes that OSHA should make to the proposed standard based on existing state heat standards?
5. OSHA has received many comments and heard many witnesses during the hearing say that any triggers in a federal heat standard should account for geographical differences. Do you agree, and why or why not?
6. Could you share your thoughts on whether you believe the California outdoor heat rule's provision to allow rest breaks in a preventive fashion, rather than as a response to the onset of early signs and symptoms of heat illness, is necessary to prevent significant adverse health consequences of heat stress?

7. In Oregon's heat rule, there is a provision that allows for the use of cooling vests either with fans or ice packs, water-dampened cotton clothing, or similar effective measures in lieu of shade when the employer can demonstrate that providing access to shade is not safe or if it interferes with the ability of employers and employees to complete necessary work. Can you give any thoughts about how that provision was intended to be used, what kind of situations it is intended to address, and how it has been working in practice?
8. Do you agree with OSHA's conclusion that heat poses a significant risk of material impairment to workers in the United States?
9. For the risk assessment, OSHA relied upon multiple sources of data on nonfatal injuries and illnesses, specifically the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses and state-level data on workers' compensation claims, hospitalizations, and emergency room visits. In your expert opinions, do these represent the best available data sources for estimating the incidence of nonfatal heat-related injuries and illnesses among U.S. workers?
10. Do you agree with OSHA's conclusions about the effectiveness of the proposed rule in reducing heat-related injuries, illnesses, and fatalities?
11. OSHA has heard testimony during the hearings that OSHA should continue to rely on the General Duty Clause instead of issuing a federal heat standard. You mentioned that the General Duty Clause is very difficult to use and requires significant enforcement, legal, and administrative resources. Could you further explain some of these difficulties for the record?

What Works Institute

1. OSHA has heard from some hearing participants the desire for more flexibility under a performance-oriented approach. Do you have thoughts on how the agency could address either rest breaks or heat triggers to offer more flexibility while still having something that is adequately protective?
2. Do any of your members have experience with wearables and cooling PPE and if so, how do they use them to ensure that workers are adequately protected?

Institution of Occupational Safety and Health

1. Could you explain how acclimatization over a ten-day period (as recommended in your written comment) would be preferable to what OSHA proposed?
2. If you have any examples of your heat campaign materials that you would be willing to submit, OSHA would appreciate that.
3. What elements of the HIIPP do you think could be more programmatic in nature for small businesses if OSHA were to require a written HIIPP?
4. In your written comments, you stated that OSHA should consider a similar approach to that of NIOSH and CDC relating to work-rest ratios as temperature levels increase. Could you expand on what you are recommending?

5. Can you provide your thoughts about the appropriateness and, if appropriate, how OSHA might feasibly add flexibility to what is proposed for the rest break requirements in the proposed standard for small and medium businesses?
6. Are there any controls that OSHA should consider that were not mentioned in the proposal?

New York State Office of the Attorney General

1. What are your thoughts on whether or not OSHA should allow more flexibility in its proposal, and if so how, and what basic requirements should still be required to ensure workers are adequately protected?
2. A number of stakeholders have asked OSHA to take the approach employed by Nevada where they did not include many criteria but instead relied upon a job hazard analysis by employers as the way of determining how and when to protect workers. OSHA would like to hear your thoughts on that particular approach and what New York thinks about that.
3. OSHA received a variety of comments that mandatory rest breaks at or above the high heat trigger in the proposed standard are not feasible for all workplaces and recommendations that OSHA should either remove those proposed requirements in any final rule or should add flexibility to the proposed timing for mandatory scheduled rest breaks. Can you provide any thoughts on those two recommendations for addressing some of the concerns that have been raised?
4. You stated the importance of giving rest breaks before the signs and symptoms of heat illness arise. Any further discussion on why it is important to preempt even early signs would be appreciated.
5. You noted challenges or shortcomings with OSHA's current enforcement policy to protect workers against occupational heat under the General Duty Clause of the Occupational Safety and Health (OSH) Act. During the hearing, OSHA heard alternatively that OSHA should continue to rely on the General Duty Clause instead of issuing a federal heat standard. Could you elaborate why you feel that the General Duty Clause is inadequate?

California Department of Public Health

1. In this hearing, employers have asked for flexibility in heat triggers because of the perception that heat is different regionally. What are your thoughts on the medical literature and/or workers' experience of heat in different regions? Does a heat measure that accounts for both temperature and humidity adequately account for this, or is there additional need for regional flexibility?
2. OSHA would appreciate it if you could offer your thoughts on the degree to which acclimatization is important and how it can be accommodated in workplace settings.

3. OSHA has proposed exempting indoor sedentary workers from the heat standard, and a number of commenters have opposed that exemption. Do you and/or California have any thoughts on the topic, and do you have any evidence or data related to heat illness among indoor sedentary workers?
4. In your experience as a practicing physician, are you aware of cases of heat-related injuries and illnesses that were treated in hospitals, emergency rooms, urgent care settings, or other healthcare facilities that were occupational in nature but not documented as work-related in any way?
5. Are you aware of workers not reporting heat-related injuries and illnesses that they experienced to their employer?
6. If you are aware of any papers, reports, or data on heat-related injury and illness incidence or underreporting that OSHA did not cite, could you share those? OSHA welcomes any additional input you have on our risk assessment. Similarly, if you have any comments on the benefits analysis of the proposed rule on page 70962, OSHA welcomes those.
7. Regarding the provision in California's rule for as-needed rest breaks, which require that employees shall be allowed and encouraged to take a preventative cool down rest break in the shade when they feel the need to protect themselves from overheating, why was that provision written this way—when they feel the need to do so to protect themselves from overheating—rather than, for example, when they first feel symptoms of overheating or heat illness coming on?
8. To the best of your knowledge, have employees by and large been making use of the preventative cool down breaks provided for in the rule? If you are aware of any significant challenges with implementing those provisions, could you provide information to help OSHA understand why and where those challenges are arising? Any recommendations for how a federal standard could help address them? Are you aware of significant challenges in employees being made aware of or able to use as-needed rest breaks?
9. Have employers by and large been complying with those mandatory rest break provisions, and are you aware of any challenges that have arisen for employers in terms of extreme hardship or significant feasibility issues? If employers are already in compliance with these other rest break requirements, that may not have been something that you saw develop.
10. OSHA received comments expressing concern about situations in workplaces where mandatory, scheduled breaks may not be feasible or may even cause safety hazards in some circumstances. Based on California's experience, any recommendations for how a federal standard could avoid such consequences while still protecting workers would be appreciated.
11. OSHA has received comments recommending the removal of the exemption for emergency response and the inclusion of emergency service workers in the standard. On

the other hand, OSHA also received comments supporting that exemption and proposing an expansion of the exemption to include activities such as power restoration work. Could you share any thoughts on the issue?

Occupational Health Subcommittee, Council of State and Territorial Epidemiologists (CSTE)

1. In the risk assessment of the proposed rule, OSHA relied on, among other sources, CSTE's Occupational Health Indicator #24. OSHA noted in a limitation section, which begins on page 70740, that determining when emergency department visits and inpatient hospitalizations are both work-related and heat-related is challenging to do with existing data sets and coding structures. Therefore, OSHA noted that indicators like CSTE's likely do not capture all relevant cases. Do you agree with this assessment?
2. OSHA relied on multiple sources, specifically Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII) and also state-level workers' compensation claims. In your expert opinion, do these data, in addition to the emergency department data, represent the best data sources currently available for estimating the incidence of nonfatal heat-related injuries and illnesses among U.S. workers, even in spite of the limitations you've mentioned?
3. In its risk assessment, OSHA relied in part upon state-level data of workers' compensation claims. OSHA did not directly compare incidence rates derived from these data between different states. The agency noted this is because there are differences in incidence that would not necessarily reflect differences in the risk to workers in these states. There are differences in eligibility criteria between states and varying rates of usage of workers' compensation insurance by workers. Do you agree with OSHA's decision to not compare rates between states and the reasons outlined in the risk assessment?
4. OSHA welcomes any additional input on the limitations and underreporting section of the risk assessment. This begins on page 70740. These topics are also discussed in the benefits section on page 70962. OSHA welcomes any comments or missing papers, reports, or data on these topics that you are aware of and OSHA did not cite.

Washington State Department of Labor and Industries

1. OSHA is curious about Washington's experience with the close observation requirements in your standard for newly assigned and returning workers. Can you discuss the state's experience with employers' compliance with that requirement?
2. Does Washington have any experience with enforcement around the logistical administrative requirements or challenges for the close observation requirement? Have you enforced it and if so, how do your enforcement personnel know when an employer did or did not meet the close observation requirements?

3. Are there specific tools or processes that Washington State uses to identify heat waves and how to anticipate when that is occurring or triggering specific acclimatization requirements in your standard? Any thoughts you might have on the suitability of National Weather Service alerts and why Washington issues advisories from the state health department or other state agencies would also be helpful.
4. You mentioned a recommendation in your comment for "specific workplace supervisory training requirements such as the use of engineering or administrative controls". What do these requirements look like and why do you think OSHA should include this requirement?
5. To the best of your knowledge, have employers in your state by and large been complying with the rest break provisions in your rules? If so, would you share your thoughts and any available evidence you have on whether the rest break provisions have helped to reduce heat-related illness among heat-exposed workers?
6. Have there been significant disruptions or hardships you are aware of to Washington State businesses as a result of coming into compliance with rest break requirements? If you are aware of any significant disruptions or hardships that have occurred, is there information you could provide to the record to help OSHA better understand where and why those challenges arose and any recommendations based on Washington's experience for how a federal standard could help mitigate those kinds of issues while still protecting workers from heat-related illness?
7. It sounded like you did some analysis of the effectiveness of earlier versions of your rule. If there's anything that you learned or any details or results from that that you can share that you haven't shared already, OSHA would appreciate that type of information.
8. In Washington's final cost-benefit analysis for the 2023 final rule, there was an estimate that it would cost employers approximately 20 to 75 dollars per translation service. If possible, can you provide the source of that estimate?
9. How did Washington State estimate the percentage of workers working alone and/or in remote locations exposed to outdoor conditions?
10. In Washington's final cost-benefit analysis, it is assumed that unreported incidents are 10 percent of the costs of cases reported and accepted to the workers' comp system. Can you explain the basis of that assumption?

Alliance of Nurses for Healthy Environments

1. In your experiences as healthcare professionals, are you aware of workers not reporting heat-related injuries and illnesses that they experienced to their employer?
2. Are you aware of issues with the coding of heat-related injuries and illnesses among workers in administrative and surveillance databases, either not being coded as work-related or not being coded as heat-related?
3. You recommended ensuring frequent rest breaks at the initial trigger of 80° Fahrenheit where the proposed standard provided for as-needed rest breaks. Recognizing both your

recommendation that the mandatory breaks be extended to 80° and OSHA's intention in the proposal that employees should be able to use as-needed rest breaks regardless of whether they're working in conditions that also require mandatory breaks, could you give your thoughts on what kind of strategies could be included in a final rule or what kinds of information could be provided and guidance developed to explain and support the rule's requirements that could help to address the issues that you've identified?

4. Throughout this hearing OSHA received a variety of comments that the mandatory scheduled breaks in the proposed rule may not be feasible or safe in all work processes and all jobs and recommendations that that OSHA should either remove the mandatory scheduled rest breaks from any final standard or add some flexibility to those requirements for mandatory scheduled breaks in terms of how they're scheduled and implemented. Could your organization provide thoughts on these recommendations? If possible, could you provide some of the documentation of the work that you did and any further details?
5. Regarding your recommendation that workplaces that are exempt because the indoor temperature rarely exceeds 80° should be required to maintain their systems regularly and are subject to a time limit of temperatures that exceed the threshold, what would your organization consider a reasonable time limit above the threshold for these types of facilities?
6. Are you aware of any employers with policies in place that have a time limit that employees may continue to work if the air-conditioning breaks down? If you have any data or information that would support the effectiveness of expanding this requirement, OSHA would appreciate that.
7. You had mentioned support for medical screening to aid in providing employees necessary protections, particularly where they may be vulnerable. Do you have suggestions for balancing the need for such information with employee privacy rights?

Physicians for Social Responsibility; San Francisco Bay Physicians for Social Responsibility; & Florida Chapter, Physicians for Social Responsibility

1. Many stakeholders have stated that OSHA's standard is a one-size-fits-all approach, particularly as it relates to the triggers for interventions and the use of the heat index and requested that OSHA provide more flexibility and allow people in different regions of the country to assess temperature and humidity in their locality rather than relying upon one national trigger for heat index (that accounts for both temperature and humidity). Are you aware of any medical literature that would support such a contention or any evidence that the body handles heat differently in different regions? Relatedly, is OSHA's proposed provision requiring acclimatization enough to account for regional differences in temperature?

2. One of the things that OSHA's proposed regulation requires is a buddy system for workers to identify signs and symptoms of heat illness in coworkers. Some stakeholders have said that that's not possible because workers are not medical professionals. In your experience, is it possible for non-medical professionals to be taught the signs and symptoms of heat illness and how effective is that in terms of training people to identify signs and symptoms?
3. In your experiences as healthcare professionals, are you aware of workers not reporting heat-related injuries and illnesses they experienced to their employers?
4. Is your membership aware of any data or anecdotes of cases of heat-related injuries and illnesses among workers that are treated in a healthcare setting but never get coded as such in databases, so they don't get coded as work-related or heat-related?
5. From a medical standpoint, is it important to, as California's rule does, have a requirement for employers to provide as-needed rest breaks to employees who feel they need them to prevent an incidence of overheating, as opposed to a requirement that only kicks in if they are actually experiencing early signs and symptoms of heat illness?
6. Regarding a buddy system, do you have any information on how much observation is required by employees, how much time this takes, and whether this is already being done through general interactions at work? If this requires extra time to stop and ask how someone is feeling, how much time would be appropriate to estimate for that type of interaction? Do you have any thoughts on how long buddies are interacting and not working and what the associated costs are?

Montana Health Professionals for a Healthy Climate (HPHC)

1. Are you aware of any body of literature that addresses the following: Does the human body respond differently to heat in different regions, or are the heat triggers appropriate in all parts of the country? Do you have any thoughts on whether non-medical professionals could be trained to recognize the signs and symptoms of heat-related illness?
2. You mentioned underreporting of heat as a cause-of-death on death certificates. Do you or your membership have any additional data, research, or anecdotes on that topic? OSHA is also interested in your membership's experiences with coding of heat-related causes on medical forms and work-related boxes that are checked or other indications of work-relatedness.
3. You mentioned your personal experience working in a clinic with migrant workers. OSHA welcomes your experiences or anecdotes about the reporting of heat-related symptoms and heat-related illnesses among those workers.
4. You mentioned the potential side effects of some prescription drugs which could aggravate heat stress symptoms for people taking those medicines. One recommendation OSHA heard was medical screening to aid in providing employees necessary protections where they are more vulnerable to heat stress. Do you have thoughts about whether

medical screening should be utilized, and if so, suggestions for balancing the need for such information with employee privacy rights?

DAY 10, JUNE 30, 2025

American Thoracic Society

1. You support the requirement for the heat injury and illness prevention plan to be made available in languages that each employee understands and further suggested [verbal] translations be made available when needed. Is the American Thoracic Society aware of any employers who are currently providing translations for heat safety materials? If you come across any information on estimates of labor costs, or any other costs associated with the translation, please submit those as well.

National Medical Association

1. OSHA heard from various medical professionals during the hearing that they believe that heat-related injuries and illnesses among workers go underreported in official administrative and surveillance datasets. Do you agree with this, why or why not?

Ohio Association of Occupational Health Nurses

1. OSHA heard from various medical professionals during the hearing that they believe heat-related injuries and illnesses among workers go underreported in official administrative and surveillance datasets. Do you agree with this? Why or why not?

Environmental Defense Fund

1. You indicated that OSHA should consider some of the existing state standards. Do you have any specific states in mind? Could you expand on any changes that OSHA should make to its current proposal based on existing state standards?
2. OSHA heard testimony and comments throughout the hearing regarding Nevada OSHA's recently promulgated heat standard. Do you think that OSHA should adopt a standard similar to Nevada's, which does not have any heat triggers but requires employers to conduct a job hazard analysis?
3. In your written comment, you recommended that OSHA amend the proposal to include requirements for employers to assess employees' pre-existing medical conditions. Do you have any data on the costs or economic feasibility of including medical surveillance provisions? How do you envision employers getting that data and using it?
4. In your organization's written comments and testimony, you recommended additional protection during heat waves, and in your written comment you provided a definition from the World Meteorological Organization (WMO) for OSHA to consider. Based on

the definition from the WMO, does your organization recommend that OSHA allow employers to determine heat waves, or does your organization suggest that employers should be using a standardized source or a standardized formula?

5. OSHA welcomes any additional recommendations on any changes that you would propose relating to heat waves. Are you aware of any definitions that could be easily used by most employers for determining heat waves, particularly those employers who may not have an industrial hygienist?

Natural Resources Defense Council (NRDC)

1. In a comment submitted on December 2023 from the NRDC and 33 undersigned organizations, the Oregon heat standard is cited as a useful model for paid cool down breaks. After roughly three years of implementation of the Oregon standard, are there any further adjustments to the standard that NRDC would recommend lending greater flexibility to accommodate employer concerns about loss of production during the breaks?
2. Are there any other structures for paid breaks that NRDC would recommend, especially for work sites such as tall towers and bridge construction projects where scheduled breaks may not be practical?

BlueGreen Alliance

1. In your written comments, you stressed the importance of addressing air-conditioning system failures in the proposed standard and a need for immediate corrective actions. Could you provide any detailed recommendations on specific protocols or timelines that should be established for addressing air-conditioning malfunctions?
2. What types of part-time schedules are most common for the workers that you represent, and do these kind of varied part-time schedules complicate the implementation of acclimatization protocols?
3. In your written comments, you recommend that OSHA require documenting paid and unpaid rest breaks as well as heat injuries and illnesses? Can you further explain why OSHA should require documenting this information? In addition, you recommend that this information be retained for two years. How did you derive that duration?
4. Are you aware of any data on heat-related injuries and illnesses among indoor sedentary workers, and if you are, can you share those with OSHA?
5. Do you have any recommendations that your organization would make to OSHA on the definition of sedentary?

American Industrial Hygiene Association (AIHA) and Korey Stringer Institute

1. Regarding vapor impermeable clothing, how should employers determine safe working conditions when vapor impermeable clothing is required?
2. In situations where employers provide personal cooling devices such as cooling vests to employees, what recommendations do you have for ensuring that these devices maintain their beneficial cooling properties?
3. Are you aware of any employers who are already successfully using wet bulb globe temperature measurements at their work sites to assess heat stress? OSHA welcomes any details or examples, and of course you can withhold company names in that information.
4. OSHA heard from multiple commenters that web bulb globe devices are difficult to use in their industry. They mentioned that one reason is that crews move around frequently, and at least one comment specifically mentioned the time that it takes for the devices to equilibrate before providing a reading. Do you have suggestions or alternatives you would propose for these situations where crews move around frequently during a work shift?
5. On the market, there are a variety of wet bulb globe devices, and they range in price and also the specifications. Does your organization have any comments on the range of devices that are available, and thoughts on if OSHA should specify which devices should or should not be used by employers in this context?
6. You mentioned the recently developed AIHA app for estimating wet bulb globe temperature, and if AIHA has any data that validates the wet bulb globe temperature values produced by this app, including the inputs that are provided by the user, OSHA would be interested in seeing those if available.
7. Some commenters recommended that OSHA allow employers to use personal sensors for monitoring heat stress and heat strain. What is your professional opinion and your organization's opinions on using personal monitoring devices in lieu of area based monitoring?
8. If you are familiar with the guidelines and table that OSHA provided in the preamble of the proposed rule, which was based on the 2022 study by Foster et al. for evaluating when fan use may become harmful, what is your professional opinion and your organization's opinions on the conclusions and recommendations that OSHA derived from this paper? Do you agree or disagree with the conclusions? OSHA would be interested to hear whether you think the guidelines are sufficient and feasible, if you disagree with our approach, or if you would have alternative approaches that you would recommend.
9. Are you or your organizations aware of any data or papers or reports that OSHA did not cite in the proposal that could be used to evaluate the effectiveness of heat injury and illness prevention programs in reducing heat-related injuries, illnesses and fatalities?

10. In response to a heat emergency, your comment recommends whole-body cold-water immersion using a cold-water immersion tub or, when this option is not feasible, using a tarp with ice and water to perform the tarp assisted cooling oscillation method or TACO method. Are there other rapid cooling interventions you would recommend during a heat emergency or are there methods you believe are insufficient? Any specific examples of methods you are aware of that are successfully being used by employers would be great.
11. Do you think that there is any value to providing a specific length, like a minimum length of break such as in the California state rule for as-needed rest breaks taken voluntarily by workers when they feel the need to prevent overheating? OSHA welcomes your reflection on the way that the mandated scheduled rest breaks at the high heat trigger are scheduled or are written in the proposal.
12. If OSHA moves forward with the rule, you are probably aware that the agency also provides companion guidance to the regulatory text that can provide more detail about best practices. Do you have any suggestions on that guidance?
13. Could you elaborate how you envision a typical buddy system interaction, specifically how long and how frequently the interactions to evaluate a buddy might take on average?
14. In your experience, can non-medical professionals be trained to identify signs and symptoms of heat-related illness?
15. Are you aware of buddy systems being used across different industries for other non-heat-related safety purposes? Are you aware of examples of buddy systems used at work sites in general besides heat safety?
16. In the preamble of the proposed rule, OSHA cited data and analyses that suggest that worker productivity declines in the heat, but those declines are partially offset by the rest break requirements. Is this conclusion consistent with your observation and review of the literature? If you're also aware of any data that OSHA did not identify in its preliminary analysis, the agency would greatly appreciate if you share any of those.
17. Comparing acclimatized workers versus unacclimatized workers, would you expect that on average unacclimatized workers have lower work output than their acclimatized counterparts while working in the heat?
18. Regarding your 2021 paper cited in your written comments, you cite Table 6 which contains ranges of dollar cost estimates for different types of policy strategies. This table is very informative for OSHA's economic analysis. Could you provide more detail on the source and derivation behind these dollar cost estimates provided in this table?

Miranda Dally

1. In the preamble, OSHA cited a 2021 paper by Park et al., which studied the relationship between temperature and workers' compensation claims in California and also a 2024 report from the Workers Compensation Research Institute, which evaluated this relationship across multiple states. If you are familiar with either or both of these papers, can you provide your professional opinion on the strengths and limitations of these

analyses? OSHA welcomes any thoughts you have on our description of those papers and reports and if you're aware of any additional data or studies related to this topic that OSHA did not cite that you have identified.

2. OSHA heard testimony from multiple medical professionals and surveillance experts last week that they believe that heat-related illnesses using these International Classification of Diseases (ICD) and Occupational Injury and Illness Classification (OIICS) codes among workers are undercounted in administrative and surveillance datasets. Do you agree with this? Why or why not?
3. Are you aware of any data, analyses, reports, or papers that OSHA did not cite in the proposal, that could be used to evaluate the effectiveness of heat injury and illness prevention programs in reducing heat-related injuries and illnesses and fatalities? If you are aware of any such papers, data analyses, etc., that OSHA did not cite, could you submit those in your post-hearing comments?
4. In the preamble of the proposed rule, OSHA cited data and analyses that suggests that worker productivity declines in the heat, but that those declines are partially offset by rest breaks. Is this conclusion consistent with your review of the literature?
5. In the preliminary economic analysis, OSHA estimated that seven percent of workers are paid by piece rate regardless of industry. Is this estimate consistent with your observation for construction? If you know of any resource that can speak to the prevalence of piece rates payments, especially in non-agricultural industries, OSHA would appreciate that information.

Rosemary Sokas

1. In your experience as a medical professional, are the symptoms of heat illness something that non-medical professionals can be trained to identify?
2. OSHA heard from multiple medical professionals and surveillance experts last week that they believe heat-related illnesses and injuries among workers are undercounted in official administrative and surveilled surveillance datasets. Do you agree with this? Why or why not?
3. OSHA heard comments arguing that it did not account for what is described as natural acclimatization that workers develop from living in the same locale as where they work, suggesting that heat exposure outside of work is adequate for achieving acclimatization. Do you agree with this? Why or why not?
4. From a medical standpoint, can you comment on whether the approach of ensuring rest breaks prior to the development of signs and symptoms of heat-related illness is needed to prevent serious health consequences from the heat?
5. In the preamble of the proposed rule, OSHA cited data analyses that suggests that worker productivity declines in the heat, but that these declines in worker productivity are partially offset by rest breaks. Is this conclusion consistent with your understanding of the peer reviewed literature on this topic?

Kevin Riley

1. In your written comment and your testimony, you commended OSHA for the inclusion of a heat safety coordinator in the proposed role. You said that the absence of such a role under the California standard has at times limited compliance and the effectiveness of the required controls. Can you provide some more detail about the limitations of the California standard in this regard?
2. You also commended OSHA for ensuring that employees were provided with materials in a language that they understand. Do you have any recommendations for a translation tool that could accomplish these goals easily for employers?
3. In your written comment, you cited California's experience where the outdoor heat standard was revised to specify that drinking water be suitably cool and clean and require employers to provide single use cups. Can you provide more detail as to why those revisions were made to the California standard?
4. What was your experience of what compliance and enforcement was like once there was information flowing from workers and from worker advocacy organizations to the state about violations? Did that improve? What was your experience with the enforcement and compliance of the rest breaks once there was information?
5. The proposed language for rest breaks at the initial heat trigger is fairly similar to the language in the California standard for allowed and encouraged rest breaks. What insight might be available on how enforcement in California has been with that language which depends on workers to ask for breaks and employers to educate them? Has it been enforceable?
6. Based on your experience with worker and employer groups, OSHA would appreciate any information you may have on the observation of workers for signs and symptoms of heat illness using a buddy system. OSHA is specifically interested in how long and frequent those interactions to evaluate a buddy might take on average and in any information on the current use of this buddy system for other non-heat safety-related contexts as well.
7. In your experience, what are the most common methods that employers are already using to prepare for and respond to heat emergencies at workplaces?
8. When it comes to emergency responses to address heat emergencies at workplaces OSHA has heard about tub emersions etc. Those procedures require some ice being available at the sites. In your experience, is it common for employers to have a method to store ice at work sites as through icemakers or freezers for fixed locations or is there a central location employers utilize to store ice so that it is available for mobile employees?
9. You seem to suggest a benefit to workers having access to and knowledge of the conditions at their work site. Is that correct?
10. Do you see any issues with certain monitoring approaches? Are there approaches that may hinder workers' ability to have access to that information, such as monitoring devices if they are set up in ways that workers are not involved or if the readings and the

values are not communicated in a way that is understandable to a non-technical audience? If you have any additional thoughts or data that you can share from your work on this topic, OSHA welcomes them.

Shauna Junco

1. OSHA heard from multiple medical professionals and surveillance experts both last week and today that they believe that non-fatal heat-related illnesses and injuries among workers are undercounted in official administrative and surveillance datasets. Do you agree with this? Why or why not?
2. In your written comments, you stated "OSHA needs to decide on one heat metric, heat index or wet bulb". Can you clarify why you think OSHA should allow only one heat metric to be used by employers?
3. Your written comment references an online article on strategies for rapid cooling of exertional heat stroke patients, and you state that "EMS responders providing this method in localities and states across the country have seen reductions in morbidity and mortality of heat illness". Are you referencing specific data or literature here? And if so, could you share those in post-hearing comments?

Scott Schneider

1. In your experience, can you discuss the process for conducting an effective JHA and the components that OSHA should include in a heat standard if the agency were to require a JHA?
2. Do you believe that personnel would be required to have specialized training before doing a JHA? If so, what do you think should be included in that training?
3. Do you agree that OSHA should take an approach similar to Nevada? Why or why not?
4. OSHA received numerous comments and heard from many groups testifying during this hearing that OSHA should adopt a more performance-oriented standard rather than specifying when and how control measures must be implemented. Please provide your thoughts on such a performance-oriented approach including any specific recommendations on how OSHA could structure a performance-oriented standard and any suggestions for performance-oriented language, so that OSHA can provide more flexibility and ensure that employers are providing the protection the agency is looking for.
5. Can you discuss from your experience what data an employer generally would need to show that their plan is meeting their performance objectives?
6. Are you familiar with the NIOSH Recommended Alert Limits and Recommended Exposure Limits and the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value and action limit for heat stress? Are you aware of employers that currently use either of these methods to assess heat stress in their

workplace? OSHA welcomes any examples or data, particularly examples from small businesses and employers who may not have an industrial hygienist on staff.

7. Are you aware of any adjustments that either NIOSH or ACGIH provide accounting for geography in their formula?
8. Based on your experience as an industrial hygienist, OSHA would appreciate any information you may have on the observation of workers for signs and symptoms of heat illness using a buddy system, specifically, on the average length and frequency of these interactions to evaluate a buddy, and any information on other current use of a buddy system for other non-heat-related reasons across different industries.
9. In your experience, what are the most common methods that employers are currently using to respond to heat emergencies at workplaces?
10. In your experience, is it common for employers to have a method to store ice like through an icemaker and ice freezer so that it's available on-site for fixed locations or is ice also made available at a central location for mobile employees?
11. You mentioned that in construction it's common for crews to work together and to monitor one another for hazards and signs and symptoms of heat stress. Do you have any knowledge of experience for remote or solo workers? How might employers be able to monitor or check in with them to ensure that they are in safe, good working condition, or do you have any recommendations how that could be done?

Rapid Anthropology Consulting (RAC)

1. If there is anything else that you'd like OSHA to consider, please submit in your post-hearing comments.

Climate Law Accelerator at NYU Law, Latino Justice PRLDEF, & Federation of Teachers of Puerto Rico

1. In your written comment, you urged that OSHA should specify a temperature, 60 degrees Fahrenheit or cooler, for what is suitably cooled drinking water. What's the most effective methods your network has observed employers use to consistently maintain water at or below this specific temperature throughout the entire workday at work sites like large agricultural fields? Also, OSHA has heard from multiple witnesses during this hearing that water temperature is a personal preference and therefore OSHA should not mandate a specific temperature for drinking water. Do your organizations foresee any issues among workers who may prefer drinking water at a warmer temperature?
2. In your submitted comment, you write that OSHA must prioritize language accessibility and make sure all plans and training materials are provided in the dominant languages. Do your organizations have recommendations for translation tools that can accomplish these goals accurately from most employers?

3. In the absence of data on the percentage of vehicles with sufficiently cool vehicle cabs, OSHA's preliminary economic analysis assumed that 50 percent of school bus drivers work in sufficiently cooled vehicles. Do you think this is the reasonable estimate for Puerto Rico? If not, do you have any data on the percentage of operating school buses that lack air-conditioning in Puerto Rico?
4. OSHA would appreciate if you could provide the survey data mentioned in your testimony, in particular, they seem to be presenting the raw counts, like the number of teachers that report heat-related illnesses or the number of buildings that lack air-conditioning. It would be especially useful for OSHA if those numbers could also be expressed in terms of percentages like the share of school buildings in Puerto Rico that lack air-conditioning. That additional information on those three measures from the survey would be greatly appreciated.

UC Berkeley Labor Occupational Health Program

1. Are you aware of any data, reports, analyses, or papers that OSHA did not cite in the NPRM that could be used to evaluate the effectiveness of heat injury and illness prevention plans or components of those plans and their effectiveness in reducing heat-related injuries and illnesses.
2. You also mentioned in your testimony that material should be provided in languages that employees understand. Do you or your organization have any recommendations for translation tools that can accomplish these goals accurately and easily for most employers?
3. In your experience, what are the most common methods that employers are already using to prepare for and respond to heat emergencies in the workplace?

DAY 11, JULY 1, 2025

Center for American Progress

1. Are there changes that OSHA can make to the training requirements that would improve the accessibility of training materials?
2. Are there any translation tools your employers would recommend for accurate translations?
3. OSHA has heard testimony raising concerns about the difficulties with applying a mandated schedule break system. In terms of the mandated schedule breaks recommended to be extended to the initial heat trigger, does your organization have any thoughts on ways the flexibility of how these breaks are scheduled and used could be increased while still protecting workers. Some raised concerns about work sites such as communication towers, highway and bridge construction, where remote locations or long

distances from vehicles and tents make access to shade or cool down space difficult. OSHA is interested in any recommendations on how those situations could be addressed.

4. You recommend the use of on-site measurements of wet bulb globe temperature. Are you aware of any employers who are already successfully using wet bulb globe temperature measurements at their work site to assess heat stress? Could you share any examples or data on which employers currently use these methods? OSHA is particularly interested in examples from small businesses or businesses without an industrial hygienist on staff.

Federation of American Scientists

1. In written comments, you stated that the rule can and should incorporate thoughtful provisions to minimize the cost of compliance while still ensuring strong protections for workers. For instance, you suggested developing clear guidelines and science tools to help employers adhere to new standards and ensure widespread adoption. In that text, you hyperlinked to a paper entitled *Exploring the State of Health and Safety Management System Performance Measurement in Mining Organizations* published in *Safety Science* in 2016. Could you provide further discussion about what aspects of that paper you wanted to draw attention to if the agency moves forward to finalize the heat rule? If there is further literature on health and safety management systems and the assessment of their performance that you'd like OSHA to be aware of, please share.

GreenLatinos

1. Each of the speakers today testified about the importance of OSHA including specific measures to protect temporary, seasonal, and contract workers. GreenLatinos may provide any additional information or suggestions for OSHA's regulatory text to ensure these workers are protected. You have suggested interagency coordination to ensure workers know their rights as well as other ideas. Expanding on those or suggestions for other regulatory text changes would be helpful.
2. In your comments, you suggested the importance of language accessible training materials. Are there any translation tools you would recommend for employers to use for accurate translations?

Seaway Bolt & Specials Co.

1. Do you have any recommendations on how OSHA could structure a more performance-based standard so that it is sufficiently protective while providing clarity for employers? Are there any elements of a heat injury and illness prevention plan that you believe should be more prescriptive in nature, and any that could be more performance-based?
2. The Industrial Fasteners Institute (IFI) mentioned that the triggers proposed by OSHA do not take into account regional differences and a standard with these triggers "will be very difficult for most manufacturers like IFI members to implement." Can you provide more

detail as to the specific difficulties IFI members would have in complying with these triggers?

3. In the IFI comment, a sentence read "Any heat index number at or above 85°F would mean monitoring employees and anything above 95°F heat index would require preventative measures." Is it correct to interpret these as triggers that IFI members currently use at work sites? Could you also speak to whether Seaway Bolt & Specials Co. uses these triggers?
4. If OSHA were to take an approach of having geographically varying triggers, what geographic area or boundary would IFI envision OSHA using? For instance, county level, state level, region level, etc., and what data would IFI envision OSHA using to inform those boundaries?
5. Does IFI envision that any geographic triggers would apply to indoor work sites that have process-related heat?
6. In answering one of the questions OSHA posed in the NPRM about whether OSHA should specify a frequency of monitoring, IFI's written comment states that the organization feels the proposal is too prescriptive and adding further requirements would make it more difficult for manufacturers to comply. OSHA has heard the opposite, that the frequency of monitoring is too ambiguous and that small businesses will have to guess what frequency is sufficient. The Brewers Association recommended providing a clear standard on this provision for monitoring to "ensure clarity and better compliance." Does IFI agree with the Brewers Association on this argument? Why or why not? Any data that can be provided as to what frequency IFI members currently monitor conditions in their work areas would be helpful.
7. How do Seaway Bolt & Specials Co. and other IFI member employers determine whether an injury at their work site was heat-related? Does a physician or other medical professional make an on-site determination regarding whether heat caused or contributed to an injury. From a recordkeeping perspective, if it is unknown whether heat contributed, what typically happens?
8. You mentioned that your members already have heat illness prevention plans in place and found them effective. If you're able to share any examples of those plans, OSHA would welcome that.
9. You discussed acclimatization and stated that the gradual acclimatization schedule OSHA included in the proposal would be impractical for your industry due to the lack of alternative job tasks for machine operators. OSHA proposed a second option for acclimatization that gives employers more flexibility to design an acclimatization plan that, at a minimum, implements the high heat trigger provisions during new and returning workers' first week whenever the initial heat trigger is met or exceeded. Is that second option something IFI looked at? Would it be suitable or more practical for your members, and why or why not?

10. If OSHA moves forward with a proposal, are there logistical challenges that would arise from meeting the proposed version of the mandated rest breaks schedule? These could be logistical or other challenges that arise. If so, does your organization have recommendations for how a scheduled rest break provision could be made more flexible while still being protective for workers?
11. In those situations where there are time-sensitive operations that are not automated in process, can your membership provide information that would help OSHA understand how they are currently covering any needed breaks that come up during those operations?
12. You mentioned that members have plans in place to monitor indoor heat conditions. Are you able to share any existing monitoring plans from IFI members in post-hearing comments?
13. You mentioned that members used fans where appropriate. Can you provide more detail on when fan use is deemed appropriate versus when not?
14. What controls are currently being used by member companies to keep employees safe in work areas where air-conditioning and fans cannot be used? Any information on use of cooling PPE would be helpful, such as benefits versus cons.
15. In your testimony, you discussed OSHA's cost estimates. You mentioned that even companies with plans in place would need more than 40 hours to ensure their current plans comply with the proposed standards. Could you provide more detail on what tasks would need to be completed and the corresponding labor hours needed to review and modify existing plans to ensure compliance? What do you mean by more than 40 hours?
16. You mentioned in the written comments and your testimony that OSHA's annual compliance cost estimate of $1,379 for the industry is an underestimate, and that annual training costs would exceed that by at least a factor of 10. Could you provide more detail behind your cost estimate of training that led to that conclusion? If there are other provisions where you agree with OSHA's cost estimates or can provide alternative estimates, that would be appreciated.

The Brewers Association

1. Several groups have said the proposed standard is too prescriptive. Do you have any recommendations on how OSHA could structure a more performance-based standard so that it's sufficiently protective while providing enough clarity for employers? In your testimony, you mentioned rest breaks as needed as one example.
2. What elements of a heat injury and illness prevention plan do you believe should be more prescriptive in nature, and which could be more performance-based?
3. You raised concerns about the frequency of monitoring under paragraph (d). In your written comments, you suggested monitoring every two hours as an example. Are most brewers already monitoring at this frequency? OSHA is also interested in how brewers are currently monitoring conditions. What equipment are they using? What works and what doesn't?

4. Do your members use any methods to isolate radiant heat from heat-generating equipment? If so, what has been successful and what has been unsuccessful?
5. You mentioned many small brewers have air-conditioned retail space. For brewers without this air-conditioned space, are there situations where employees take breaks outdoors to cool off?
6. Are there any specific changes to the language of the rest breaks as needed provision that you would suggest to address your concerns now about unfair liabilities while still preserving the ability of employees to take breaks when they feel at risk of overheating?
7. OSHA creates guidance once a rule is final to support compliance. To help create guardrails around the use of as-needed breaks by employees, do you have any thoughts or suggestions on what kind of information to include to address your concerns?
8. Are mandated scheduled rest breaks in the proposed rule at the high heat trigger feasible for your industry?
9. You noted that OSHA's practices and guidance documents help provide clarity on how the rule is to be applied and enforced, but that knowledge of those details can be hard to access for small businesses. Do you have further thoughts on how that information could be made more accessible?
10. In your submitted comments and testimony, you mentioned that small brewers generally have safety plans and training in place. Can you provide more detail on those plans and training, examples if possible, and how much it would cost to incorporate safety-related material into existing plans?
11. Do you have data on the percentage of your members that have ice makers or freezers where ice can be stored on-site?

Association of Occupational and Environmental Clinics

1. You supported the buddy system during your presentation, but some groups said requiring it where we have workers that would be identifying a heat illness is not possible because workers are "not medical professionals". In your experience, are the symptoms of heat illness something non-medical professionals can be trained to identify?
2. Do you agree that heat-related injuries and illnesses among workers are undercounted in official administrative and surveillance datasets? Why or why not?

DAY 12, JULY 2, 2025

Ceres, Inc.

1. If you haven't already, would you be willing to submit the workers' compensation data you mentioned in your testimony?
2. In your written comments, you mentioned situations where air-conditioning systems fail to function adequately and that alternative engineering controls should be used. Are you

aware of employers that have instituted a policy for how long employees may work when the air-conditioning breaks down, and if they do continue to work, do they have any alternate controls in place to prevent heat-related injuries?
3. Should OSHA consider any other control technologies that were not included in the proposal?

Wisconsin Community Health Action

1. You indicated that the proposed rules should require drinking water to be cooled rather than warm. The proposal currently requires employers to provide access to drinking water that is suitably cool. Do you think this is sufficient, or are you suggesting that OSHA include a specific temperature range for the drinking water? If you have suggestions for a range, that would be helpful.
2. You mentioned that the rule should require employers to offer electrolytes. Under what conditions should the standards require electrolytes?
3. In your written comments and this morning, you mentioned situations where air-conditioning systems break down or stop working due to power outages or other reasons. Are you aware of any employers that have instituted a policy for how long employees may continue to work if the air-conditioning is not functioning, and if they do continue to work, do they have any alternative controls in place to prevent heat-related injuries?
4. You recommended that the rule should prescribe additional rest breaks if workers have an elevated body temperature or early symptoms of heat-related illness. Are you able to provide information about what the requirements for additional rest breaks would look like and what some of those early symptoms are? You also mentioned that rest breaks should include parameters to prioritize recovery before returning to work. What might those parameters look like, and how could they be structured in the rule?

Adrienne Wald

1. In the preamble of the proposed rule, OSHA cited literature and analyses supporting the agency's claim that rapid cooling of workers who are experiencing the signs and symptoms of heat stroke will be highly effective in preventing fatalities. Do you agree that heat stroke fatalities are preventable and that rapid cooling will be effective in preventing these fatalities?

Peter Downing

1. You mentioned that the standard should be more performance-oriented. Could you provide any specific recommendations on how OSHA should write performance-oriented language in a way that's sufficiently protective for employees but also clear for employers so they can ensure compliance?

Vickie Chapman

1. In your testimony you mentioned a requirement for moving workers who were unconscious. Where are you seeing this in the regulatory text, or can you elaborate on this?

Moms Clean Air Force

1. You made remarks about strengthening protections during heat waves. What additional protections do you think workers should have during heat waves? How should OSHA define a heatwave?
2. OSHA has repeatedly heard during the hearing that the proposed regulation should be modeled more on what Nevada OSHA has done. They recently promulgated a new regulation that went into effect at the end of April. What has been the experience from your members in Nevada? Have they seen a change in how employers are handling things in the state, and do you think what Nevada OSHA has done has been effective in protecting workers? The Nevada OSHA standard is more performance-oriented and includes fewer requirements, like no specific temperature triggers or water amounts, giving employers more flexibility to adapt the plan to their work environment. What are your thoughts on that?
3. Please provide your recommendations for how best to provide language access to folks that you represent.

Oregan Law Center

1. OSHA has heard a number of employer groups ask the agency to model its final regulation on what Nevada OSHA has done, not the Oregon OSHA approach. The Nevada OSHA approach has no specifications and offers more flexibility. It is much more performance-oriented. You offered remarks in your testimony about the importance of providing clarity about what's required. What are your thoughts and experience on the difference between performance-oriented and specification-oriented requirements for worker protection?
2. In your written comments to the NPRM, you requested that OSHA change its proposal to require re-acclimatization when an employee has been away from a work site for seven days instead of the 14 days currently proposed. Do you have evidence, either medical studies or other literature, to justify a seven-day trigger for re-acclimatization instead of the fourteen-day trigger?
3. In your written comments, you indicated that OSHA should remove or revise the scope exception for indoor sedentary workers. Do you believe OSHA should limit the indoor sedentary work exemption to only activities performed below an upper temperature limit? If so, do you have any suggestions for what the upper limit should be or any evidence to support an upper limit?

4. Are there any summaries or reports from the listening sessions you have hosted through your farmworker program and sister agency Legal Aid Services Oregon besides the information submitted in comments that you can provide to OSHA?
5. Can the Oregon Law Center elaborate on the types of work performed in packing houses and nurseries that they think would be considered sedentary under the current proposed regulatory framework?
6. Is there a general relationship between the temperature inside packing houses or nurseries and the outdoor temperature?

OSH Proterie

1. Regarding performance-oriented standards, the challenge OSHA has been wrestling with is that while one might trust responsible or high-road employers to do a risk assessment and arrive at the right outcome, there are also employers who might disregard or inadequately perform a risk assessment, leaving workers without protections. How should OSHA strike the balance between these two scenarios and provide employers the flexibility you're suggesting while also offering workers the guarantees they need for adequate protection?
2. You mentioned risk assessments and the ability of employers to tailor what they're doing to their needs and work environment. Do you have thoughts on the ability of small employers, particularly those without safety professionals on staff, to adequately conduct risk assessments and make decisions?
3. In your experience, what are the most common methods that employers are already using to prepare for and respond to severe heat emergencies, for example, heat stroke?
4. OSHA would be interested if you could expand on the buddy system [as mentioned in your response to the previous question].

Medical Society Consortium on Climate and Health

1. You proposed 85 percent of the average temperature as a potential heat trigger that you think would be better than an 80-degree heat index. Is that correct? Do you think one trigger is sufficient, and do you have any literature to support that approach over others?
2. You also mentioned the importance of acclimatization and carefully managing the first week of work. When should that period of acclimatization occur? Is it when you hit the 85 percent threshold or the first week above 80 degrees? Should re-acclimatization occur for people returning to work after a vacation?

Society of Chemical Manufacturers and Affiliates (SOCMA)

1. Stakeholders have recommended a final regulation that is more flexible and performance-oriented. OSHA is wrestling with the tension between providing more flexibility while ensuring minimum protections for workers. For example, if OSHA simply said, "provide

workers with water" and an employer provided an eight-ounce bottle of water to a worker for an entire day when it was 100 degrees out, would that be adequate? How would employers know it was not adequate, and how would OSHA enforce that scenario? How does OSHA ensure flexibility doesn't result in no protection? Any thoughts on this would be appreciated.

2. How do you approach work hardening/acclimatization or other situations with temporary workers where they are not used to working in your facilities and then you bring them on? Do you address acclimatization for temp workers currently, and if so, how?
3. Many of your member companies expressed concern that the high heat trigger in the proposal, which is a heat index of 90 degrees, was too low, and you indicated that many of your member companies currently use an ambient temperature of 95 degrees as trigger. As you know, the proposed rule relied on heat index, which takes into account ambient temperature and humidity. Would your membership support an increased high heat trigger based on a heat index, for example 95 degrees, or are there any high heat triggers based on heat index that would be feasible for your membership?
4. If there's any evidence you can submit to the record on geographical evidence and data that would support geographical approaches and at what level that could be done, based on state, region, or local level, that would be helpful.
5. In the written comments you mentioned that the proposed recordkeeping provision for temperature monitoring would be burdensome. The proposal provides the flexibility of maintaining temperature records for indoor work areas in a written form or electronically, and many monitoring devices have the storage capacity to retain records for the proposed six months. Do you think that using electronic monitoring devices would make the proposed recordkeeping requirement less burdensome?
6. In the written comments you mentioned that many member companies with outdoor work sites measure temperature on-site daily and conduct more frequent monitoring during the warmer months. Do you have any specifics, data, or examples on what that frequency of monitoring looks like during the warmer months?
7. The current language in the proposal for monitoring outdoor work sites is that employers must “monitor with sufficient frequency”. Does your organization have any thoughts on this language in the context of what members are currently doing? One witness did not like that language and thought it was too ambiguous. They would prefer more objective criteria to know what frequency they should monitor. Does your organization have any thoughts on that perspective?
8. Are there any work areas in your member companies' indoor facilities that remain at consistent or predictable temperatures or heat indexes?
9. For those members who may have work areas that remain at consistent or predictable temperatures, what are their thoughts on the current language in paragraph (d) of the proposal that outlines the monitoring plans that indoor employers would need to create? Does that language allow them to avoid what SOCMA described as hourly monitoring of

every single work area? Are there changes SOCMA would recommend for capturing these situations?

10. How do your members currently handle rest breaks? Are workers provided breaks as-needed or are they scheduled? Does it vary by member? What are the various members' plans on rest breaks? If there are examples of members that have minimums but allow flexibility, or if workers dictate when they take breaks, OSHA is interested in hearing that. The proposed standard includes rest breaks as needed at the initial trigger and mandatory scheduled rest breaks at the high heat trigger. Would this be feasible for your members and would any part of it be consistent with what they are already doing?
11. Are there chemical or manufacturing processes in your industry that cannot be interrupted? How do your members accommodate breaks in those scenarios? What techniques have they used to deal with heat in those situations?
12. Both today and in the written comments submitted, SOCMA discussed how some controls are not appropriate in chemical manufacturing environments as they can cause other risks of harm to employees. OSHA is interested in learning more about what controls your members have implemented to reduce exposures in these areas.
13. OSHA has heard that several provisions in the rule may not be feasible for workers who move between indoor and outdoor work sites. What procedures or protections do your member companies currently have in place for those types of workers?
14. Do your members typically have a way to store ice on sites such as an icemaker or freezer?
15. Are your comments based on the proposal and the text that was proposed in OSHA's NPRM, and not the framework presented during the SBREFA process? The recordkeeping requirement is limited to indoor monitoring temperatures. PPE is an optional control. Would you like to clarify that testimony?

Tracie Wagman

1. In your last slide, you showed cooling rates achieved with the ColdVest. If those data are not already available in the rulemaking docket, could you share those in your post-hearing comments?