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## **Transcript of Day 10**

Monday, June 30, 2025

***OSHA Heat Injury and Illness Prevention Hearing***

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5 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

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9 OSHA'S INFORMAL RULEMAKING HEARING

10 FOR HEAT INJURY AND ILLNESS PREVENTION IN OUTDOOR AND

11 INDOOR WORK SETTINGS

12

13 Day 10 of 12

14 Monday, June 30, 2025

15 9:30 a.m.

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## PARTICIPANTS

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## PRESIDING:

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WILLOW EATON FORT, Administrative Law Judge,

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Office of Administrative Law Judges, United States

6

Department of Labor

7

8

## OSHA PANEL:

9

ADRIANA LOPEZ-MENENDEZ

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AMY WANGDAHL

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BRENDA FINTER

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DEANA HOLMES

13

JASON HAMMER

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JOO-HYUNG SHIN

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RYAN TREMAIN

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TIFFANY DEFOE

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VARUN PATEL

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ZOE PETROPOULOS

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20

## OFFICE OF THE SOLICITOR OF LABOR:

21

LINDA WILES

22

JENNIFER LEVIN

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2	AMERICAN THORACIC SOCIETY	
3	Dr. Laura Myers	10
4	NATIONAL MEDICAL ASSOCIATION	
5	Dr. Mark Mitchell	16
6	OHIO ASSOCIATION OF OCCUPATIONAL HEALTH NURSES	
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12 ALSO PRESENT:

13 MARIAM CARLON, ABT Global

## P R O C E E D I N G S

JUDGE FORT: This is an informal public hearing on the Occupational Safety and Health Administration's proposed rule for heat illness and injury prevention in outdoor and indoor work settings. The Notice of Proposed Rulemaking was published first to the Federal Register on August 30th, 2024, in volume 89 of the Federal Register, beginning at page 70,698.

I'm Willow Eaton Fort, administrative law judge for the United States Department of Labor, and I'm presiding over today's hearing. The purpose of this hearing is to receive from interested parties oral testimony, as well as other information pertinent to the proposed rule. After the hearing, the post-hearing comment -- and after the post-hearing comment period has closed, OSHA will review the entire record in determining the content of the final rule.

My role as a presiding judge is limited to conducting this hearing to assure that a complete and accurate record is made and that all interested parties receive a fair hearing and have an opportunity to submit their information. The hearing schedule and

1 OSHA procedures governing this hearing are available on  
2 the website for this hearing, which is  
3 [www.osha.gov/heat-exposure/rulemaking](http://www.osha.gov/heat-exposure/rulemaking). The documents  
4 were sent to people and organizations who timely filed  
5 a Notice of Intent to Appear at this hearing.

6 A few words about the nature of the hearing.  
7 Despite the informal nature of the hearing, it is  
8 governed by rules, both OSHA rules and rules governing  
9 hearings, which are found at 29 CFR, Part 1911, and the  
10 hearing procedures issued specific to this rulemaking.  
11 The rules are meant to ensure that everyone has a fair  
12 opportunity to speak and express an opinion about the  
13 proposed rule. To that end, they also allow me to hold  
14 witnesses to allotted times, to limit undue repetition  
15 or excessive argument, and generally keep the hearing  
16 on schedule.

17 Any written comments you have submitted to the  
18 docket are already part of the record of this  
19 rulemaking. In the rare cases -- or in the rare case  
20 where witnesses wish to provide any other documents  
21 that have not already been entered into the docket,  
22 they should provide them by email to

1       oshaevents\_dsg@dol.gov before the witness begins their  
2       testimony so they can be entered as exhibits in the  
3       record.

4               Because all pre-submitted documents are already  
5       part of the record, your oral testimony should  
6       concentrate on presenting the highlights of your  
7       written comments or clarifying your written submission.  
8       Hearing participants may also submit additional  
9       evidence or statements for a period of 90 days from the  
10      end of the hearing, which will be September 30th, 2025.  
11      At that point, the record for this rulemaking will  
12      close.

13             Today, after each speaker or panel of speakers  
14      completes giving oral testimony, OSHA representatives  
15      will have an opportunity to ask questions of the  
16      speaker or the panel. When OSHA has finished asking  
17      questions, there will be an opportunity, as time  
18      permits, for persons who filed a timely Notice of  
19      Intention to Appear to question the witness or the  
20      panel. Participants may only direct questions to  
21      witnesses with whom they have no organizational  
22      affiliation.



1           And this is the process I intend to follow. After  
2           OSHA has finished asking questions of a witness or  
3           panel, I'll ask the participants who wish to ask  
4           questions of the witness to identify themselves by  
5           pressing the raise-hand button in Webex, or by pressing  
6           star three on their telephones for those who have  
7           called in.

8           Based on the hearing schedule and the number of  
9           participants who wish to ask questions, I'll determine  
10          the order in which participants will question the  
11          particular witness or panel and any time restrictions  
12          on that questioning. If there are more questions than  
13          we have time for today, it may be possible to ask  
14          additional questions after the conclusion of the final  
15          witness's testimony. Further, if witnesses are unable  
16          to answer a question during today's hearing or would  
17          like to expand on the answers provided, they're welcome  
18          to use the post-hearing comment period to submit such  
19          information.

20          I would also like to remind you that this  
21          proceeding is being recorded and transcribed by a court  
22          reporter. To ensure that the reporter is able to

1 provide an accurate record of all the testimony,  
2 questions, and responses, please try to remember to  
3 provide verbal responses to all questions. The court  
4 reporter may have a hard time seeing you if you nod or  
5 shake your head in response.

6 In addition, please remember to identify yourself  
7 before beginning your testimony and before asking or  
8 answering a question. Don't worry, I know many  
9 participants are not accustomed to doing these things.  
10 I'll help you as you go along.

11 The transcript of the hearing will be uploaded to  
12 the hearing docket on regulations.gov approximately two  
13 weeks following the hearing.

14 Now, unless there are any further announcements or  
15 other housekeeping matters, I believe we can proceed  
16 with public testimony. The expected speaking order is  
17 currently displayed on the screen. Our contractor will  
18 introduce each speaker in turn and promote them to be  
19 panelists. When you're called to testify, please state  
20 your name and your affiliation for the record. And  
21 please speak slowly and clearly so our court reporter  
22 can record the proceedings accurately.

1 MS. CARLON: Thank you.

2 The first speaker is Laura Myers. Please state  
3 your name and affiliation for the record.

4 DR. MYERS: Hello? Can you hear me?

5 JUDGE FORT: We can.

6 DR. MYERS: Excellent. My name is Dr. Laura  
7 Myers. I'm a pulmonary critical care physician, and  
8 I'm speaking today on behalf of the American Thoracic  
9 Society.

10 JUDGE FORT: You may begin.

11 DR. MYERS: Thank you very much for the  
12 opportunity to speak today. By way of introduction,  
13 the American Thoracic Society is a leading medical  
14 organization dedicated to respiratory health, and we're  
15 comprised of over 16,000 physicians, research  
16 scientists, and nurses and other allied health care  
17 professionals.

18 And today we're going to be talking about the  
19 mandatory federal standard specific to heat-related  
20 injury and illness. And I want to go over some of the  
21 public health concerns related to heat, specifically as  
22 they pertain to outdoor and indoor workers.

1           So first, as many of us know, there's increases in  
2           the frequency, duration, and intensity of heat waves as  
3           defined by persistent periods of ambient temperature.  
4           And this can have very adverse health consequences on  
5           indoor and outdoor workers. Heat, in my view, is an  
6           ever growing public health threat.

7           On a personal note, we see patients coming into  
8           the hospitals and the intensive care units,  
9           specifically where I work, with adverse effects of  
10          heat, specifically conditions such as severe  
11          hyponatremia, that's very low sodium levels;  
12          rhabdomyolysis, which is breakdown of muscles; as well  
13          as kidney failure, which is the malfunctioning of the  
14          kidneys. And these medical problems are a direct  
15          result of heat. And there are potentially ways in  
16          which we could protect especially vulnerable  
17          populations who are both outdoor and indoor workers  
18          disproportionately exposed to heat.

19          I want to go over a couple of facts and research  
20          studies related to respiratory and cardiovascular  
21          health. Specifically, increased temperatures affect  
22          the respiratory system. We know, based on Medicare

1 data from about a decade until 2018, that across  
2 counties in the United States, increases in daily  
3 temperature is associated with same-day emergency  
4 hospitalizations for respiratory disease. The most  
5 common are asthma or COPD, which is chronic obstructive  
6 pulmonary disease, commonly known as emphysema.

7 And we also know there are significant  
8 cardiovascular effects. So when temperatures increase,  
9 we know that there's more likely to be events such as  
10 ischemic heart disease commonly known as heart attacks,  
11 as well as blood pressure that goes up, hypertension,  
12 and abnormal heart rhythms. And this can be very  
13 dangerous for people, especially if they have  
14 underlying heart or lung conditions.

15 As -- by way of emphasis, I will say that  
16 agricultural workers, folks who work outside, are at  
17 even more increased risk for exertional heat-related  
18 illness. We know from one study in particular that  
19 heat-related mortality is actually 35 times higher than  
20 those who work in other industries. And actually,  
21 construction workers for -- have increased risk of  
22 accidents on days that are hotter compared to days that

1 are less hot. And so these people are at significantly  
2 increased risk because of their environmental  
3 exposures.

4 I also want to stress that it's not always as  
5 simple as turning on a fan or drinking more water.  
6 Patients with comorbid conditions might not be able  
7 adapt to the heat quickly enough in order to  
8 compensate. And so folks with underlying kidney  
9 disease, liver disease, heart or respiratory disease  
10 are on medications that blunt their response to be able  
11 to respond to the increased environmental temperatures  
12 and thus need specific protections.

13 Lastly, I will say that many workers at highest  
14 risk for heat-related illness are vulnerable  
15 populations. So these are people with low  
16 socioeconomic status who truly depend on the hourly  
17 wage and may continue to work even if they feel  
18 symptoms or become dangerously hyperthermic. These  
19 folks need to be protected.

20 And so for all of these reasons, in view of the  
21 public health consequences of heat-related illness,  
22 we're in support of a federal heat standard for both

1 indoor and outdoor workers. We thank you very much for  
2 the opportunity to speak today.

3 JUDGE FORT: Thank you, Speaker Myers.

4 Does anyone from OSHA have questions?

5 MR. TREMAIN: Thank you, Your Honor. This is Ryan  
6 Tremain with OSHA Standards and Guidance, and we do  
7 have a few questions. I can ask those. Again, this is  
8 Ryan Tremain.

9 We were interested in your support of the  
10 requirement of the Heat Injury and Illness Prevention  
11 program to be made available in languages that each  
12 employee understands. And you further suggested that  
13 translations be made available when needed. And we  
14 were curious whether the American Thoracic Society is  
15 aware of any employers who are currently providing  
16 those kind of verbal translations for heat-safety  
17 materials?

18 DR. MYERS: That's a good question. As part of  
19 our written comments that we submitted in the past  
20 year, we did highly advocate for these materials to be  
21 translated into languages other than English. I don't  
22 know off the top of my head what organizations have

1           already done that. I would imagine some actually in  
2           the State of California, and I'm happy to look into  
3           that and -- and send that information directly into you  
4           folks.

5           MR. TREMAIN: Okay. Great. I guess, if you -- if  
6           you, you know, come across any information on estimates  
7           of labor costs or any other costs associated with the  
8           translation, that would be great as well.

9           Thank you very much. That concludes OSHA's  
10          questions.

11          JUDGE FORT: Thank you. Does anyone from the  
12          Solicitor of Labor have questions?

13          MS. LEVIN: I have no questions, but I would like  
14          to thank the witnesses very much for her time and  
15          testimony.

16          JUDGE FORT: Are there any other participants with  
17          questions?

18          MS. CARLON: There are none, Your Honor.

19          JUDGE FORT: All right. Wonderful. Thank you for  
20          your testimony. Thank you for your participation.

21          Who do we have next?

22          MS. CARLON: Our next speaker is Dr. Mark



1 Mitchell. Please state your name and affiliation for  
2 the record.

3 DR. MITCHELL: Good morning. I'm Dr. Mark  
4 Mitchell. I am with the National Medical Association.

5 JUDGE FORT: Thank you, Speaker Mitchell. You may  
6 begin.

7 DR. MITCHELL: Okay. The National Medical  
8 Association is the oldest and largest organization of  
9 African-American physicians, and we represent the  
10 interest of our members and their patients, who tend to  
11 be lower-income patients and also are more likely to be  
12 people of color.

13 As you know, heat kills more people than any other  
14 weather-related condition in the United States. And  
15 heat is increasing across the world, but it increases  
16 at an irregular rate. It increases faster. It's been  
17 increasing faster in northern states, particularly  
18 Alaska, as well as northeastern states.

19 Now -- and of course outdoor workers are at some  
20 of the highest risk of injury and death from heat.  
21 This is especially the low-wage workers, such as  
22 agricultural workers and construction workers.

1       However, workers and others can become acclimated to  
2       the heat if they're given enough time. The most  
3       dangerous part of the year is early spring in the mid-  
4       latitude states and the northern states; that's where  
5       most people will die. States along the area of Kansas  
6       City, Saint Louis, and Baltimore, Washington, D.C.,  
7       Philadelphia, are most likely to die, followed by the  
8       northern cities like Chicago and -- and others --  
9       Minneapolis. So those places particularly need to make  
10      sure that the outdoor workers as well as athletes are  
11      acclimated. That is that they -- at the beginning of  
12      the season, if there's an unusual heat wave like there  
13      has been for the last week or two here in the  
14      Northeast, that there should be reduced hours during  
15      that period of time during -- you know, for maybe a  
16      couple of weeks at the beginning and you know, during a  
17      heat wave.

18           But once they're acclimated -- even during that  
19      time and once they're acclimated, there should be  
20      accommodations made for workers who are out in the  
21      heat. We recommend regular breaks, perhaps every two  
22      hours for a break and where they have access to water,

1 especially ice water, if it's -- if it's available, and  
2 that they have the ability to carry that water back to  
3 their workplace so that they can drink water all  
4 through the day.

5 Then secondly, they should have access to  
6 bathrooms. We hear particularly that -- that  
7 agricultural workers may not drink water because they  
8 don't want to stop to go to the bathroom and that  
9 they'll have more injury to their kidneys because of  
10 that.

11 We -- they should also have access to shade or  
12 air-conditioning. We know, for example, that heat  
13 affects our cumulative. That particularly when the low  
14 temperatures at night do not get below 70 degrees, and  
15 that if people don't have air-conditioning -- don't  
16 have access to air-conditioning at all, that the death  
17 rates increase, particularly if -- if the heat wave is  
18 more than three -- is three -- three days or longer in  
19 length. So we know that if people have access to air-  
20 conditioning two hours per day, that -- that that will  
21 decrease the amount of death and the cumulative risk of  
22 heat.

1           So those are some of the recommendations that the  
2           National Medical Association makes and will be happy to  
3           answer any questions.

4           JUDGE FORT:   Thank you, Speaker Mitchell.

5           Does anyone from OSHA have questions?

6           MR. TREMAIN:   Thank you, Your Honor.

7           And thank you, Dr. Mitchell, for your testimony.  
8           Yes, OSHA does have a question.   This is Ryan Tremain  
9           with OSHA, by the way.   Our question comes from Zoe  
10          Petropoulos, who is joining virtually.

11          MS. PETROPOULOS:   Hi.   Thank you for your  
12          testimony.   This is Zoe Petropoulos with the  
13          Directorate of Standards and Guidance.

14          So we heard from various medical professionals  
15          during the hearing last week that they believe that  
16          heat-related injuries and illnesses among workers go  
17          underreported in official administrative and  
18          surveillance data sets for various reasons.   Do you  
19          agree with this?   Why or why not?

20          DR. MITCHELL:   Yes.   That's what the evidence is,  
21          that it's underreported, again, because of workers,  
22          particularly agricultural workers, are scared to lose

1           their jobs. And so they do what they can -- you know,  
2           they're in a -- in a relationship where they are at a  
3           disadvantage. And so if they report their illnesses,  
4           then they're more likely to lose their -- their jobs.  
5           And so -- so that's why I believe that it's  
6           underreported, and I think that there is some evidence  
7           of that.

8           MS. PETROPOULOS: Thank you so much.

9           And that's it for me.

10          MR. TREMAIN: And I believe that's all for OSHA's  
11          questions as well.

12          DR. MITCHELL: Thank you for the opportunity to  
13          testify.

14          JUDGE FORT: There may be someone from Solicitor  
15          of Labor. Does anyone from the Solicitor of Labor have  
16          questions?

17          MS. LEVIN: Jennifer Levin for the Solicitor of  
18          Labor, I have no questions for the witness. But thank  
19          you very much for your time and testimony.

20          JUDGE FORT: Are there any participants with  
21          questions?

22          MS. CARLON: There are none, Your Honor.

1 JUDGE FORT: All right. Wonderful.

2 Thank you, Speaker Mitchell.

3 DR. MITCHELL: Thank you.

4 JUDGE FORT: Who do we have next?

5 MS. CARLON: The next speaker is Peggy Ann Berry.

6 Please state your name and affiliation for the  
7 record.

8 MS. BERRY: Hello. My name is Peggy Ann Berry,  
9 and I am the Executive Director and President of the  
10 Ohio Association of Occupational Health Nurses.

11 JUDGE FORT: Welcome, Speaker Berry. You may  
12 begin.

13 MS. BERRY: Okay. As occupational health and  
14 environmental nurses, we applaud OSHA's work on this  
15 standard. The proposed rule thoroughly outlines all  
16 the dangers associated with heat exposure in an  
17 increasingly hot planet.

18 I have one comment associated with page 77 --  
19 okay -- 7000 -- I'm sorry -- 70,748, third column on  
20 five, acclamation (sic). There is and will be, as we  
21 in the Midwest have experienced the last six days,  
22 heat-dome days where there will be increasingly unsafe

1 heat to work in in spite of acclimate -- acclimate -- I  
2 can't talk today -- acclimate -- in spite of working up  
3 to working in the heat. Rest breaks outside in shaded  
4 areas may not be enough, as discussed in the study on  
5 page 70,750 in the last paragraph.

6 I would strongly urge that if it is not in the  
7 standard, that there should be an upper limit where no  
8 employees should be working in that type of  
9 environment, and that's just on anecdotal experience as  
10 an occupational health nurse.

11 Thank you. That's my only comment.

12 JUDGE FORT: Thank you, Speaker Berry.

13 Are there any questions from OSHA?

14 MR. TREMAIN: This is Ryan Tremain with OSHA  
15 Standards and Guidance. We do have one question from  
16 Zoe Petropoulos.

17 MS. PETROPOULOS: Hi. This is Zoe Petropoulos  
18 with the Directorate of Standards and Guidance. Thank  
19 you for your testimony. I have the same question for  
20 you that I just asked Dr. Mitchell. We heard from  
21 various medical professionals last week during the  
22 hearing that they believe heat-related injuries and

1 illnesses among workers go underreported in official  
2 administrative and surveillance data sets for various  
3 reasons. Do you agree with this? Why or why not?

4 MS. BERRY: I do agree with it. I worked 13 years  
5 in a heavy freight -- air freight and trucking company,  
6 and there were times where an employee would come in,  
7 which I would feel could be heat exposure, that just  
8 drank water, sat in a cool area, and then went back to  
9 work without a willingness to report it as an injury or  
10 illness. So yes, I agree with that statement.

11 MS. PETROPOULOS: Thank you. And that's it for  
12 me.

13 MR. TREMAIN: And that also concludes OSHA's  
14 questions.

15 JUDGE FORT: Thank you. Does anyone from the  
16 Solicitor of Labor have questions?

17 MS. LEVIN: Jennifer Levin from the Solicitor of  
18 Labor, Your Honor. I have no questions for the  
19 witness.

20 But thank you very much for your time and your  
21 testimony. Thank you.

22 MS. BERRY: Thank you.



1 JUDGE FORT: Is there any participants with  
2 questions?

3 MS. CARLON: There are none, Your Honor.

4 JUDGE FORT: Wonderful.

5 Thank you, Speaker Berry.

6 MS. CARLON: The next speaker is Michael Luther.  
7 Unfortunately, we do not see your name in the attendee  
8 list. If you have joined under a different name,  
9 please click the raise hand button to indicate your  
10 presence. And if you have called in, please press star  
11 three from your phone to raise your hand.

12 All right. Moving on to the next speaker. The  
13 next speaker is Charlotte Brody. As well,  
14 unfortunately, we do not see your name in the attendee  
15 list. If you have joined under a different name,  
16 please use the raise-hand button to indicate your  
17 presence. And if you have called in, please press star  
18 three to raise -- from your phone -- excuse me -- to  
19 raise your hand.

20 Our next speaker is Elle Stephens.

21 Please state your name and affiliation for the  
22 record.

1 MS. STEPHENS: Good morning. My name is Elle  
2 Stephens, and I'm an attorney at the Environmental  
3 Defense Fund, or EDF. Thank you for the opportunity to  
4 participate in this hearing.

5 JUDGE FORT: Welcome, Speaker Stephens. You may  
6 begin.

7 MS. STEPHENS: EDF supports OSHA's proposed  
8 Workplace Heat Injury and Illness Prevention Rule as a  
9 critical step in OSHA's efforts to protect workers from  
10 occupational exposure to hazardous heat.

11 As OSHA acknowledges in its proposed rule, heat is  
12 the leading cause of death among all weather-related  
13 phenomena in the United States. Occupational heat  
14 exposure can pose particular risks versus heat and  
15 other settings because of characteristics of work  
16 environments and tasks, and because the control that  
17 employers exercise may limit workers ability to take  
18 steps to protect themselves.

19 As dangerous heat conditions occur with increasing  
20 frequency and severity across the United States, it is  
21 critical that OSHA finalize and enforce these workplace  
22 protections. Establishing robust standards would

1 substantially reduce the risk posed to workers by  
2 occupational exposure to hazardous heat.

3 OSHA's proposed rule aligns with the agency's  
4 congressional mandate to address occupational risk by  
5 issuing safety or health standards that are reasonably  
6 necessary or appropriate to provide safe or healthful  
7 employment. Since exposure to hazardous heat in the  
8 workplace poses a significant, well-documented, and  
9 growing risk of serious injury and illness to workers  
10 in both indoor and outdoor settings, OSHA's proposed  
11 rule firmly falls within the agency's statutory  
12 authority and responsibility.

13 A key element of the proposed rule is its  
14 establishment of heat index and wet bulb temperature  
15 thresholds that trigger different levels of  
16 protections. OSHA utilizes rigorous experimental and  
17 observational data to conclude that heat index triggers  
18 of 80 degrees Fahrenheit and 90 degrees Fahrenheit are  
19 highly sensitive indicators of heat injury and illness  
20 risk, and therefore duly protective of workers.

21 OSHA's wet bulb based triggers have a firm basis  
22 in NIOSH exposure limits that are themselves grounded

1 in decades of empirical data. Both of these types of  
2 triggers are also in line with current and proposed  
3 triggers in state heat standards. Based on this  
4 evidence, as well as additional scientific studies, we  
5 believe OSHA's temperature and wet bulb triggers are  
6 appropriate and necessary.

7 Further, the proposed rule asks whether OSHA  
8 should consider an additional trigger specific to heat  
9 waves. We believe OSHA should, given the significant  
10 amount of data revealing that workers are more  
11 susceptible to heat-related injuries during heat waves.  
12 The proposed rule correctly recognizes that a  
13 combination of factors can interact to further heighten  
14 the risk of occupational heat-related health effects  
15 for some groups of people. For example, the proposed  
16 rule states that excessive heat exacerbates existing  
17 health conditions like asthma, diabetes, kidney  
18 failure, and heart disease. Additionally, the proposed  
19 rule recognizes that some groups may be more likely to  
20 experience adverse health effects from heat, such as  
21 pregnant workers.

22 OSHA also notes in its proposed rule that the new

1 heat standards would have a positive impact on  
2 underserved populations, for example, low income and  
3 Hispanic workers, by providing workplace protections  
4 from extreme temperatures that have a disproportionate  
5 impact on occupations held by individuals from  
6 underserved communities.

7 OSHA's consideration of the intersection of  
8 multiple risk factors is grounded in scientific  
9 evidence on contributing factors to heat-related  
10 illness and injury. We firmly support OSHA's efforts  
11 to ensure that its standard effectively protects all  
12 workers in the United States from heat-related illness  
13 and injury.

14 Currently, seven states have promulgated permanent  
15 or temporary workplace heat standards. These states  
16 include Maryland, Colorado, Minnesota, Oregon,  
17 Washington, California, and most recently, Nevada. The  
18 proposed rule wisely takes into consideration the then-  
19 existing state level heat standards and their health  
20 outcomes, implementation strategies, and other relevant  
21 data.

22 We encourage OSHA to consider further consultation

1 with officials, worker representatives, and other  
2 stakeholders from states with heat standards on best  
3 practice and lessons learned as state standards  
4 continue to develop.

5 In conclusion, we strongly support OSHA's proposed  
6 rule and look forward to sharing further  
7 recommendations and information, including responses to  
8 any questions in our post-hearing written comments.  
9 Thank you for your time and for your attention to these  
10 important issues.

11 JUDGE FORT: Thank you, Speaker Stevens.

12 Are there any questions from OSHA?

13 MR. TREMAIN: This is Ryan Tremain with OSHA  
14 Standards and Guidance. Yes, we do have a few  
15 questions. Thank you.

16 Thank you for your testimony, Ms. Stephens. You  
17 just indicated that OSHA should consider some of the  
18 existing state standards, and I wonder if you had any  
19 specific states in mind, or if you could expand on any  
20 changes that OSHA should make to its current proposal  
21 based on existing state standards. And that's  
22 something you could consider and put in post-hearing

1           comments. Or if you have anything off the top of your  
2           head here, that's great as well.

3           MS. STEPHENS: Yeah. Thank you for that question.  
4           I think the state that comes to mind first is Minnesota  
5           because they have varying levels of strenuousness  
6           indicated within their state-level rule. OSHA's  
7           proposed rule does an excellent job of mirroring some  
8           of the standards in state-level standards already. So  
9           we really appreciate that about the rule, and we will  
10          address that question more deeply in post-hearing  
11          written comments. Thank you very much.

12          MR. TREMAIN: Sure. And then I guess  
13          specifically, we've heard a lot of testimony and  
14          comments throughout these hearings regarding OSHA's  
15          recently promulgated -- or sorry -- Nevada OSHA's  
16          recently promulgated heat standard. Do you think that  
17          OSHA should adopt a standard similar to Nevada's? I  
18          guess that's something you could consider in the  
19          context of your other post-hearing comments. And we  
20          would just be interested to hear how you regard  
21          Nevada's rule. It does not have any heat triggers, but  
22          requires employers to -- to conduct a job hazard

1 analysis.

2 MS. STEPHENS: Yeah. Thank you for that question.  
3 And we'll address that in post-hearing comments.

4 MR. TREMAIN: Thank you very much.

5 Our next question comes from Varun Patel.

6 MR. PATEL: Thank you for being here. This is  
7 from Varun Patel from OSHA. So in your written  
8 comment, you recommended OSHA to amend the proposal to  
9 include requirements for employers to assess employees'  
10 medical preconditions in order to development -- or  
11 anything. And do you have any data on the cost of  
12 economic feasibility or anything related to cost that  
13 including medical surveillance provisions? If you have  
14 any data that you can provide us in your post-hearing  
15 comments or anything, that will be helpful.

16 MS. STEPHENS: Yeah. Thank you for that question.  
17 I would direct attention to OSHA's previously  
18 promulgated rule on formaldehyde, which does actually  
19 require an analysis of the medical -- medical issues  
20 that some employees might have. So I -- we don't have  
21 any data -- I don't have any data to share with you at  
22 the moment, but we can address that in post-hearing



1           comments. Thank you very much.

2           MR. PATEL: Thank you. And if you can include  
3           that, how do you envision employers often getting that  
4           data and using that, that would be also helpful for us  
5           to consider.

6           MS. STEPHENS: Excellent. Thank you.

7           MR. TREMAIN: And our final questions come from  
8           Zoe Petropoulos, who's joining virtually.

9           MS. PETROPOULOS: Hey, this is Zoe Petropoulos for  
10          the Directorate of Standards and Guidance. In your  
11          organization's written comments -- and I heard you  
12          briefly mention this in your testimony -- you  
13          recommended additional protections during heat waves.  
14          And in your written comment, you provided a definition  
15          from the World Meteorological Organization that you  
16          said OSHA should consider. I have some follow-up  
17          questions regarding this suggestion. So based on the  
18          definition from the WMO, does your organization  
19          recommend that OSHA allow employers to determine heat  
20          waves, or do you -- does your organization suggest that  
21          employers should be using a standardized source or  
22          standardized formula?

1 MS. STEPHENS: Yeah. Thank you for that question.  
2 So EDF recommends that there is a definition,  
3 generally, for heat waves within the proposed rule.  
4 And that could be from the World Meteorological  
5 Association -- or Organization. So I think, you know,  
6 just having a definition would be helpful.

7 But then the proposed rule already requires  
8 employers to consider additional factors, and I think  
9 one of those factors was heat waves if you know that  
10 that could potentially increase exposure to heat. So I  
11 think that there could be some specificity that an  
12 employer might -- might be able to use there. But in  
13 general, I think just including a definition of a heat  
14 wave would be helpful.

15 MS. PETROPOULOS: Got it. And if your  
16 organization has any additional recommendations on any  
17 changes that you would propose relating to heat waves  
18 based on your comments, we would welcome those in post-  
19 hearing comments, specifically if you're aware of any  
20 definitions that could be easily used by most employers  
21 for determining heat waves, particularly those  
22 employers who may not have an industrial hygienist on

1 staff.

2 MS. STEPHENS: Okay. Excellent. Thank you very  
3 much.

4 MS. PETROPOULOS: Thank you for your testimony.  
5 That's it for me.

6 MR. TREMAIN: And that -- and that also concludes  
7 OSHA's questions.

8 JUDGE FORT: Wonderful. Does the Solicitor of  
9 Labor have any questions.

10 MS. LEVIN: Jennifer Levin for the Solicitor of  
11 Labor. I have no questions for the witness. Thank you  
12 very much for your time and your testimony.

13 JUDGE FORT: Okay. Great. Are there any  
14 participants with questions?

15 MS. CARLON: There are not, Your Honor.

16 JUDGE FORT: Thank you, Speaker Stephens.

17 MS. CARLON: The next speaker is Juanita  
18 Constible. Please state your name and affiliation for  
19 the record.

20 MS. CONSTIBLE: Good morning. My name is Juanita  
21 Constible, and I work at the Natural Resources Defense  
22 Council, otherwise known as NRDC. I have been tracking

1 and analyzing workplace heat standards across the U.S.  
2 since 2018, and as part of that effort, have interacted  
3 directly with heat-vulnerable workers and their  
4 representatives across many different states and many  
5 different industries.

6 I really appreciate the opportunity to speak with  
7 you today, especially since many of you have been  
8 patiently listening to testimony for weeks now and have  
9 probably been hearing a lot of the same thing.

10 I actually started my career as a wildlife  
11 biologist, spending long, hot days working outside,  
12 only to return to a hot tent at night. I received all  
13 sorts of safety training, including how to operate a  
14 chainsaw, how to put an all-terrain vehicle on the back  
15 of a pickup truck, and what to do in the case of a bear  
16 encounter. I did not, however, get any training on  
17 extreme heat, even though that was the hazard I faced  
18 most often on the job.

19 One unusually hot day, I push myself past the  
20 point I should have because I didn't know any better,  
21 and my workplace culture valued toughing things out. I  
22 became so dehydrated and so overheated that I got lost

1 on the trails that I had walked dozens of times before.  
2 I truly don't know how long I wandered out there, but  
3 I'm confident that I would not be here today if I  
4 hadn't finally and very much accidentally stumbled  
5 across my air-conditioned truck.

6 My story had a happy ending, but to many other  
7 untrained workers have not been so lucky. Consider,  
8 for example, Gabriel Infante, who died from heatstroke  
9 when he was just 24 after working on a construction  
10 site. The site supervisor mistook Infante's delirium  
11 for illicit drug use and initially instructed a  
12 colleague to call the police instead of 911. Federal  
13 OSHA cited that employer under the general duty clause,  
14 but later formally settled the case, and as part of  
15 that settlement, the employer agreed to, quote, "train  
16 its managers on heat stress recognition."

17 You've already heard the last couple of weeks a  
18 lot about Ronald Silver, II. He collapsed last summer  
19 on a resident's front step after collecting trash all  
20 day in extreme heat and was pronounced dead at the  
21 hospital an hour later. Silver had exhibited classic  
22 heat-related symptoms for hours, which his colleagues

1 on the solid waste truck might have known if their  
2 employer had provided any sort of training to  
3 nonsupervisory employees, or I might add, if their  
4 supervisor had attended the most recent heat-training  
5 session that had been offered to managers.

6 Now, lots of workers do get heat training, of  
7 course, but the outcomes of that training can vary.  
8 For instance, one small study in Nebraska farms found  
9 that workers had a good basic understanding of how to  
10 identify early heat-related symptoms and how to do  
11 general heat-related first aid. However, they were far  
12 less certain about how to identify and respond to a  
13 true heat emergency, which is incredibly concerning  
14 given that just 30 minutes of inaction can mean the  
15 difference between life and death for a worker with  
16 exertional heat stroke. In fact, critical gaps like  
17 these are exactly why OSHA needs to stay the course  
18 that it charted with its proposed heat standard, which  
19 mostly strikes a good balance between specificity and  
20 flexibility for employers.

21 But let me be really, really clear about  
22 something. Training alone is not enough to keep

1 workers safe from extreme heat. I've heard suggestions  
2 during these hearings that OSHA could issue a training-  
3 only standard without requiring any of the rest of the  
4 hierarchy of controls. There is a major problem with  
5 this idea, as illustrated by a recent survey of more  
6 than 3,500 service sector workers. The workers  
7 reported that heat safety training programs where they  
8 existed often emphasized individual responsibility, but  
9 at the same time, the culture, the norms, and the  
10 operating procedures of their employers frequently made  
11 it impossible for workers to adopt the measures they  
12 had been trained on. Knowledge and skills won't save  
13 you if you don't have ready access to clean drinking  
14 water, if your employer fails again and again to fix  
15 the broken air-conditioner, and if your employer is  
16 finally going to make good on their threat to report  
17 you or your family to immigration officials.

18 The bottom line is this; workers need heat  
19 training, but a training-only standard would amount to  
20 a collective shrug about the systematic and persistent  
21 threats that many workers face on the job, and it would  
22 also ignore the established science of starting at the

1 top of the hierarchy of controls where possible.

2 Thank you for the opportunity to testify, and I'm  
3 happy to answer your questions, and will include  
4 citations in my post-hearing comments.

5 JUDGE FORT: Thank you, Speaker Constible.

6 Do we have questions from OSHA?

7 MR. TREMAIN: Thank you, Your Honor. This is Ryan  
8 Tremain with OSHA Standards and Guidance. And yes, we  
9 do have a few questions from my colleague Adriana  
10 Lopez.

11 MS. LOPEZ: Good morning. Adriana Lopez, OSHA  
12 Directorate of Standards and Guidance.

13 Ms. Constible, thank you for your testimony. In a  
14 comment submitted on December 2023 from the NRDC and 33  
15 undersigned organizations, the Oregon Standard -- Heat  
16 Standard is cited as a useful model for paid cooldown  
17 breaks. First, after roughly three years of  
18 implementation of the Oregon Standard, are there any  
19 further adjustments to the standard that NRDC would  
20 recommend lending greater flexibility to accommodate  
21 employer concerns about loss of production during the  
22 breaks?



1 MS. CONSTIBLE: I don't have an answer for that  
2 question right now, but I will certainly get back to  
3 you in my post-hearing comments.

4 MS. LOPEZ: Great. Thank you very much. And  
5 then, are there any other structures for paid breaks  
6 that NRDC would recommend, especially for work sites  
7 such as tall towers and bridge construction projects,  
8 where scheduled breaks may not be practicable --  
9 practicable.

10 MS. CONSTIBLE: It does seem that for those  
11 particular situations that we'll have to look at  
12 potentially using protective gear that helps cool the  
13 body down. But having said that, there are -- well,  
14 I'm going to stop there. I'm not an expert in those  
15 work situations. I will do some additional  
16 investigation and get back to you.

17 MS. LOPEZ: Sure. Thank you very much. Those are  
18 all my questions.

19 MS. CONSTIBLE: Uh-huh.

20 MR. TREMAIN: Yes. Thanks again, Ms. Constible.  
21 And that is all of OSHA's questions.

22 JUDGE FORT: Wonderful. Are there any questions

1 from the Solicitor of Labor?

2 MS. LEVIN: Jennifer Levin for the Solicitor of  
3 Labor. I have no questions for this witness, but  
4 thank -- thank her for her time and testimony.

5 JUDGE FORT: Are there any participants with  
6 questions?

7 MS. CARLON: There are none, Your Honor.

8 JUDGE FORT: Okay. Thank you.

9 Thank you, Speaker Constible.

10 MS. CONSTIBLE: Thank you, Your Honor.

11 MS. CARLON: The next speaker is Jerry Rivers.  
12 Unfortunately, we do not see your name in the attendee  
13 list. If you have joined under a different name,  
14 please click the raise hand button to indicate your  
15 presence. And if you have called in, please press star  
16 three from your phone to raise your hand.

17 All right. At this point in time, we're going to  
18 go ahead and recall the speaking order on the top of  
19 this slide.

20 The next speaker will be Charlotte Brody.

21 Please state your name and affiliation for the  
22 record.

1 MS. BRODY: Hello?

2 JUDGE FORT: Yes.

3 MS. BRODY: Can you hear me now?

4 JUDGE FORT: We can.

5 MS. BRODY: Great. Thank you. My name is  
6 Charlotte Brody, and I serve as Vice President of  
7 Occupational and Environmental Health for the BlueGreen  
8 Alliance, a national coalition of labor unions and  
9 environmental organizations that work together to fight  
10 climate change, protect the health of people in the  
11 environment, stand against economic and racial  
12 inequality, and create and maintain good paying union  
13 jobs in communities across the country. My training is  
14 as a registered nurse.

15 As a nurse, I know the importance of ordering the  
16 right prescription for the right health problem. This  
17 proposed rule is so critically important because we  
18 know the correct prescription to prevent heat stress in  
19 American workers. A good plan, a cool, shaded place to  
20 rest, cool liquids, acclimatization, training, a  
21 communication system, emergency procedures, and no fear  
22 of retaliation. The proposed rule is prescriptive and

1       could be a little bit more prescriptive because we know  
2       the prescription needed to save lives.

3               In what's left of my five minutes, I want to  
4       address some of the critiques of the OSHA proposal.  
5       Let me start with a suggestion that I've heard that the  
6       rule should be rewritten to acknowledge regional  
7       differences in the quality of hot days. I would argue  
8       that the proposed rule's use of wet bulb and heat  
9       indexes address that concern.

10              Second, the argument that workers in warmer  
11       climates are all used to more hot days, and so the  
12       rules should have higher triggers for those regions.  
13       But why just single out that regional difference? CDC  
14       tells us that in the Southeast, there's a higher  
15       prevalence of both diabetes and cardiovascular disease,  
16       two conditions that increase the risk of heat stress --  
17       heat stress. Should the heat trigger be lower in those  
18       states in recognition of the higher incidence of those  
19       diseases?

20              Third, that industries that haven't experienced  
21       heat fatalities or serious injuries should be exempted  
22       from the rule. The OSHA proposal recognizes the

1 dramatic undercounting of heat-related illnesses that  
2 would prevent such industry exemptions.

3 Let me add that, with the exception of emergency  
4 personnel who are actively responding to an emergency,  
5 the BlueGreen Alliance is opposed to any other  
6 exemptions, including exempting the Americans that OSHA  
7 now excludes as sedentary workers. We would suggest  
8 that each employer create a health, illness, and injury  
9 prevention plan with their employees and their unions  
10 and determine which jobs under which conditions need  
11 heat protections.

12 We further propose that OSHA add language so  
13 employees and their representatives are clearly  
14 included in all aspects of the HIIPP, and not just in  
15 development and implementation. It is essential that  
16 there is continuous engagement with workers and their  
17 representatives, because heat-related risks may evolve,  
18 and there should be regular opportunities for feedback.

19 Fourth, the critique that implementing this rule  
20 would be too expensive. That criticism ignores the  
21 math on the savings that will come from protecting  
22 workers from heat. OSHA has provided the sound

1 estimate that for every \$100 in company revenue, this  
2 fully implemented rule will cost \$0.04, and that the  
3 savings will not only cover that \$0.04 per \$100, but  
4 also save an extra \$1.4 billion every year.

5 We recognize that adding another rule can feel  
6 like too much of a burden for many employers, but here,  
7 OSHA can help, providing model plans and training  
8 materials in many languages, including the plans from  
9 the companies that are arguing that they don't need a  
10 rule because they already fully protect their workers,  
11 will make implementation easier. With more examples  
12 and templates, we would hope that more employers would  
13 see that the rule provides a generally flexible outline  
14 that can be used to prepare their heat illness and  
15 injury prevention plan with plenty of room to tailor  
16 that plan for their individual workplace.

17 My first involvement with an OSHA rule was the  
18 Cotton Dust Standard. I've understood since the late  
19 1970s that the creation of a new OSHA standard is a  
20 really difficult undertaking, and that was just for one  
21 industry. So let me end by thanking all of the OSHA  
22 staff who worked on this proposal. Thank you.

1 JUDGE FORT: Thank you, Speaker Brody.

2 Are there any questions from OSHA?

3 MR. TREMAIN: Thank you, Your Honor. This is Ryan  
4 Tremain with OSHA Standards and Guidance, and we do  
5 have some questions we'd like to ask.

6 Thank you, Ms. Brody. In your written comments in  
7 particular, you stressed the importance of addressing  
8 air-conditioning system failures in the proposed  
9 standard and a need for immediate corrective actions.  
10 I was wondering if you could provide any detailed  
11 recommendations on specific protocols or timelines that  
12 should be established for addressing air-conditioning  
13 malfunctions. And of course, that could be anything  
14 you've got today or in follow-up comments.

15 MS. BRODY: We'll put that in our follow-up  
16 comments. It's a really good question. You know,  
17 that -- that -- I -- and -- and for us, it -- it  
18 clearly links to the definition of sedentary, that -- a  
19 worker that may sit at a desk comfortably at 70 degrees  
20 is not going to be comfortable at 95 degrees when the  
21 air-conditioning goes out and - and as happened at OSHA  
22 recently. So thinking about a heat plan, needing to

1 think about the failure of the hierarchy of controls  
2 and what's going to happen at that workplace and who's  
3 going to make the decision, would be important  
4 inclusions in any heat illness and injury prevention  
5 plan.

6 MR. TREMAIN: Okay. Thank you. And the next  
7 question kind of gets a little bit to acclimatization.  
8 And was curious what types of part-time schedules are  
9 most common for the workers that you represent? And do  
10 these kind of varied part-time schedules complicate the  
11 implementation of acclimatization protocols?

12 MS. BRODY: That's a very general question  
13 about -- with a lot of specifics that would need to be  
14 implemented. And again, I think that's where writing a  
15 heat plan in a workplace with a framework that OSHA  
16 provides makes the most sense. That temp work often  
17 changes depending on how many orders or how busy a  
18 place is. That -- that -- and so thinking that the --  
19 the people in that workplace have the best sense of  
20 what actually is going on and how to take the -- a  
21 strong OSHA framework and apply it, would address the  
22 question of part-time -- how you acclimatize people in



1 a part-time situation, I -- I think, really needs to be  
2 specific to a workplace with general guidance from  
3 OSHA.

4 MR. TREMAIN: Great. Thank you so much, again.

5 Our next question comes from Deana Holmes.

6 MS. HOLMES: Deana Holmes, with OSHA's Directorate  
7 of Standards and Guidance.

8 Ms. Brody, in your written comments, you recommend  
9 that OSHA require documenting paid and unpaid rest  
10 breaks, as well as heat injuries and illnesses. Can  
11 you further explain why OSHA should require  
12 documenting -- documenting this information?

13 In addition, you recommend that this information  
14 be retained for two years. And if you can provide how  
15 you derive that -- that duration, that would be great  
16 as possible -- as -- as -- as well. Excuse me. Thank  
17 you.

18 MS. BRODY: We'll provide more answer in our post-  
19 hearing comments. But just in general, you know, we  
20 count what matters, and the importance of heat  
21 breaks -- of rest breaks is essential to protecting  
22 workers from heat and finding a simple but consistent

1 way of recording those breaks, we think, makes the  
2 standard stronger.

3 MR. TREMAIN: Thank you. And finally, our  
4 colleague, Zoe Petropoulos, joins online with a  
5 question.

6 MS. PETROPOULOS: Hey. This is Zoe Petropoulos  
7 with the Directorate of Standards and Guidance. So in  
8 your written comment, as well as your testimony, and I  
9 believe your answer to Ryan just now, you recommended  
10 and you discussed indoor sedentary workers, and you  
11 recommend in your comment that they should be included  
12 in the scope of the rule whenever the initial heat  
13 trigger is met or exceeded. And I'm -- my question is,  
14 if you are aware of any data on heat-related injuries  
15 and illnesses among indoor sedentary workers, and if  
16 you are, if you're able to share those with us in your  
17 post-hearing comments.

18 MS. BRODY: You know, the data we have on actual  
19 injuries and illnesses to heat -- because of heat is so  
20 skimpy, and -- but -- but I know from talking with  
21 teachers, for example, who are part of AFT, one of our  
22 member unions, they really questioned the definition of

1        sedentary and had some interesting data about how much  
2        of a day a kindergarten teacher is actually on her  
3        feet. And the -- I think that -- we'll -- we'll  
4        certainly look again in the 90 days after the hearing,  
5        but the -- the data is mostly circumstantial rather  
6        than an elegant, properly done study.

7            MS. PETROPOULOS: Thank you. And a follow-up  
8        question based on your response there. If there are  
9        any recommendations that your organization would make  
10       to OSHA on the definition of sedentary, we would also  
11       welcome those now or in post-hearing comments.

12           MS. BRODY: We'll do that.

13           MS. PETROPOULOS: Thank you.

14           And that's it for me, Ryan.

15           MR. TREMAIN: Yes. Thanks, again. This is Ryan  
16       Tremain with OSHA, and that concludes our questions.

17           JUDGE FORT: Are there any questions from the  
18       Solicitor of Labor?

19           MS. LEVIN: Jennifer Levin from the Solicitor of  
20       Labor. No questions for this witness. But thank you  
21       very much for your time and your testimony.

22           JUDGE FORT: Great. Are there any questions from

1 participants?

2 MS. CARLON: There are none, Your Honor.

3 JUDGE FORT: Thank you, Speaker Brody.

4 MS. BRODY: You're welcome.

5 MS. CARLON: At this time, we have come to the end  
6 of the speaking order, so we're just going to recall  
7 anyone that was marked as absent prior.

8 So the first person that we will recall is Michael  
9 Luther. If you have joined under a different name,  
10 please use the raise-hand button to acknowledge your  
11 presence, or use star three on your phone if you have  
12 called in.

13 And the next speaker we are recalling is Jerry  
14 Rivers. If you have joined under another name, please  
15 use the raise-hand button to indicate your presence.  
16 And if you have called in, please use star three to  
17 raise your hand.

18 Your Honor, it looks like they are both still  
19 absent.

20 JUDGE FORT: Okay. And they would be the last two  
21 witnesses for the morning session, correct?

22 MS. CARLON: Correct.

1 JUDGE FORT: All right. Is there any suggestion?  
2 Should we go ahead and break and then reconvene a  
3 little earlier than anticipated to see if they have  
4 joined, or do we just break and then restart at the  
5 lunch? Suggestions are welcome.

6 MR. TREMAIN: (AUDIO MALFUNCTION) break until 11.

7 MS. LEVIN: The suggestion from OSHA -- this is  
8 Jennifer Levin from the Solicitor's Office. The  
9 suggestion from OSHA is to take a break now until the  
10 afternoon session at 1 o'clock. And the absent -- the  
11 absent speakers are free to -- to submit a post-hearing  
12 comment if they have anything further that they would  
13 like to inform OSHA.

14 JUDGE FORT: Perfect. Okay. Unless there are any  
15 dissenting opinions, we will follow that. Any  
16 dissenting opinions? Okay. We will then break for  
17 lunch. Lunch is until 1 p.m. Eastern, as I understand  
18 it, so we will reconvene at 1 p.m. Eastern time.

19 MS. LEVIN: Thank you.

20 MR. TREMAIN: Thank you.

21 JUDGE FORT: All right. Thank you all.

22 (Lunch break.)

1 MS. CARLON: This is Mariam Carlon from ABT  
2 Global, OSHA's contractor. It is 1:00 Eastern Time and  
3 we are now rejoining OSHA's informal rulemaking hearing  
4 for Heat Injury and Illness Prevention in Outdoor and  
5 Indoor Work Settings. Before we begin, we'd like to go  
6 over some logistics for today's public hearing.

7 As a reminder, all attendees are muted  
8 automatically. All Webex attendees can access closed  
9 captioning and translated captioning by clicking on the  
10 CC icon in the lower left-hand corner of the  
11 application. You can individually select your caption  
12 language if translation is required. I will now share  
13 the same slide in Spanish. All YouTube viewers will  
14 have access to auto translation the day after the  
15 hearing.

16 All Webex attendees delivering testimony will have  
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1           If you are speaking today, you will receive a  
2           notification on your screen that you are being promoted  
3           to the panelist group a few minutes before it is your  
4           time to provide testimony. Once promoted to the  
5           panelist role, you will be able to unmute and turn on  
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7           your camera until your name has been called, and you  
8           have been asked to start your testimony. Speakers  
9           connected by telephone should unmute their phones when  
10          called to testify.

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12          will share the file and advance the slides. Please cue  
13          us verbally by saying next slide when you need us to  
14          advance.

15          Dependent on timing, there may be opportunity to  
16          ask question of -- excuse me -- to ask questions of  
17          other speakers giving testimony. You may press the  
18          raise hand button at the bottom of the Webex  
19          application to indicate that you have a question. If  
20          there is time, you will be called on by name and  
21          promoted to the panelist group to unmute and ask your  
22          question.

1           If you are having any technical difficulties,  
2           please send an email with your name and phone number to  
3           public\_hearing@abtassoc.com. Now we will continue with  
4           our public testimony. The expected speaking order is  
5           currently displayed on the screen. I will continue  
6           introducing each speaker in turn. Please speak slowly  
7           and clearly so our court reporter can record these  
8           proceedings accurately. The first speaker will be  
9           Margaret Morrissey-Basler. Please state your name and  
10          affiliation for the record.

11           DR. MORRISSEY-BASLER: Margaret Morrissey Basler.

12           JUDGE FORT: Good afternoon.

13           DR. MORRISSEY-BASLER: Hello, everyone. My name  
14          is Maggie or Margaret Morrissey Basler, and I'm an  
15          assistant professor at Providence College, but also a  
16          researcher at the Korey Stringer Institute, housed at  
17          University of Connecticut, and the former chair of the  
18          Thermal Stress Working Group for AIHA. I will be  
19          supporting the statement from AIHA and the Korey  
20          Stringer Institute.

21           For those of you unaware of both organizations,  
22          the Korey Stringer Institute is again housed at



1 University of Connecticut, mission is to prevent sudden  
2 death in the physically active, and has dedicated a lot  
3 of time and resources on its effort to protect workers,  
4 especially from heat-related illness. AIHA, its  
5 mission is to empower and advance those who apply  
6 scientific knowledge to protect all workers and their  
7 communities from occupational hazards, and the vision  
8 being that there is a world where all workers and their  
9 communities are healthy and safe. And they do this  
10 by -- this aim, by achievement, through identification,  
11 development, improvement, and promotion of excellence  
12 in this field.

13 AIHA is dedicated to reducing heat and cold-  
14 related injuries in the occupational space and, as  
15 previously mentioned, has created a thermal stress  
16 working group to create resources and initiatives to  
17 support this. My statement today will focus on the  
18 following eight sections in the proposed standard.  
19 First being identification of a heat hazard, initial  
20 training recommendations, heat acclimatization  
21 recommendations, hydration recommendations, body --  
22 excuse me -- buddy system recommendations, body cooling

1 recommendations, emergency procedures recommendations,  
2 and lastly, employee input and involvement  
3 recommendations. I will go section by section and  
4 provide recommendations for revision, clarity, or  
5 expansion of these sections.

6 First is identifying heat hazards. And we -- I --  
7 in my statement, I recommend the use of wet bulb globe  
8 temperature only, as it is the industry standard. Wet  
9 bulb globe temperature provides a more accurate  
10 assessment of heat stress as it accounts for ambient  
11 temperature, wind, humidity, solar radiation, relative  
12 humidity. We also recommend using clothing and  
13 metabolic rate adjustment factors for wet bulb globe  
14 temperature. And an example of this can -- for  
15 clothing and metabolic rate adjustments is provided in  
16 ACGIH's TLV that was published in 2023.

17 Heat index is insufficient to use as a initial or  
18 high heat trigger, as it does not account for wind or  
19 solar radiation. It's designed for light activity in  
20 shaded, mild conditions. And NOAA indicates full sun  
21 can raise heat index by 15 degrees Fahrenheit, but  
22 there are no clear adjustment guidance in existence.

1 Adjusting heat index is complex and impractical for  
2 untrained individuals, and fixed heat index triggers  
3 may not reflect true environmental load.

4 Their -- on-site wet bulb globe temperature  
5 measurements are the gold standard and should be  
6 recommended. However, heat stress apps may be used  
7 if -- if they are estimating wet bulb globe  
8 temperature. AIHA has developed a wet bulb globe  
9 temperature heat stress app that estimates wet bulb  
10 globe temperature index in both outdoor and indoor  
11 settings, and provides health recommendations. Also  
12 has the ability to adjust wet bulb globe temperature  
13 based on clothing, radiant heat, and metabolic rate.  
14 It also has the ability to forecast and see weather  
15 conditions in upcoming days.

16 Although, as mentioned on-site wet bulb globe  
17 temperature is recommended, it's also important to  
18 emphasize or employers should recognize the limitations  
19 of app-based estimates when they use it and understand  
20 there may be differences while using a heat stress app.

21 Additionally, in the proposed standard, we  
22 recommend removing monitored -- monitoring exemptions

1 as quantifying environmental heat load is critical.

2 And there's no research that suggests that implementing  
3 all the controls -- control measurements at or above a  
4 high heat trigger will be an adequate replacement for  
5 environmental monitoring.

6 Second recommendation group is initial training  
7 recommendations. We recommend expanding emergency  
8 procedures content, as emergency procedures should be  
9 disseminated, rehearsed, and reviewed annually. And  
10 all employees, not just supervisors, must understand  
11 response protocols if supervisors are absent.

12 Heat acclimatization recommendations. So OSHA  
13 data shows heat illnesses often occur in the first  
14 three days of work, and we recommend that there should  
15 be a mandatory acclimatization protocol during the  
16 first week when the initial trigger -- or excuse me --  
17 when the environmental metric exceeds the initial  
18 trigger.

19 The proposed rule -- and this is related to  
20 hydration. The proposed rule should consider the  
21 importance of simple strategies to assess hydration  
22 status and its requirements for fluid intake and

1       accessibility. This should also be included in initial  
2       training. Since employers cannot control how workers  
3       arrive for their worksite, providing education on  
4       hydration status is critical to limit fluid losses  
5       during work -- the work shift. Some examples include  
6       urine color assessment, urine output, thirst, and body  
7       weight changes.

8               Also recommend the use of the buddy system, not  
9       only at the high heat trigger, but also during the  
10      initial, as heat illnesses can occur without high  
11      ambient temperature.

12             For body cooling. Body cooling can reduce thermal  
13      strain, prevent -- that can prevent illness,  
14      specifically heat, and improve productivity. While  
15      shade is critical, they should be or can be  
16      supplemented with active cooling methods such as  
17      cooling towels, hats, gaiters.

18             Next, emergency procedures for heat illness and  
19      heat stroke. So to effectively treat someone  
20      experiencing a heat stroke, they must have their body  
21      temperature down to normal within 30 minutes using  
22      equipment with high cooling rates. While we are

1       thrilled to see the inclusion of the following  
2       statement in the standard - take immediate action to  
3       reduce the employee's body temperature before EMS  
4       arrives - it must be clarified that body cooling  
5       equipment with high cooling rates must be used. The  
6       gold standard treatment for exertional heat stroke is  
7       whole body cold water immersion, using a cold water  
8       immersion tub. In a remote setting where a cold water  
9       immersion tub is not feasible, a tarp can be used for  
10      the TACO method or other similar methods.

11           There's also an employer responsibility to  
12      consider related to treatment of heat stroke. The  
13      standard must state that the employer should provide  
14      the necessary equipment to treat heat illnesses and  
15      heat emergencies.

16           Related to medical services, a significant  
17      challenge for worksite settings is there is often no  
18      medical staff on site, and therefore one cannot assess  
19      core temperature to determine if it is exertional heat  
20      stroke. While the standard states that employers must  
21      offer on-site first aid and medical services before the  
22      end of monitoring for someone experiencing heat

1 illness, the standard should require employers to have  
2 a on-site medical provider or near -- someone near the  
3 worksite who has medical experiences. For example, for  
4 employees that -- with -- a worksite with over 50 or a  
5 hundred employees as an example, as resources may be  
6 limited for those with small businesses.

7 Alternatively, employers must meet with their  
8 local EMS to ensure best practices for recognition and  
9 treatment of exertional heat stroke are followed.

10 However, in the absence of on-site medical personnel,  
11 aggressive whole body cooling must occur immediately to  
12 reduce the risk of permanent complications or death  
13 because of heat stroke. For instance, there's many  
14 ambulances that will not reach someone within that 30  
15 minute time frame. If -- that is highly problematic  
16 because the person's body temperature must be lowered  
17 to normal within 30 minutes. And I will end there.

18 And thank you so much for listening to my  
19 recommendations and statement.

20 JUDGE FORT: Thank you, Speaker Morrissey-Basler.  
21 Are there any questions from OSHA?

22 MS. WANGDAHL: Thank you, Your Honor. My name is

1 Amy Wangdahl with OSHA and the Directorate of Standards  
2 and Guidance. And we do have a few questions. Thank  
3 you, Ms. Morrissey-Basler, for your testimony. Before  
4 we begin, we do have a number of questions, but I just  
5 would like to remind you that you can either answer the  
6 questions now, or you can submit them in your post-  
7 hearing comments. I would like to turn over the  
8 questions to my colleague, Jennifer Kim, who's going to  
9 ask some questions on PPE.

10 MS. KIM: Good afternoon. This is Jennifer Kim  
11 with the Directorate of Enforcement Programs. Thank  
12 you for your testimony. I just have two questions on  
13 personal protective equipment, PPE. The first one is  
14 regarding vapor impermeable clothing. How should  
15 employers determine safe working conditions when vapor  
16 impermeable clothing is required?

17 DR. MORRISSEY-BASLER: Yes, I will provide  
18 additional information. But briefly, there is clothing  
19 adjustment factors that can be used when using wet bulb  
20 globe temperature as an environmental metric. But as  
21 stated, I will expand on that post-hearing.

22 MS. KIM: Great, thank you. And the second



1 question is, in situations where employers provide  
2 personal cooling devices such as cooling vests to  
3 employees, what recommendations do you have for  
4 ensuring that these devices maintain their beneficial  
5 cooling properties?

6 DR. MORRISSEY-BASLER: Yes. So employers should  
7 consider their work environments and the resources  
8 available to them. So for example, for cooling vests,  
9 they may not be adequate if you do not have access to  
10 a -- a freezer to be able to have the -- the cold packs  
11 frozen. Additionally, there are some situations that  
12 cannot remove PPE. So the employers must consider the  
13 appropriate body cooling gear for those situations, and  
14 moreover, should select body cooling devices or  
15 products that are going to cover as much body surface  
16 area as possible to facilitate appropriate cooling.

17 MS. WANGDAHL: Okay. Thank you. Next, we'd like  
18 to go to Zoe Petropoulos, who's participating  
19 virtually.

20 MS. PETROPOULOS: Hi. This is Zoe Petropoulos  
21 with the Directorate of Standards and Guidance. Thank  
22 you for your testimony. I have a few questions for

1       you, and I want to start about -- on the topic of  
2       identifying heat hazards. And you mentioned a few  
3       recommendations. So as you mentioned in your  
4       testimony, but also in Korey Stringer Institute's  
5       written comment, you all recommend the use of on-site  
6       measurements of wet bulb globe temperature. And my  
7       first question on that topic, are you aware of any  
8       employers who are already successfully using wet bulb  
9       globe temperature measurements at their work sites to  
10      assess heat stress?

11           DR. MORRISSEY-BASLER: Yes. So in particular,  
12      without naming any companies, I have worked  
13      specifically with manufacturing companies that have  
14      utilized it. And so that has been the primary work  
15      that I have done and seen. However, there are many out  
16      there that do use it successfully. And again, I'm  
17      happy to expand on that post-comments -- within the  
18      comments.

19           MS. PETROPOULOS: Yeah, we would welcome any  
20      details or examples. And of course you can withhold  
21      company names in that information.

22           DR. MORRISSEY-BASLER: Perfect.

1 MS. PETROPOULOS: My next question is similar. So  
2 we heard from multiple commenters that wet bulb globe  
3 devices are difficult to use for them in their  
4 industry. And they mentioned that one reason is that  
5 crews move around frequently. And at least one  
6 commenter specifically mentioned the time that it takes  
7 for the devices to -- to equilibrate before providing a  
8 reading. And I'm curious if you have suggestions or  
9 alternatives you would propose for these situations,  
10 maybe where crews move around frequently during a work  
11 shift?

12 DR. MORRISSEY-BASLER: Yeah, I think it's entirely  
13 depends on their ability to -- to reach that location  
14 prior to or if they're truly are going from location to  
15 location without sort of understanding where they're  
16 going. Because I've worked with -- with some companies  
17 who have set up different devices in different  
18 locations to be able to accommodate that. However, I  
19 think, given the -- the large time frame of a work  
20 shift, a approximately ten-minute calibration is worth  
21 performing to be able to provide an actual accurate  
22 assessment of the environmental load that workers are

1 experiencing.

2 MS. PETROPOULOS: Got it. My next question on  
3 this topic. There are - on the market, there are a  
4 variety of wet bulb globe devices and they range in  
5 price and also the specifications. And if your  
6 organizations have any comments on the range of devices  
7 that are available and thoughts on if OSHA should  
8 specify which devices should or should not be used by  
9 employers in this context, we would be interested in  
10 your organizations' input on that.

11 DR. MORRISSEY-BASLER: Yeah. So you're correct.  
12 There are a lot of different devices out there. If I'm  
13 looking for a device that I feel confident is going to  
14 provide accurate measures, I would look to data to  
15 support that. So any employers having questions about  
16 that, I would highly recommend doing that. I -- but I  
17 think it's important to also provide the employer  
18 within, you know, a recommendation or a standard, the  
19 wide array of choices and let the employer be able to  
20 determine that themselves. But I would highly  
21 recommend focusing on those devices that are backed by  
22 scientific evidence through validation.

1 MS. PETROPOULOS: Got it. And changing topics a  
2 little bit. You mentioned the recently developed AIHA  
3 app for estimating wet bulb globe temperature. And if  
4 AIHA has any data that validates the -- the wet bulb  
5 globe temperature values produced by this app,  
6 including the inputs that are provided by the user,  
7 like the ones you mentioned, we would be interested in  
8 seeing those in your post-hearing comments if they're  
9 available.

10 DR. MORRISSEY-BASLER: Yeah, we're actually in the  
11 process of doing that. So that will be -- however, I  
12 do want to note that the development of it was based on  
13 a prototype that has been validated. And I'm more than  
14 happy to provide the -- the scientific paper associated  
15 with that.

16 MS. PETROPOULOS: Thank you. My next question on  
17 this topic. So some commenters recommended that OSHA  
18 allow employers to use personal sensors for monitoring  
19 heat stress and heat strain. And what is your  
20 professional opinion and your organizations' opinions  
21 of using personal monitoring devices in lieu of area  
22 based monitoring?

1 DR. MORRISSEY-BASLER: I can definitely provide  
2 more information post, but I will say, while they're a  
3 good estimate of what the thermal load may be, I think  
4 that if they're being used that individuals need to  
5 understand the limitations of them because many of them  
6 have not really been scientifically validated.  
7 However, happy to expand on that in - in my comments.

8 MS. PETROPOULOS: Got it. Thank you. I want to  
9 change topics a little bit and talk about a very  
10 specific part of the preamble. And -- and I didn't  
11 hear you touch on it in testimony, but forgive me if I  
12 missed that. So I just want to ask if you're familiar  
13 with the guidelines and table that OSHA provided in the  
14 preamble of the proposed rule, which was based on the  
15 2022 study by Foster et al. for evaluating when fan use  
16 may become harmful.

17 DR. MORRISSEY-BASLER: Uh-huh.

18 MS. PETROPOULOS: Okay. So we're wondering what  
19 is your professional opinion and your organizations'  
20 opinions on the conclusions and recommendations that  
21 OSHA derived from this paper and whether you agree with  
22 the conclusions or you disagree?

1 DR. MORRISSEY-BASLER: Yeah. I'd have to go back  
2 and review in more detail. However, I will say that,  
3 in a consensus document we created with 51 experts, we  
4 did not advocate for the use of fans over 104 degrees  
5 Fahrenheit. But I will take a look further at that  
6 particular paper and be able to provide a more  
7 extensive comments post.

8 MS. PETROPOULOS: Great. And I'll add on that,  
9 while you're doing that, we would be interested to hear  
10 whether you think the guidelines are sufficient and  
11 feasible? And also if your organizations -- if you  
12 disagree with our approach, if you would have  
13 alternative approaches that you would recommend?

14 DR. MORRISSEY-BASLER: Sure.

15 MS. PETROPOULOS: And then my last question for  
16 you is just whether you're -- you or your organizations  
17 are aware of any data or papers or reports that OSHA  
18 did not cite in the proposal that could be used to  
19 evaluate the effectiveness of heat injury and illness  
20 prevention programs in reducing heat-related injuries,  
21 illnesses, and fatalities. And if you are, if you  
22 could submit those in your post-hearing comments.

1 DR. MORRISSEY-BASLER: Sure. Yeah, happy to.

2 MS. PETROPOULOS: Thank you. And that's it for  
3 me, Amy.

4 MS. WANGDAHL: Thank you. We'd now like to go to  
5 Jason Hammer, who is also participating virtually, to  
6 discuss some emergency response and planning.

7 MR. HAMMER: Jason Hammer with the Directorate of  
8 Standards and Guidance. Thanks again for your  
9 testimony. So in response to a heat emergency, your  
10 comment from Korey Stringer Institute recommends whole  
11 body cold water immersion using a cold water immersion  
12 tub, or when this option is not feasible, using a tarp  
13 with ice and water to perform the tarp-assisted cooling  
14 oscillation method or TACO method. Are there other  
15 rapid cooling interventions you would recommend during  
16 a heat emergency, or are there methods you believe that  
17 are insufficient?

18 DR. MORRISSEY-BASLER: Yes. So it's very, very  
19 important for someone who is experiencing an exertional  
20 heat stroke is to aggressively cool them. And so any  
21 cooling that is very limited in covering body surface  
22 area is not going to be sufficient. So if you had a



1 small towel, as an example, that's not going to be able  
2 to have the cooling capacity to reduce someone's core  
3 temperature. There are situations, of course, that --  
4 where the tarp cooling isn't available or a cold water  
5 immersion tub. And in that particular instance --  
6 which I hope would be not often -- but it's important  
7 to have extremely cold water and ice. And example  
8 would be towels cover their entire body surface area  
9 and continuously, continuously replace to ensure that  
10 their body is cooling. But I'm happy again to provide  
11 a little bit more detail in the comments.

12 MR. HAMMER: Thank you. Yeah, that'd be great.  
13 Any specific examples of methods you are aware of that  
14 are successfully being used by employers -- yeah, in  
15 post-hearing comments. That'd be great. Thank you.  
16 That's it for me, Amy.

17 MS. WANGDAHL: All right. We'd like to go to  
18 Tiffany DeFoe next, who is participating virtually, and  
19 discuss rest breaks.

20 MS. DEFOE: For the record it's Tiffany DeFoe,  
21 Directorate in Standards and Guidance, OSHA. I wanted  
22 to ask -- well, let me preface this by saying that, in

1 the written comments that you submitted for Korey  
2 Stringer -- or with Korey Stringer, you noted that many  
3 investigations suggest that short periods of passive  
4 rest have little effect on physiological recovery,  
5 i.e., reduction in core temperature and heart rate,  
6 particularly during repeated bouts of physically  
7 demanding work in the heat. And you gave -- provided a  
8 couple of citations. Looking through those, it  
9 seems -- it seems evident that it might be very  
10 difficult to name a number for a length of rest break  
11 without a lot of context, in terms of the exertion  
12 level, any cooling strategies in play or not in play,  
13 and other factors.

14 So understanding that, I'm just wondering if you  
15 would care to comment, now or in your post-hearing  
16 comments, whether -- whether you think that there is  
17 any value to providing sort of specific -- specific  
18 length, like a minimum length of break, such as we see,  
19 for example, in the California state rule for as-needed  
20 rest breaks, the rest breaks taken voluntarily by  
21 workers when they feel the need to prevent overheating?  
22 And if there's any reflection that you would want to

1 give on the way that the mandated scheduled rest breaks  
2 at the high heat trigger are scheduled -- or are  
3 written up in the proposal?

4 DR. MORRISSEY-BASLER: Okay. Yeah, I -- I think  
5 probably I'll -- will respond in my comments, just so I  
6 can provide a more expanded response to address your  
7 question. But thank you for your question.

8 MS. DEFOE: Thank you. And I guess I would just  
9 add to that that, in addition to, if we move forward  
10 with a rule, what we would put into the regulatory  
11 text, you're probably aware that we also provide  
12 companion guidance to the rules that can get into more  
13 detail about, you know, best practices and things along  
14 those lines. And if you have any suggestions for this  
15 topic in that area, that'd be appreciated too.

16 DR. MORRISSEY-BASLER: Sure, happy to. Thank you.

17 MS. DEFOE: Thanks. That's all I have.

18 MS. WANGDAHL: Okay. We have a few questions from  
19 Joo-Hyung.

20 MS. SHIN: Hi. This is Joo-Hyung Shin from OSHA.  
21 I have several questions on -- for economic analysis.  
22 My first question is about the buddy system. In your

1       testimony, as well as your written comments, you  
2       recommend that the buddy system be required at the  
3       initial heat trigger as well as the high heat trigger.  
4       Could you elaborate how you envision a typical buddy  
5       system interaction, like specifically, how long and how  
6       frequently the interactions to evaluate a buddy might  
7       take on average?

8               DR. MORRISSEY-BASLER:  Yeah.  I'm happy to provide  
9       more information.  However, I think for -- what I want  
10      to focus most on for the buddy system is that there  
11      should be an individual who is able to look after  
12      someone, to evaluate signs and symptoms of a heat-  
13      related illness.  As mentioned, because it's not always  
14      going to happen when the environmental heat load is  
15      high.  It can happen when someone is just performing a  
16      very heavy, physical, exerting job.  And so I think  
17      having an evaluation or observing method to be able to  
18      evaluate those appropriate signs and symptoms are  
19      important.  But again, I will expand a little bit more  
20      in the comments.

21              MS. SHIN:  A follow-up question.  In your  
22      experience, can nonmedical professionals be trained to

1 identify signs and symptoms of heat-related illness?

2 DR. MORRISSEY-BASLER: Yes. So I think in terms  
3 of evaluating -- just focused on signs and symptoms, I  
4 think that yes, people can have -- not with a hundred  
5 percent confidence -- but can evaluate whether or not  
6 someone's -- might be having a heat stroke. As far as  
7 far as recognition that would be -- so that would be  
8 assessment of core temperature. That has to be done by  
9 a medical professional. However, we always state that  
10 if someone is suspected to have an exertional heat  
11 stroke, that whole body cold water immersion, even by  
12 people that do not have the medical background, should  
13 be initiated because of that critical 30 minute time  
14 frame where that person's body temperature must be  
15 reduced.

16 MS. SHIN: One final follow-up on the buddy  
17 system. So are you aware of buddy systems being used  
18 in - across different industries for other non-heat-  
19 related purposes - like non-heat-related safety  
20 purposes. Like are - are you aware of examples of  
21 buddy systems used at worksites, in general, besides  
22 heat-safety.

1 DR. MORRISSEY-BASLER: I -- I am not -- I'll say  
2 not really, but I would imagine that they would be  
3 there for fall risk. But I -- I have personally not  
4 been involved with any buddy system related topics  
5 outside of heat.

6 MS. SHIN: Thank you. My next question is about  
7 rest breaks. So in the preamble of the proposed rule,  
8 OSHA cited data analyses that suggest that worker  
9 productivity declines in the heat. Sorry. I will  
10 state -- ask my question again. Excuse me. So we  
11 cited data analyses that suggest that worker  
12 productivity declines in the heat, but those declines  
13 are partially offset by the rest break requirements.  
14 Is this conclusion consistent with your observations  
15 and review of the literature?

16 DR. MORRISSEY-BASLER: Yeah, I will -- I will  
17 address that a little bit further in -- in the post-  
18 hearing comments, so I can provide an adequate response  
19 to your question.

20 MS. SHIN: Yes. So if you're also aware of any  
21 data evidence that OSHA did not identify in its  
22 preliminary analysis, we would greatly appreciate that

1 if you can share any of those in post-hearing comments.

2 DR. MORRISSEY-BASLER: Sure.

3 MS. SHIN: My next question is about  
4 acclimatization. I'm sorry. Bear with me. Would you  
5 expect that on average, when comparing acclimatized  
6 workers versus unacclimatized workers, would you expect  
7 that on average unacclimatized workers have lower work  
8 output than their acclimatized counterparts while  
9 working in the heat?

10 DR. MORRISSEY-BASLER: Uh-huh. Do I agree with  
11 that -- is that the question? I apologize.

12 MS. SHIN: Yes. Do you agree or disagree with the  
13 hypothesis that if you are acclimatized -- if you're  
14 working in the heat acclimatized, you will still be  
15 more productive than when you are not acclimatized?

16 DR. MORRISSEY-BASLER: So based on the  
17 acclimatization research, I would suspect that someone  
18 who is acclimatized is going to have a much higher, not  
19 only thermal tolerance, but a physical work capacity  
20 than someone that is unacclimatized. If that helps  
21 support your question. If not, I'm happy to address a  
22 little bit further as well in the comments.

1 MS. SHIN: Thank you. This is my last question,  
2 which is about your 2021 paper that you -- that was  
3 cited in your written comments. In your submitted  
4 comment, you cite Table 6, which contains ranges of  
5 dollar cost estimates for different types of cooling  
6 strategies. We find this table very informative for  
7 our economic analysis. If you could provide, in post-  
8 hearing comments, more detail on the source and  
9 derivation behind these dollar cost estimates that you  
10 provided in Table 6 in the table -- we would greatly  
11 appreciate that, if possible.

12 DR. MORRISSEY-BASLER: Yes, absolutely.

13 MS. SHIN: Thank you. That's all.

14 MS. WANGDAHL: Thank you for your time and  
15 testimony, Ms. Morrissey-Basler. Your Honor, that  
16 concludes the questions from OSHA.

17 JUDGE FORT: Perfect. Does the Solicitor of Labor  
18 have any questions?

19 MS. WILES: Thank you, Your Honor. Linda Wiles  
20 from the Solicitor's Office. I don't have any  
21 additional questions. And I also thank you for your  
22 time and testimony.



1 JUDGE FORT: Are there any participants with  
2 questions?

3 MS. CARLON: Yes, Your Honor, we have two. The  
4 first is from Ms. Shrestha. Please state your name for  
5 the record.

6 MS. SHRESTHA: Hello. My name is Ayusha Shrestha  
7 from the AFL-CIO. Thank you so much for your testimony  
8 today. I wanted to ask with -- due to your experience  
9 and involvement in this, can you explain how the  
10 hierarchy of controls is reflected in the ANSI/ASSP  
11 A10.50 standard on heat stress? I have a follow-up  
12 question after that.

13 DR. MORRISSEY-BASLER: Sure. So if I -- if I can  
14 clarify the question quickly. Is -- you're -- you're  
15 wondering how the hierarchy of controls is implemented  
16 in the voluntary standard. Is that correct?

17 MS. SHRESTHA: Yes.

18 DR. MORRISSEY-BASLER: Yeah. So I can provide,  
19 again, more specific details. However, the voluntary  
20 standard utilizes the engineering controls and  
21 administration controls, which is part of the hierarchy  
22 of controls. So an example of administration controls

1       would be like training or education. Engineering is  
2       changing the work environment, so that may be  
3       ventilation, as an example. And so those are just a  
4       few components. But again, happy to make it a little  
5       bit more clear in the -- the comments.

6           MS. SHRESTHA: Thank you. And given that the ANSI  
7       heat standard requires -- or at least recommends, since  
8       it's voluntary -- engineering controls and using the  
9       hierarchy of controls, yet the current standard  
10      proposal by OSHA does not include this. Could you  
11      explain why using the hierarchy of controls is the  
12      appropriate approach for controlling heat exposures in  
13      the workplace? What does that tell us about the  
14      importance of addressing heat hazards at their source?

15           DR. MORRISSEY-BASLER: Yeah, I think that the  
16      hierarchy of controls is a foundational safety  
17      framework and is well recognized across the safety  
18      community. So I think that using that paradigm is  
19      important to be able to facilitate appropriate  
20      implementation. So not just with heat, but across  
21      different health and safety -- or excuse me, I should  
22      say occupational hazards. And I think that,

1 particularly for heat, the hierarchy of controls is  
2 helpful to be able to sort of allow employers to  
3 determine what controls are most adequately to first  
4 implement and especially, given the variety of  
5 different industries that are going to be exposed to  
6 high heat. So I -- I would recommend it as a  
7 appropriate implementation strategy for a heat stress  
8 management plan for those reasons. But again, happy  
9 to -- to expand a little bit further.

10 MS. SHRESTHA: Thank you so much. That's all from  
11 me.

12 JUDGE FORT: Thank you. Are there any other  
13 participant questions?

14 MS. CARLON: Yes. We have one more from Ms.  
15 Christman. Please state your name for the record.

16 MS. CHRISTMAN: Yes, hi. Thank you. I'm  
17 Anastasia Christman from the National Employment Law  
18 Project. You talked some about the importance of  
19 training employees and making sure they have knowledge.  
20 You implied early in your comments that you thought  
21 there was an important role for them in developing  
22 these, and I was just wondering if you could explain

1           that - that sort of notation that you made?

2           DR. MORRISSEY-BASLER: Yeah, absolutely. And I  
3 apologize, I - I kind of ran short of time. So I  
4 wanted to - to mention that, because while the standard  
5 does include that the involvement of individuals or  
6 employee implement - input. Excuse me. I think that  
7 OSHA could -- should consider more specificity to how  
8 the feedback or involvement of employees should be,  
9 ensuring that there's a diverse group of workers who  
10 are a part of that input. And then I would also  
11 recommend the documentation of employee input and how  
12 they would specifically put that input into their heat  
13 stress management plan, as some examples of that.  
14 Thank you for bringing that up.

15           MS. CHRISTMAN: Yes, thank you for that. That's  
16 my only question. Thank you.

17           JUDGE FORT: Thank you. I think we're on to the  
18 next.

19           MS. CARLON: Yes, Your Honor.

20           JUDGE FORT: Thank you. Thank you, speaker  
21 Morrissey-Basler.

22           MS. CARLON: The next speaker is Miranda Dally.

1 Please state your name and affiliation for the record.

2 DR. DALLY: Miranda Dally. And I'm here as a  
3 private citizen.

4 JUDGE FORT: All right. Thank you. You may  
5 begin.

6 DR. DALLY: Thank you for having me here today to  
7 speak in support of the Heat Injury and Illness  
8 Prevention in Outdoor and Indoor Work Settings proposed  
9 standard. I'm Dr. Miranda Dally. I'm a research  
10 assistant professor in Colorado and have more of a  
11 decade of experience in workplace safety and health.  
12 I'm speaking here today on behalf of myself and not my  
13 employer, nor funders of my research.

14 Over the last decade, I've focused my research on  
15 the impact heat has on the health, safety, and well-  
16 being and productivity of workers, both domestically  
17 and internationally. My work has shown that heat acts  
18 as an important hazard multiplier, meaning that common  
19 workplace injuries occur even more frequently when  
20 workers perform their tasks under hot conditions. For  
21 example, as temperature rises, so do rates of  
22 occupational injuries.

1           In a recent research study, I found that increased  
2           weekly average temperatures were associated with an  
3           increased risk of injury among construction workers  
4           here in the state of Colorado. In the summer months,  
5           for example, we observed a two and a half percent  
6           increase in the incident rate of job-related injuries  
7           of all types.

8           In work done by me and others, we have also seen  
9           additional impacts, including declines in worker  
10          productivity. In a study I conducted with a  
11          multinational agribusiness in 2018, I found that heat  
12          was responsible for two percent reduction in weekly  
13          productivity among manual laborers. I'm happy to  
14          provide you with these references to the public --  
15          published science in post-hearing comments.

16          OSHA has asked for input on two important  
17          considerations that I'd like to address. The first is  
18          regarding how work/rest cycles are currently  
19          implemented in work settings, and what are the  
20          limitations for implementation. In an assessment of  
21          heat safety needs that I conducted through interviews  
22          with construction companies across the state of

1 Colorado last year, I found that while companies all  
2 acknowledged the importance of work/rest cycles, how  
3 they were implemented was inconsistent. As one worker  
4 summarized, quote "the other company I used to work for  
5 they gave you 30 minutes break in the morning, 45  
6 minutes on lunch, and we take 15 minutes in the  
7 afternoon, but they give you like 15 extra minutes. It  
8 depends. Every company is different. Like another  
9 company I used to work for, they don't give you breaks  
10 in the morning. They just give you a 45 minute break -  
11 I mean lunch. So there are different schedules",  
12 unquote. The biggest challenge we found that  
13 participating construction companies have in  
14 implementing work/rest schedules are productivity  
15 demands.

16 This leads to the second consideration OSHA has  
17 asked input on regarding how does productivity or  
18 output -- excuse me -- output-based payment schemes  
19 affect the ability of workers to follow heat illness  
20 and injury prevention training guidance or  
21 requirements? As one project superintendent told us,  
22 quote, "if you're not working and working quick and

1       efficiently, you're losing money. So it's kind of a  
2       construction industry standard as far as the pressure  
3       to work quickly. And plus some of these guys out here  
4       get paid by the piece. So they want to get the job  
5       done, get as many pieces up as possible, and then get  
6       out there. The more pieces they get in, the more they  
7       get paid. That's kind of the hard part. If you go and  
8       slow them down and make sure they're doing stuff  
9       safely, and they get frustrated because they're losing  
10      money, if you're slowing them down", unquote.

11           There's a need in this country to treat heat as a  
12      workplace hazard. The construction industry  
13      illustrates this point. While some companies already  
14      have robust heat safety programs, others didn't  
15      recognize it as an issue for their workers. This can  
16      result in inequitable access to heat safety policies  
17      and practices among workers, even at the same job site.  
18      For example, when a general contractor was asked if  
19      wearable cooling technology was provided to everyone on  
20      site, they responded, quote, "typically only for our  
21      guys", unquote.

22           As one worker put it, quote, "maybe subcontractors



1       needed more training for their companies like we  
2       usually get at our company", unquote. A standard to  
3       address heat injury and heat illness would ensure  
4       equitable access to heat safety protections for all  
5       workers, not only those whose companies acknowledge and  
6       prioritize heat as a safety hazard. Thank you.

7               JUDGE FORT: Thank you. Are there any questions  
8       from OSHA?

9               MS. WANGDAHL: Thank you, Your Honor. This is Amy  
10       Wangdahl with OSHA and the Directorate of Standards and  
11       Guidance. And we do have some questions. Thank you,  
12       Dr. Dally. First, I'd like to turn it over to Zoe  
13       Petropoulos, who is participating virtually. She has a  
14       few topics to discuss.

15              MS. PETROPOULOS: Hi. This is Zoe Petropoulos  
16       with the Directorate of Standards and Guidance. So my  
17       first question is about something you actually  
18       mentioned in your testimony. You mentioned recent  
19       literature on the relationship between heat and  
20       occupational injuries and that this is something that  
21       you've also studied. In the proposed rule in the  
22       preamble, OSHA cited a 2021 paper by Park et al., which

1       studied this data in California, and also a 2024 report  
2       from the Workers' Compensation Research Institute,  
3       which evaluated data across multiple states. I'm  
4       wondering if you're familiar with either or both of  
5       these papers?

6             DR. DALLY: I'm familiar with the first one. I'm  
7       not sure about the second one.

8             MS. PETROPOULOS: Got it. I'm wondering if,  
9       specific then, to that paper, can you speak to your  
10      professional opinions on the strengths and limitations  
11      of this analysis?

12            DR. DALLY: I would --

13            MS. PETROPOULOS: Either now or in post-hearing  
14      comments. Sorry.

15            DR. DALLY: I -- yeah, I'm not prepared to speak  
16      to the strengths and limitations now, but I will  
17      provide my assessment of that in the post-hearing  
18      comments.

19            MS. PETROPOULOS: Got it. And if you are able, in  
20      your post-hearing comments, OSHA would welcome any  
21      thoughts you have on our description of those papers  
22      and reports and if you're aware of any additional data

1 or studies related to this topic that we did not cite?  
2 And I know you mentioned that you'll be sharing your --  
3 your paper in post-hearing comments. But anything else  
4 that you've identified that you think OSHA did not  
5 cite, we would be interested in that in your post-  
6 hearing comments.

7 DR. DALLY: I'll ensure -- I'll be sure to include  
8 them in the post-hearing comments.

9 MS. PETROPOULOS: Thank you. My next question is  
10 on a related topic, but I want to focus on -- rather  
11 than injuries of -- of all kind of coded causes --  
12 specifically heat-related illnesses and that are  
13 identified in official data sets by their ICD or OIICS  
14 codes. We heard testimony from multiple medical  
15 professionals and surveillance experts last week that  
16 they believe that heat-related illnesses, using these  
17 ICD and OIICS codes, among workers are undercounted in  
18 official administrative and surveillance datasets. I'm  
19 wondering if you agree with this, why or why not?

20 DR. DALLY: I do agree with that. I think that we  
21 see - a lot of the research that we do, the reason that  
22 we see - looking at all-cause injury rather than just

1 heat-related injury specifically, is that the rate of  
2 heat-related injuries that show up in workers'  
3 compensation data are extremely low. One reason I  
4 believe that this is to be the case is that in - only  
5 heat-related injuries that rise to the severity of  
6 requiring medical attention will end up having a  
7 workers' compensation code related to that.

8 And so what we understand from our work with  
9 construction companies as well as agricultural  
10 companies is there tends to still be this culture of  
11 not wanting to seek medical attention necessarily. And  
12 so if a worker is experiencing signs and symptoms of a  
13 heat-related illness, they're more likely to just, you  
14 know, take a break, cool off in their car, and then  
15 they'll come back to work the next day. They're not  
16 going to go to the ER for that. And so that's not  
17 going to be something that we're going to end up seeing  
18 in the administrative data.

19 MS. PETROPOULOS: Thank you. My next question is  
20 if you're aware of any data, analyses, reports, or  
21 papers that OSHA did not cite in the proposal that  
22 could be used to evaluate the effectiveness of heat

1 injury and illness prevention programs in reducing  
2 heat-related injuries and illnesses and fatalities?  
3 And if you are aware of any - any such papers, data,  
4 analyses, et cetera that OSHA did not cite, if you  
5 could submit those in your post-hearing comments?

6 DR. DALLY: I'll include those in my post-hearing  
7 comments.

8 MS. PETROPOULOS: Thank you. And that's it for  
9 me, Amy.

10 MS. WANGDAHL: Okay. I'd like to turn it over to  
11 Joo-Hyung Shin to discuss some economic analysis.

12 MS. SHIN: Hi, this is Joo-Hyung Shin from OSHA.  
13 My first question is, in the preamble of the proposed  
14 rule, OSHA cited data analyses that suggest that worker  
15 productivity declines in the heat, but that those  
16 declines are partially offset by rest breaks. Is this  
17 conclusion consistent with the observation and review  
18 of the literature?

19 DR. DALLY: So in our analysis that we conducted,  
20 where I cited that we had a two percent reduction  
21 observed over the course of a week with increasing  
22 temperatures. That was within a work setting that was

1 providing, I believe, up to an hour and a half of rest  
2 breaks for their workers throughout the work shift.

3 That said, I am aware of literature that suggests  
4 that worker productivity may be improved by increased  
5 rest breaks. However -- and I will provide in my post-  
6 hearing comments a citation to this letter to the  
7 editor. We -- we assessed that there wasn't enough  
8 information provided about the intervention to solely  
9 attribute the unobserved effect to productivity  
10 strictly to the work/rest cycles that were being  
11 implemented.

12 MS. SHIN: Thank you. My last question is about  
13 piece rates. So in your testimony, you mentioned about  
14 piece rates in the construction industry in your study.  
15 So in our preliminary economic analysis, we estimated  
16 that seven percent of workers are paid by piece rate,  
17 regardless of the industry. Is this estimate  
18 consistent with your observation for construction?

19 DR. DALLY: I don't feel qualified to answer that.  
20 The study that I did with construction wasn't  
21 necessarily focused on that. And so that was not  
22 something that I collected data on. So I do not feel

1 comfortable confirming that number.

2 MS. SHIN: Okay. Yes. But any -- if you later  
3 like think of that -- any research that could speak to  
4 the prevalence of piece rates payments in especially  
5 nonagricultural industries, OSHA would appreciate that  
6 information. Thank you.

7 DR. DALLY: Thank you.

8 MS. WANGDAHL: Thank you for your time and  
9 testimony, Dr. Dally. We look forward to your post-  
10 hearing comments. And Your Honor, that concludes the  
11 questions from OSHA.

12 MS. CARLON: I'm unsure if we may have lost  
13 connection with Judge Fort. Can you hear me, Judge  
14 Fort?

15 JUDGE FORT: I don't know if you all can hear me.  
16 Am I having --

17 MS. CARLON: Now we can. Now we can.

18 JUDGE FORT: Apologies. I was having some  
19 technical difficulties. Are there any questions from  
20 the Solicitor of Labor?

21 MS. WILES: Thank you, Your Honor. Linda Wiles  
22 from the Solicitor's Office. I don't have any

1 questions. Thank you again for your time and  
2 testimony, Dr. Dally.

3 JUDGE FORT: Are there any questions from  
4 participants?

5 MS. CARLON: Yes, Your Honor. We have one from  
6 Mr. Barab. Please state your name for the record.

7 MR. BARAB: Hi. My name is Jordan Barab. Yes. I  
8 had a couple of questions relating to breaks. First of  
9 all you mentioned -- I think piece rate was mentioned.  
10 Do you think that breaks are going to be as  
11 effective -- or should I say that workers will be as  
12 willing to take breaks if they are not paid for those  
13 breaks?

14 DR. DALLY: In my experience, with the workers  
15 that I had spoke to, I feel that they would be more  
16 reluctant to take breaks if they weren't paid during  
17 those breaks.

18 MR. BARAB: Okay. Do you think breaks are  
19 adequate to prevent heat-related illness or death, if  
20 workers are only allowed to take breaks after they  
21 start having symptoms of heat-related illness?

22 DR. DALLY: I do not feel qualified to make an



1 assessment on that.

2 MR. BARAB: Okay. And do you think that the  
3 standard should specify the length of a break or should  
4 employers be allowed to say you get a five-minute break  
5 or a seven-minute break or a two-minute break? Is  
6 there any -- any -- any ideal time that workers should  
7 have for a break and should OSHA be requiring something  
8 that is a required amount of break time?

9 DR. DALLY: It is my personal opinion that I think  
10 that there should be a minimum amount of break  
11 provided. However, every worksite is different. And  
12 when we're talking about a standard that will affect  
13 various geographic regions that have different needs, I  
14 think that there needs to be space for flexibility in  
15 how those are implemented.

16 MR. BARAB: Okay. Thank you.

17 JUDGE FORT: Mr. Barab, I was having technical  
18 difficulties, and I didn't hear it if you said it. But  
19 I don't know that you stated your affiliation.

20 MR. BARAB: I don't have an affiliation. I'm  
21 retired.

22 JUDGE FORT: Perfect.

1 MR. BARAB: Formerly with OSHA.

2 JUDGE FORT: Okay. Are there any other  
3 participant questions?

4 MS. CARLON: There are none, Your Honor.

5 JUDGE FORT: All right. Wonderful. Thank you,  
6 Speaker Dally.

7 MS. CARLON: The next speaker is Rosemary Sokas.  
8 Please state your name and affiliation for the record.

9 DR. SOKAS: Thank you. My name is Rosemary Sokas,  
10 and I'm also retired. I have a kind of a - I'm a  
11 member of the American Public Health Association, and  
12 they did submit written standards - I'm sorry they  
13 submitted written comments, but basically were not able  
14 to make the registration deadline for this. So I have  
15 kind of an informal approval to, you know, kind of  
16 speak for them if that's permissible. But basically,  
17 I'm speaking as a private citizen.

18 JUDGE FORT: You may begin.

19 DR. SOKAS: I'm -- I'm Dr. Rosemary Sokas. Thank  
20 you so much for this opportunity. I'm a physician,  
21 board certified in occupational medicine and internal  
22 medicine and emergency -- and emeritus professor at

1 Georgetown University, and have served in the past on  
2 the Armed Forces Epidemiology Board. In thanking OSHA  
3 for its outstanding work on this standard, I would like  
4 to note that for all industries, there's been a  
5 substantial and significant decline in worker  
6 fatalities from all causes, while heat stroke deaths  
7 have increased during that same period of time. So I  
8 did want to emphasize that OSHA standards, in general,  
9 have saved lives, and that this heat illness prevention  
10 standard is urgently needed.

11 I have three points. First, there's no such thing  
12 as an invulnerable worker, and workers are at risk in  
13 every region of the country. Second, heat stroke is a  
14 terrible, often lethal illness, and treatment remains  
15 problematic. Third, prevention works and must be  
16 prioritized. OSHA's standards properly focus on  
17 prevention and should account for exertion levels and  
18 rest break requirements, include the use of the wet  
19 bulb globe temperature -- as you've heard quite  
20 eloquently -- and also include medical screening.

21 So healthy, fit, strong people pushing themselves  
22 die of heat stroke. Athletes and military recruits

1       used to experience fatal heat stroke with tragic  
2       regularity, until the athletic community and the  
3       military decided to address the problem. As many  
4       presenters have stated, young workers, those new to a  
5       job, and low wage workers often try to power through  
6       the work. So-called self-managed acclimatization is  
7       dangerously unsafe for these workers, especially if  
8       there are piece rate systems in place.

9               Furthermore, it doesn't matter that workers in  
10       Texas and Florida live with more heat. They also die  
11       more from it, as the two states with the highest  
12       numbers of worker heat stroke fatalities. Fully 60  
13       percent of the heat-related deaths among construction  
14       workers in a study I participated in occurred in the  
15       South. This year for the first time, there are also  
16       heat advisories in Fairbanks, Alaska. So the entire  
17       United States will benefit from this standard.

18              When young, completely healthy people who are  
19       pushing themselves develop exertional heat stroke,  
20       depending on how quickly they receive care, over one  
21       fourth of them may die. A published OSHA fatality  
22       investigation emphasized this point. A 19 year old

1 landscaper developed heat stroke on his first day at  
2 work. He had previously been healthy, with no chronic  
3 medical conditions, and was taking no medications. He  
4 started work at 8:00 a.m. and took three 30 minute  
5 breaks during the day. At 4:00 p.m., he was found by a  
6 coworker lying unresponsive next to a lawn mower. EMTs  
7 measured his core temperature at 108 degrees  
8 Fahrenheit.

9 A half century ago, as an internal medicine  
10 resident, I cared for patients in the intensive care  
11 unit at Boston City Hospital during a heat wave.  
12 Patient after patient experienced terrible illness and  
13 half of them died. Back then, we had only supportive  
14 care to offer. You supported the patient until his or  
15 her own body recovered. Today, with one exception,  
16 there is only still supportive care to offer, 50 years  
17 later.

18 Research efforts to reverse brain and kidney  
19 damage are taking place in mice, but not yet in people.  
20 Among workers with other risk factors -- they may be  
21 older or pregnant or obese, or with a score of health  
22 conditions ranging from heart failure to a simple bout

1 of diarrhea -- or who are taking any one of dozens of  
2 drugs, the death rate remains unacceptably high. The  
3 sole successful intervention that Dr. Morrissey-Basler  
4 presented so well is to immediately place the victim  
5 into an ice water bath.

6 At athletic -- at athletic events like the Boston  
7 Marathon and basic training, for example, at Parris  
8 Island, these ice baths have greatly reduced severe  
9 illness and mortality. Rapid and effective first aid  
10 response is crucial, as is a buddy system.

11 Preventable deaths are especially tragic and heat  
12 stroke is an awful illness. The key features are  
13 thermal and central nervous system dysfunction. Your  
14 body loses the ability to regulate heat. Your proteins  
15 start to denature. You are hot, desperate, delirious,  
16 in great distress, but unable to think clearly or help  
17 yourself. You may be alone or surrounded by people who  
18 have no idea what is happening. Maybe you survive to  
19 reach the hospital, but this is no guarantee. You  
20 might recover and walk out eventually, or you might die  
21 after a few days or a few weeks of a devastating  
22 hospital course; coma, micro clotting, widespread

1       bleeding, multi-organ failure, shock, despite heroic  
2       measures to maintain fluid balance, breathing, blood  
3       pressure, et cetera.

4             The same OSHA investigation makes this point. At  
5       the local hospital, despite the use of a cooling  
6       blanket and iced IV fluids, this previously healthy 19  
7       year old man continued to be unresponsive, experienced  
8       seizures and spontaneous bleeding, and required  
9       intubation. After two days in the intensive care unit,  
10      he developed ventricular fibrillation and died.

11            We used to think that if you manage to survive,  
12      you would have no long-term consequences. We now know  
13      you will have an increased risk for future heat stroke,  
14      increased all-cause mortality, and a risk of death from  
15      delayed cardiovascular disease, stroke, and end stage  
16      renal disease that is two to nine times that for people  
17      who never had heat stroke.

18            Prevention is what counts and prevention saves  
19      lives. While the proposed standard is an excellent  
20      start, it should require wet bulb globe monitoring, as  
21      you've heard eloquently and repeatedly. Rest break  
22      requirements should also be modified based on worker

1 exertion levels. And finally, the military, athletics,  
2 and high performing industry also provide medical  
3 evaluation. Written comments from APHA, from the  
4 American College of Occupational and Environmental  
5 Medicine and from others have amply documented how  
6 important this is. The International Labor  
7 Organization recommends both medical screening and the  
8 use of a wet bulb globe temperature measurement, even  
9 for low and middle income countries.

10 While the goal here is not to exclude the  
11 individual from work, it takes more -- and while  
12 training and education of both workers and supervisors  
13 is critically important, it takes more than a flip  
14 chart to address the many risk factors workers and  
15 supervisors need to know about. And any required  
16 workplace modifications will need supporting  
17 information.

18 Employers in these hearings have expressed  
19 concerns about what is and isn't protected information,  
20 and some have complained that the training and first  
21 aid requirements expect supervisors to be medical  
22 professionals. These concerns can be addressed through



1 the inclusion of a medical screening requirement, as  
2 simple as the one used for respirator clearance.  
3 Workers self-complete a questionnaire that is reviewed  
4 only by a clinician. And those with identified risk  
5 factors are evaluated by the clinician. All medical  
6 information remains confidential, and the clinician  
7 tells the employer whether any modifications to the  
8 heat illness prevention plan may be needed for this  
9 individual, without revealing any medical information.

10 ACOEM's written comments included publications  
11 about a medical screening program with these elements  
12 in a Texas municipality that reduced worker  
13 compensation cases. And one of OSHA's occupational  
14 medicine physicians actually taught the main author of  
15 one of the studies and co-authored that paper. OSHA  
16 has extraordinary internal expertise, and its Office of  
17 Occupational Medicine and Nursing has produced some of  
18 the best data available about occupational heat illness  
19 risks and prevention. I urge OSHA to make full use of  
20 their expertise to incorporate a commonsense approach  
21 to medical screening in this standard. Thank you.

22 JUDGE FORT: Thank you. Are there any questions

1 from OSHA?

2 MS. WANGDAHL: Thank you, Your Honor. Yes, we do  
3 have some questions. This is Amy Wangdahl with the  
4 Directorate of Standards and Guidance. And thank you,  
5 Dr. Sokas, for your testimony today. I have the first  
6 question on observing signs and symptoms of heat  
7 illness. We've heard from some groups that requiring a  
8 buddy system where workers identify symptoms of heat  
9 illness in their coworkers is not possible because  
10 workers are not medical professionals. In your  
11 experience as a medical professional, are the symptoms  
12 of heat illness something that nonmedical professionals  
13 can be trained to identify?

14 DR. SOKAS: Absolutely. And it's a really clear  
15 message that the training can get across to the --  
16 every worker and every supervisor. So there are two  
17 things you have to watch out for that are really  
18 important. First, starts with heat exhaustion. This  
19 is when you get the headache, you feel terrible, you  
20 might have nausea, you might even be vomiting. You  
21 might be exhausted and just fatigued. So that's heat  
22 exhaustion. This is a big problem. You have to stop.

1       You can recognize it in yourself and you can support  
2       people to rest, shade, recovery, et cetera.

3               Now every -- and so the critical difference is  
4       with heat stroke -- with heat stroke the central  
5       nervous system is involved. So you're confused. The  
6       individual cannot help themselves, but their neighbor  
7       can. The next person over can. You basically find  
8       out -- ask the person you know, what's your name?  
9       Where are you? You -- do you know what day it is  
10      today? They're confused. The minute you see that  
11      confusion, you know something really terrible is going  
12      on. We've heard presentations where people  
13      misinterpreted that in the past as, oh, you know, maybe  
14      they're using drugs or whatever. This is a crucial  
15      piece of information.

16             Now, if a person happens to be hot and dry -bingo.  
17      That is heat stroke without going beyond anything else.  
18      But you can still be sweating or you can have sweat  
19      before, so you're still soaking wet. So it's not the  
20      hot and dry that you need, it's the confusion. And  
21      that's when you call EMS. That's when you get them  
22      into the ice bath. That's when - you know if you

1 overreact, it's fine. Because otherwise, as you've  
2 heard I think very eloquently, people will die if they  
3 don't get immediate care and treated right away. But  
4 this is treatment. This is not prevention. This is  
5 treatment.

6 MS. WANGDAHL: Great. Thank you. I -- I  
7 apologize. I failed to mention that you can either  
8 answer our questions today or submit post-hearing  
9 comments. That goes for all of our questions. So now  
10 I'd like to turn to Zoe Petropoulos, who's attending  
11 virtually, who has a few topics to discuss.

12 MS. PETROPOULOS: Hey, this is Zoe Petropoulos  
13 with the Directorate of Standards and Guidance. My  
14 first question -- we heard from multiple medical  
15 professionals and surveillance experts last week that  
16 they believe heat-related illnesses and injuries among  
17 workers are undercounted in official administrative and  
18 surveillance -- surveillance datasets. Do you agree  
19 with this? Why or why not?

20 DR. SOKAS: Oh, Dr. Petropoulos, this is a huge  
21 issue. And you've heard, I think also in these  
22 hearings, a lot of discussion about how -- oh, my

1 goodness workers don't want to report, employers don't  
2 recognize, you know, there's -- but -- but I'll go even  
3 further. So even further, what's happening -- and  
4 there's a really interesting data on this -- that -- so  
5 your -- most of our data of heat stroke -- well, heat  
6 illness, heat exhaustion -- forget it. You know, it  
7 doesn't get counted because it's very rare for people -  
8 - not rare, but it's unusual for people to have the  
9 workers' compensation capabilities and all of that. If  
10 they're outdoor workers and they're a little insecure  
11 in their workplace, they just don't report it. There's  
12 a thing in construction called the bloody handkerchief  
13 sign, which is that even if you're bleeding, you don't  
14 report it because you don't want to lose the work. So  
15 there's massive underreporting for -- for heat  
16 exhaustion.

17 But for heat stroke, where you would think this  
18 would be, you know, death and obvious, for the medical  
19 examiners, it's not always that obvious. They need to  
20 have -- in fact, up until 1999, the only data CDC was  
21 collecting was where the medical examiner said the heat  
22 was the cause of the death. And then in 1999, they

1        added, well, if heat contributed to it. So maybe you  
2        wouldn't have gotten this heart attack, or maybe you  
3        wouldn't have had the stroke if it hadn't been 105  
4        degrees outside. So then the medical examiners could  
5        add that in, and that kind of doubled the number of  
6        deaths that we report in the United States.

7            And then there's this really interesting study out  
8        of British Columbia, where they had a terrible heat  
9        wave a few years back, where they actually looked at  
10       what the medical examiner was -- so they took the  
11       period of time -- this is a study by Lee et al. where  
12       they took the deaths that occurred over a specific  
13       period of time during the heat wave in, I think it was  
14       2021, and they compared it to like, you know, an eight  
15       year average of the preceding, you know, same window of  
16       time. And they found out that, among certain deaths,  
17       it was elevated. The number of deaths that were  
18       attributed to either being caused by heat or  
19       exacerbated by heat was up by a third.

20           But when you looked at the total number of  
21       deaths -- this is -- this is what we learned during  
22       COVID. When you're looking at excess mortality across

1 the whole population, it doubled. It doubled. So even  
2 with this -- this you know, recording system where you  
3 can say, yes, it might have contributed, you're still  
4 undercounting heat stroke mortality. So this is a --  
5 this is a big problem with heat -- with heat stroke and  
6 with heat illness in general.

7 MS. PETROPOULOS: Thank you. My next question is  
8 about acclimatization. We've heard comments arguing  
9 that OSHA did not account for what is described as  
10 natural acclimatization, that workers develop from  
11 living in the same locale as where they work,  
12 suggesting that heat exposure outside of work is  
13 adequate for achieving acclimatization. Do you agree  
14 with this? Why or why not?

15 DR. SOKAS: Yeah, this is completely nonsense. So  
16 you don't get heat acclimatization for a work -- for a  
17 work activity by sitting around in a hot environment.  
18 You get it by working into the job. And I think the  
19 guidance that OSHA uses is 20 percent a day, which --  
20 which makes really good sense most of the time, because  
21 much of the heat that is occurring within the human  
22 body is not from external sources. Although obviously,

1       if you're standing in the sun, that's a huge source.  
2       But -- but it's internally generated from your own  
3       metabolic rate. And I think you've heard speakers  
4       mention this as well.

5               So unless somebody is actively -- walking your dog  
6       at 8:00 a.m. in Houston -- I'm sorry, that is not the  
7       equivalent of being acclimatized. So -- so you really  
8       do need to have a -- a recognition that people have to  
9       exert themselves cautiously and in increasing doses to  
10      achieve the kind of acclimatization you need for a  
11      worker.

12             MS. PETROPOULOS: Thank you. My next question is  
13      about rest breaks. From a medical standpoint, can you  
14      comment on whether the approach of ensuring rest breaks  
15      prior to the development of signs and symptoms of heat-  
16      related illness is needed to prevent serious health  
17      consequences from the heat?

18             DR. SOKAS: Absolutely, yes. And -- and I would  
19      go further than what -- than what OSHA currently has  
20      drafted. You know, to kind of recognize what the  
21      military has figured out and what NIOSH has figured out  
22      in terms of the more exertion people are doing out in



1 the heat. This is why the wet bulb globe temperature  
2 is so important because the sunlight is such a big  
3 contributor, that all of those matter. And that you  
4 can prevent problems by having -- by having you know,  
5 these appropriate rest breaks.

6 And I think you heard on Friday from Mr. Barab,  
7 from Dr. Michaels, from Ms. Berkowitz about how, during  
8 the Deepwater Horizon event, they had not a single  
9 worker lost from heat stroke in the Gulf areas where  
10 all this cleanup is taking place with PPE on because of  
11 their very careful attention to those work/rest cycles.

12 MS. PETROPOULOS: Thank you. That's it for me,  
13 Amy.

14 MS. WANGDAHL: Thank you, Zoe. We'd like to go to  
15 Joo -- Joo-Hyung Shin for some economic questions.

16 MS. SHIN: Hi. This is Joo-Hyung Shin from OSHA.  
17 And my question is, in the preamble of the proposed  
18 rule, OSHA cited data analyses that suggest that worker  
19 productivity declines in the heat, but that these  
20 declines in worker productivity are partially offset by  
21 rest breaks. Is this conclusion consistent with your  
22 understanding of the peer reviewed literature on this

1 topic?

2 DR. SOKAS: It is. And you -- I apologize. I  
3 missed some of Professor Dally's presentation because  
4 of my -- my audio went out. So I'm not quite sure what  
5 her response to that question was, but -- but I -- the  
6 presentation by Professor Wegman last week was, I  
7 thought, pretty compelling. There's other data from  
8 laboratory work where they've done actual increased  
9 rest breaks for certain tasks like lifting and that  
10 sort of thing. And - and the breaks themselves allow  
11 people to get the work done, basically. They kind of -  
12 - but the -- the large-scale studies, I don't think  
13 have been done. But I was impressed by the study from  
14 Nicaragua that Professor Wegman presented.

15 MS. SHIN: Thank you.

16 MS. WANGDAHL: Thank you for your time and  
17 testimony today, Dr. Sokas. Your Honor, that concludes  
18 the questions from OSHA.

19 JUDGE FORT: Thank you. Does the Solicitor of  
20 Labor have any questions?

21 MS. WILES: Thank you, Your Honor. Linda Wiles  
22 from the Solicitor's Office. I don't have any

1 additional questions. Thank you, Dr. Sokas, for your  
2 time today.

3 DR. SOKAS: Thank you.

4 JUDGE FORT: Thank you. Do -- are there any  
5 participants with questions?

6 MS. CARLON: Yes, Your Honor, we have two. The  
7 first is from Ms. Arberry. Please state your name for  
8 the record.

9 MS. ARBERRY: Hi. And thank you, Your Honor. My  
10 name is Chenay Arberry. Yeah. And thank you, Dr.  
11 Sokas, for your testimony. I found it very  
12 illuminating. So you talked a lot about the impacts of  
13 heat on the body. Why are workers specifically at  
14 heightened risk compared to others? You briefly  
15 touched on it.

16 DR. SOKAS: Well, yes. Thank you. So obviously,  
17 for most workers, they don't control the amount of  
18 work. First of all, they're -- the -- the -- many  
19 workers are doing heavier exertion than most of us  
20 would be doing in a voluntary basis. If we're doing  
21 exertional activity on a voluntary basis and it's hot  
22 outside, we can modify our behavior, we can stay

1       inside, we can have -- you know, we can take care of  
2       ourselves a little bit better. Many workers don't have  
3       self-pacing -- most workers, I would say. They -- they  
4       don't have the ability, in some circumstances, for  
5       example, to start work very early because of zoning  
6       laws that restrict noise exposure. So they can't do  
7       the kind of flexible stuff that we suggest to them  
8       sometimes. So the -- the need for workers to be  
9       protected and to have this excessive heat illness  
10      prevented is really -- really requires, I believe,  
11      OSHA's activity.

12           MS. ARBERRY: Thank you. Chenay Arberry with AFL-  
13      CIO. And just a follow-up. And my last question to  
14      that is does heat exhaustion have chronic effects?

15           DR. SOKAS: Oh, thank you. I'm glad you asked  
16      that. So heat exhaustion is -- is really important to  
17      identify that people are at risk. But there's kind of  
18      a continuum. And sometimes it's serious enough that  
19      people do get hospitalized with heat exhaustion. And  
20      the same study - that Wang et al. study that showed  
21      that you wound up with -- you know, they -- they  
22      studied people over 20 years, where they had people who

1 had been hospitalized for heat stroke, people who had  
2 been hospitalized for other heat-related illnesses,  
3 primarily heat exhaustion, and then the control  
4 population. They found that the people who had been  
5 previously hospitalized for heat exhaustion also had  
6 significantly more adverse cardiovascular disease,  
7 stroke, and end-stage renal disease than people who had  
8 never had hospitalization for heat-related illness.

9 So the -- the heat exhaustion was not a safe thing  
10 to have for sure. And you want to reduce the  
11 prevalence of it. But it is at least something where  
12 people can recognize they have it and then stop. But  
13 you don't want people to be experiencing that over and  
14 over again.

15 MS. ARBERRY: That's it for me. Thank you, Dr.  
16 Sokas. And thanks, Your Honor.

17 JUDGE FORT: Thank you. And the next questioner?

18 MS. CARLON: Mr. Barab?

19 MR. BARAB: Yes. Thank you. My name is Jordan  
20 Barab. I am retired. So Dr. Sokas, thank you for your  
21 testimony and a couple of questions, somewhat related  
22 to what we've already talked about. The -- somebody

1        mentioned -- well, the Nevada standard, for example,  
2        only provides for a rest break after an employee  
3        exhibits signs or symptoms of heat illness, which I  
4        think you -- you mentioned is -- is not a good idea.  
5        Could you -- could you expand on that and tell me why  
6        only having rest breaks for workers who already exhibit  
7        signs or symptoms of heat illness is not an adequate  
8        provision.

9            DR. SOKAS: Well, because we're trying to prevent  
10        illnesses, and we're not trying to just sort of, you  
11        know, run after them. And -- and again, I think as  
12        previously asked, the -- you know, there -- once you  
13        get to the point where you're symptomatic, you really  
14        have gone too far. And we don't really have great  
15        long-term data on what that's going to look like. But  
16        we do have studies in the United States that are taking  
17        place right now that look at, you know, some of the  
18        changes of renal function over the course of a long  
19        shift, for example, among wildland firefighters, you  
20        know, that kind of thing. So -- so we do think that,  
21        in fact, we need to be careful about these people  
22        getting -- getting ill and -- and that -- and -- and

1 symptoms are a sign of illness, basically. So you're  
2 trying to prevent that.

3 MR. BARAB: Okay. Thank you. So the Nevada  
4 standard also, it -- it states that employers must  
5 provide water. It doesn't say how much water or what  
6 frequency the water needs to be provided. How much --  
7 how much -- how important is that to specify or to have  
8 more information specifying how much water workers need  
9 depending on the temperature, how long they're working,  
10 et cetera.

11 DR. SOKAS: Well, yeah. And that's a big area  
12 too, with exertion levels and all of that. But so  
13 yeah, it's -- it's critically important to have the  
14 water and to specify where it's located and to make  
15 sure it's drinkable. I think we heard from someone who  
16 was saying that, you know, fish scales in the water,  
17 kind of, you know, kept people from -- and we've heard  
18 a lot about how if there's not a clean bathroom  
19 facility available, women for sure are not going to be  
20 drinking enough water. So -- so it's part and parcel  
21 of, how you have to make sure that people are drinking  
22 enough to stay out of kidney failure, basically.

1 MR. BARAB: I'm sorry, could you -- could you  
2 expand on that? You said women will not drink enough  
3 water if there aren't decent bathrooms?

4 DR. SOKAS: Oh, well, I mean, we've known this  
5 for -- for a very long time. But you know, if -- if  
6 there's not a -- an accessible and a reasonably clean  
7 place to -- to go to the bathroom, and it's very  
8 clear -- or a safe place -- I mean, you know, it's very  
9 clear that women are not going to go behind the  
10 cornstalks and do it, you know what I mean? So it's a  
11 less of an issue for some of the male outdoor workers,  
12 but it's a big deal for women.

13 MR. BARAB: Okay. All right. Thank you. That's  
14 all I have.

15 DR. SOKAS: Okay.

16 JUDGE FORT: All right, thank you. Thank you,  
17 Speaker Sokas.

18 DR. SOKAS: Thank you.

19 MS. CARLON: The next speaker is Kevin Riley.  
20 Please state your name and affiliation for the record.

21 JUDGE FORT: I think you're on mute. I cannot  
22 hear you



1 DR. RILEY: Now?

2 JUDGE FORT: Yes.

3 DR. RILEY: Great. Good afternoon. My name is  
4 Kevin Riley. I'm Director of the Labor, Occupational  
5 Safety and Health Program at UCLA.

6 JUDGE FORT: You may begin.

7 DR. RILEY: All right. Well, thank you, everyone.  
8 I appreciate the opportunity to speak today. As I  
9 said, my name is Kevin Riley. I'm director of the UCLA  
10 LOSH program here in Los Angeles. We're a community  
11 outreach and engagement program that provides training  
12 and education on a wide range of safety and health  
13 topics. Our work also includes applied research to  
14 evaluate occupational health programs and to inform  
15 policy and best practices.

16 We have published our experiences conducting  
17 trainings and workshops on heat illness prevention for  
18 workers and their representatives over 20 plus years.  
19 We've also conducted research on mortality and  
20 morbidity during high heat events in communities with  
21 higher prevalence of outdoor workers. And today, I'm  
22 here to share some of our experiences related to

1 occupational heat illness prevention and relevant  
2 standards here in California to help inform this  
3 important standard setting process. And I should just  
4 say, I'm speaking on behalf of myself and our program,  
5 not on behalf of my university as a whole.

6 Before getting into the details of this standard,  
7 I want to acknowledge something that came up during the  
8 Q&A of the last speaker. And that is why occupational  
9 heat exposures is such an important consideration for  
10 workers in particular. Heat in occupational settings  
11 presents some unique challenges that put workers at  
12 increased vulnerability to heat illness.

13 Workers often face heat exposures at greater  
14 frequency, duration, and intensity than members of the  
15 general public. This is due in part because work  
16 activities may continue despite high temperatures and  
17 humidity. They're related to the fact that work tasks  
18 are often very physical in nature, so that adds heat  
19 burden to the body. And the use of personal protective  
20 equipment that workers might have to protect from other  
21 hazards can add to the additional heat burdens to the  
22 body as well.

1           Also, workers' ability to respond to heat risks  
2           are shaped by job requirements and employer policies.  
3           So unlike the general public, workers may not be free  
4           to take breaks or to modify their activities without  
5           employer approval. And at the same time, employers  
6           themselves may not be sufficiently prepared or  
7           compelled to take the necessary steps to protect -- to  
8           protect their employees.

9           So for those reasons, OSHA standards can play a  
10          critical role in addressing these unique set of  
11          circumstances that workers face when it comes to heat  
12          exposures. They help to sort of deal with some of  
13          those vulnerabilities and underscore the need for  
14          proactive preventive measures. And we've seen the  
15          success of these kinds of approaches in several state-  
16          level standards around the country.

17          So as many of you know, California has had some  
18          form of an outdoor heat illness prevention standard  
19          since 2005. Our standard has been revised several  
20          times in the last 20 years. The framework of the  
21          California standard, in turn, has been adopted by  
22          several other states, Oregon, Washington, Maryland.

1 And then CalOSHA just last year adopted a new indoor  
2 heat standard. It was - I believe it was passed in  
3 April, and it went into effect almost a year ago today.

4 In our program's experiences leading training and  
5 providing technical assistance on the standards, both  
6 of these standards, to workers and worker  
7 representatives and small business employers, we found  
8 that the California standards and the framework that  
9 they offer are generally straightforward,  
10 understandable to workers, feasible for employers to  
11 implement. We've seen a lot of examples of successful  
12 implementation across different kinds of industries.  
13 And they're easy measures for inspectors to  
14 investigate, which is in turn reflected in the  
15 number -- nature of citations that CalOSHA was able to  
16 issue.

17 In terms of the federal standard. We are -- we  
18 really appreciate the fact that much of the sort of  
19 framework and approach of California and other states  
20 has been adopted. Generally, I think it's a very  
21 strong standard. I think things like a requirement for  
22 written prevention plans -- we've seen them prove to be

1 really effective tools for helping employers consider a  
2 range of measures prior to exposing employees to those  
3 hazardous conditions. There are clear trigger  
4 temperatures for implementing control measures.

5 I think one thing that -- that is in the federal  
6 standard that we don't have in our standard, which we  
7 really commend, is the language around heat safety  
8 coordinators. Those are, I think, an important role  
9 that -- at the work sites. And the absence of such  
10 rules here in California, has at times limited  
11 compliance with the effectiveness of the required  
12 controls.

13 And I just want to also uplift the fact I really  
14 appreciate the requirements that written plans and  
15 training be provided in a language that each employee  
16 and supervisor understands. We know that that's an  
17 important element to the work that we do, and we think  
18 it's really important that there is -- that that's  
19 explicitly stated in the standard.

20 So there's a few other sort of tweaks I have  
21 proposed in my written comments back in January. I'll  
22 let you refer to those. But overall, I just want to

1 underscore that we think the standard represents a  
2 really strong public health approach to reducing the  
3 risk of heat injury and illness. And we really applaud  
4 OSHA for moving forward with this important standard to  
5 protect American workers.

6 JUDGE FORT: Thank you. Are there any questions  
7 from OSHA?

8 MS. WANGDAHL: Yes, Your Honor. This is Amy  
9 Wangdahl with the Directorate of Standards and  
10 Guidance. Thank you, Mr. Riley, for your testimony.  
11 I'm going to start with some questions and then pass it  
12 over to my colleagues. In your written comment, and as  
13 you just mentioned, you commended OSHA for the  
14 inclusion of a heat safety coordinator in the proposed  
15 rule. Again, as you just mentioned, you said that the  
16 absence of such a rule under the California standard  
17 has at times limited compliance and the effectiveness  
18 of that -- of the required controls. Can you provide  
19 some more detail about the limitations of the  
20 California standard in this regard? And you can either  
21 answer today or you can submit it in your post-hearing  
22 comments.

1 DR. RILEY: Sure. I mean, I think in general,  
2 what I would say is with this standard, as with any  
3 standard, it's really important to have a designated  
4 individual who's responsible for making sure that the  
5 provisions are being -- are being implemented and  
6 carried out. We have a kind of role like that in some  
7 other standards here in California that often are more  
8 effective. In the -- in the case of the heat standard,  
9 we don't necessarily have that. So often the -- the  
10 issues fall back to supervisors or to other -- other  
11 workers, for example. And sometimes then the -- the --  
12 the application of this provision sort of fall through  
13 the cracks. I can pull together some other additional  
14 examples as well and some follow up written comments if  
15 that would be helpful.

16 MS. WANGDAHL: That would be appreciated. You  
17 also commended OSHA for ensuring that employees are  
18 provided with materials in a language that they  
19 understand. Do you have any recommendations for  
20 translation tools that could accomplish these goals  
21 easily for employers?

22 DR. RILEY: I don't necessarily have tools offhand

1 to recommend. I will say that it is important to be  
2 engaging with -- with human beings, with individuals.  
3 And that could be through, you know, through -- through  
4 workers themselves at worksites. It could be through  
5 local community-based organizations who have a really  
6 good sense of, not only sort of the proficiency in the  
7 language itself, but also a really good sense of how  
8 issues are discussed within these particular  
9 communities. Some of the more technical language that  
10 might be used at a work site, or lack of technical  
11 language, often is sort of maybe a mix of English and  
12 the native language. So -- so relying on -- on  
13 individuals, I think, who are familiar with the local  
14 community, with the industry, with that workplace are  
15 particularly important.

16 MS. WANGDAHL: Great. Thank you. I want to turn  
17 it over to Jennifer Kim in the Directorate of  
18 Enforcement Programs.

19 MS. KIM: Hello. Thank you for your testimony  
20 today. This is Jennifer Kim with OSHA Directorate of  
21 Enforcement Programs, and I have a question regarding  
22 drinking water. In your written comment, you cited



1 California's experience where the outdoor heat standard  
2 was revised to specify that drinking water be suitably  
3 cool and clean and require employers to provide single  
4 use cups. Can you provide more detail as to why those  
5 revisions were made to the California standard? Thank  
6 you.

7 DR. RILEY: Those revisions were made, I believe,  
8 in 2014. And in large part, those revisions were  
9 implemented because inspectors were finding that, in  
10 certain industries and certain parts of the state,  
11 the -- the drinking water simply wasn't potable. To --  
12 to simply have a requirement that water be provided  
13 wasn't enough to ensure that the water was -- you know,  
14 was something that workers either could drink or would  
15 want to drink. So it was a -- I think that was an  
16 important tweak, to make really clear that water needs  
17 to be cool, it needs to be drinkable, it needs to be  
18 free of charge. That level of specificity, I think,  
19 has really helped to ensure that water that's provided  
20 at work sites is -- is actually accessible to workers.

21 MS. WANGDAHL: Okay. I'd like to go to Tiffany  
22 DeFoe, who's participating virtually.

1 MS. DEFOE: Hi. This is Tiffany DeFoe with the  
2 Directorate of Standards and Guidance, OSHA. So I'd  
3 like to ask you to provide some insight, if you can.  
4 I'm going to go back in time a little bit to a paper  
5 that you coauthored in 2012. That's "From Agricultural  
6 Fields to Urban Asphalt: The Role of Worker Education  
7 to Promote California's Heat Illness Prevention  
8 Standard." So in that paper, part of the discussion  
9 was about -- about the difficulty that seemed to be  
10 prevalent at the time with enforcing some aspects of  
11 the heat rule at that time.

12 And my question is -- my question is going to get  
13 into the area of rest breaks. And the paper mentioned  
14 that, due to a combination of factors which included  
15 the limited enforcement personnel and resources  
16 available within the state and also worker populations,  
17 who at that point did not have much understanding of  
18 what their protections were supposed to be, or how to  
19 report and provide supporting information about  
20 compliance violations to the state. And you mentioned  
21 some other issues as well, such as piece rate and et  
22 cetera.

1 But in the paper, you discussed about how the  
2 educational process helped to help workers to  
3 understand what their rights were and how to advocate  
4 for them. And also, if I understood correctly, allowed  
5 for advocacy organizations to also collect information  
6 and provide it to the state. And I wanted to ask, once  
7 those important interventions have been made, what was  
8 your experience of how California's requirement for as-  
9 needed rest breaks, rest breaks, you know, requested by  
10 the worker when they feel a need to prevent  
11 overheating -- what was your experience of what  
12 compliance was like and enforcement was like once there  
13 were was like information flowing from workers and from  
14 worker advocacy organizations to the state about  
15 violations. Did that improve?

16 DR. RILEY: Are you asking specifically about rest  
17 breaks or more generally around compliance?

18 MS. DEFOE: Yes. No, very specifically about --  
19 about the as-needed rest breaks and -- and what your  
20 experience was with enforcement and compliance of the  
21 rest breaks, once there was information that workers  
22 understood it and there were routes for them to -- to

1 alert the state to compliance issues.

2 DR. RILEY: So I will say I'm not -- I'm not sure  
3 I have a good enough understanding specifically around  
4 the issue of rest breaks. But I will say, in a more  
5 general way, that the widespread education that's been  
6 done here in the state and, as you also mentioned, sort  
7 of the involvement of -- of worker organizations on the  
8 ground who can help to serve as -- as -- essentially to  
9 sort of serve as eyes and ears and to help alert state  
10 officials when there may be violations has been really  
11 effective. You know, and that's -- that's -- that's in  
12 terms of compliance with all the aspects of the  
13 standard, not necessarily the rest break provision, but  
14 provision of water, you know, accessibility of shade,  
15 training requirements, planning requirements, emergency  
16 response procedures.

17 If -- I would have to go back and look  
18 specifically if I -- if there's specific information  
19 about the rest break component per se. But I do think,  
20 in a more general way, you know, having -- having good  
21 educational materials that are in language, that are  
22 easy to follow, that are accessible to workers, and

1       having support, in some cases from organizations on the  
2       ground, has been really critical in helping to -- to  
3       ensure that there's -- there's widespread you know,  
4       recognition and compliance with that -- with those  
5       laws.

6               MS. DEFOE: Thank you very much. Yeah, I really  
7       appreciated that takeaway from your paper. As you are  
8       probably aware, the proposed language for the initial  
9       heat trigger for rest breaks there is fairly similar to  
10      the sort of allowed and encouraged rest breaks language  
11      of California's standard. So I'm just trying to see  
12      what insight might be available on kind of how  
13      enforcement has gone with that language, which depends  
14      on workers to ask for breaks and -- and employers to  
15      educate them. Just how has that been working out? Has  
16      it been enforceable?

17             DR. RILEY: Yeah.

18             MS. DEFOE: That'd be appreciated. Thank you.

19             DR. RILEY: If I could just respond to one thing  
20      there, which is that -- you know, I think in our -- in  
21      the case of our outdoor standard, one really important  
22      tool has been the fact that you -- you know, it's

1       somewhat easy to find the local heat and humidity  
2       conditions on a smartphone app. You know, it may not  
3       be -- it's not a wet bulb globe temperature, but it's a  
4       really sort of an initial useful tool for workers and  
5       supervisors to understand when those trigger  
6       temperatures have been reached. And that's something  
7       we've really promoted a lot, making sure that, you  
8       know, both workers and supervisors use that as an  
9       initial way to determine, you know, is today going to  
10      be a hot day, is it going to exceed those triggers  
11      and -- and require additional measures.

12           And I think you'll hear later today, our program  
13      is also working with some additional colleagues here at  
14      UCLA to sort of test out a similar model with some of  
15      the sort of handheld devices for heat and humidity that  
16      could be used in indoor settings, now that we have a  
17      new indoor standard. So they're looking at tools there  
18      as well. I know you all had had some earlier  
19      conversations about wet bulb globe temperature devices.  
20      But it's been -- it's been something we're also looking  
21      at and happy to share our results from that -- from  
22      that work as well.

1 MS. DEFOE: Thank you. Thanks for your testimony.  
2 That's all I have.

3 MS. WANGDAHL: Thank you, Mr. Riley. We have a  
4 few more questions on the economic analysis from Joo-  
5 Hyung Shin.

6 MS. SHIN: Hi. This is Joo-Hyung Shin from OSHA.  
7 My first question is about the buddy system. So based  
8 on your experience with worker and employer groups,  
9 OSHA would appreciate any information you may have on  
10 the observation of workers for signs and symptoms of  
11 heat illness using a buddy system. We are specifically  
12 interested how long and frequent the interactions to  
13 evaluate a buddy might take on average. And just to  
14 add on, we are also interested in any information on  
15 the current use of this buddy system for other non-heat  
16 safety-related contexts, as well, as currently  
17 happening in workplaces.

18 DR. RILEY: I can gather some more information to  
19 provide you post - post-testimony. I will echo the  
20 comments, the sentiments of the last speaker, Dr.  
21 Sokas, in that in our experience, it's actually been  
22 very easy to train workers on signs and symptoms for --

1       for heat illness. I think it's been generally a really  
2       easy, sort of an easy strategy. We found that to be  
3       fairly effective. And there's - there's really good  
4       tools that ourselves and our colleagues here in  
5       California have developed around those particular  
6       things. In terms of the frequency of check-ins, of  
7       buddy systems, I can get more information and provide  
8       to you.

9           MS. SHIN: Thank you. My next question is about  
10       emergency response. So in your experience, what are  
11       the most common methods that employers are already  
12       using to prepare for and respond to heat emergencies at  
13       workplaces?

14          DR. RILEY: Well, I think -- I mean, training is  
15       certainly one. You know, I mean, that's required in  
16       our standard. So training folks on, you know, what the  
17       heat -- high heat provisions may be, what the emergency  
18       measures may be, if -- if someone develops heat  
19       illness. Certainly widespread use of some of those  
20       tools as well to -- you know, to identify when you have  
21       a heat wave coming or to identify when you may have a  
22       work site that exceeds some of those triggers. I think



1           those are at least two things that come to my mind  
2           immediately.

3           MS. SHIN: Just a follow-up question. So when --  
4           when it comes to like emergency response for -- to  
5           address heat emergencies at workplaces, we have heard  
6           about like tub immersions and et cetera. So like those  
7           procedures require some ice being available at those  
8           sites. So we were curious, in your experience, is it  
9           common for employers to have a method to store ice at  
10          the work site, such as through ice makers or freezers  
11          for fixed locations? Or is there like a central  
12          location that employers utilize now to store ice so  
13          that they're available for mobile employees?

14          DR. RILEY: Personally, I haven't seen that.  
15          But -- but it's not to say it doesn't exist. I don't  
16          necessarily feel qualified to -- to talk specifically  
17          on that issue of ice baths.

18          MS. SHIN: But yes, any further information you  
19          may have in post-hearing comments would be appreciated.  
20          Thank you.

21          DR. RILEY: Thanks.

22          MS. WANGDAHL: Okay. We'd like to go to Zoe

1 Petropoulos, who's participating virtually.

2 MS. PETROPOULOS: Hey, this is Zoe Petropoulos  
3 with the Directorate of Standards and Guidance. I  
4 wanted to follow up on something you said in response  
5 to a question Tiffany asked. And you mentioned that  
6 heat stress apps allowed, not just supervisors, but  
7 workers to know whether it'll be a hot day and whether  
8 the triggers will be exceeded. And you know, correct  
9 me if this is misinterpreting it, but you seem to  
10 suggest that there's a benefit to workers having access  
11 to and knowledge of what the conditions at their work  
12 site are like. And you know, correct me if you  
13 disagree with that premise.

14 DR. RILEY: Oh, no. Absolutely, absolutely. I  
15 mean, it's - it's - in my mind, it's - it's - it's  
16 analogous to the fundamental sort of the right-to-know  
17 principle that underlies our Hazcom and other  
18 standards. I mean, it's access to information about  
19 hazards that workers may encounter at work. And by  
20 extension, you know, in a place like California,  
21 especially, understanding what employer measures - what  
22 measures employers are required to take to protect

1 workers at that point.

2 MS. PETROPOULOS: Got it. I'm wondering if you  
3 could speak to then in -- in the context of kind of  
4 what you just said, if you see any issues with certain  
5 monitoring approaches, if there are approaches that  
6 maybe hinder workers' ability to have access to that  
7 information. If you're aware of any of instances like  
8 that or if you have any thoughts on that. I'm thinking  
9 of specifically monitoring devices, if, you know,  
10 they're set up in ways that workers are not involved or  
11 if the readings and the values are not communicated in  
12 a way that's -- that's understandable to a nontechnical  
13 audience. I'm wondering if you have thoughts on that?

14 DR. RILEY: Yeah. I mean, I -- I think with the  
15 outdoor -- you know, in an outdoor setting, it's a  
16 little bit easier because you do have GPS based tools.  
17 So there's -- there's a little bit of an easier way to  
18 make sure that workers know how to use an app and  
19 can -- can read the temperature and humidity that day.  
20 And you know, through training, we -- we often will  
21 sort of not only teach workers how to do that, but also  
22 you can use that as a strategy to kind of test it

1       against maybe what the -- what the employer's official  
2       reading might be.

3               In indoor settings, it's a little more  
4       complicated, right? Because then you're dealing with  
5       things like radiant heat. You're not going to be able  
6       to sort of use an ambient temperature app to deal with  
7       that. So that's where I think it becomes a little bit  
8       more sophisticated. And we -- because our indoor  
9       standard is relatively new, I would say we don't  
10      necessarily have enough experience yet to really  
11      understand how that will play itself out and how we can  
12      best get tools to frontline workers, so they can be  
13      doing some of that data collection on their own, as a  
14      way to also confirm what readings an employer might  
15      be -- might be providing. So that's where some of the  
16      work we're doing now to test the feasibility of some of  
17      those handheld devices, I think is going to be really  
18      important.

19             MS. PETROPOULOS: Got it. And yeah, if you have  
20      any additional thoughts you wish to share or data that  
21      you have that you can share from your -- your work on  
22      this topic, we would welcome them in post-hearing

1           comments.

2           DR. RILEY:   Great.

3           MS. WANGDAHL:   Mr. Riley, we look forward to  
4           receiving any comments you might have, and we thank you  
5           for your time and testimony today.   And Your Honor,  
6           that concludes questions for from OSHA.

7           JUDGE FORT:   Does the Solicitor of Labor have any  
8           questions?

9           MS. WILES:   Thank you, Your Honor.   Linda Wiles  
10          from the Solicitor's Office.   I don't have any  
11          additional questions.   Thank you again for your time  
12          and testimony today.

13          JUDGE FORT:   Do we have any questions from  
14          participants?

15          MS. CARLON:   Yes, Your Honor.   We have one from  
16          Mr. Barab.

17          MR. BARAB:   Thank you, Your Honor.   My name is  
18          Jordan Barab.   A couple of questions.   Mr. Riley, LOSH  
19          operates mostly in Southern California.   You've had a  
20          lot of contact with workers and heard a lot of their  
21          experiences at work.   Is that correct?

22          DR. RILEY:   Yes.   Yes, that's right.

1           MR. BARAB: Okay. From your experience, are  
2 workers more or less likely to take breaks if they are  
3 not paid?

4           DR. RILEY: Workers are strongly discouraged from  
5 taking breaks if they are not paid breaks.

6           MR. BARAB: Okay. Thank you. You work with a lot  
7 of small businesses?

8           DR. RILEY: Correct.

9           MR. BARAB: Do you have any reason to think that  
10 for some reason small business employees are less  
11 vulnerable to heat than employees of larger businesses?

12           DR. RILEY: No. No. I mean, I think that would  
13 be -- the business size is -- is not the important  
14 factor here. It's -- it's --

15           MR. BARAB: So is there any reason that you think  
16 that small businesses should be exempted from any kind  
17 of standard?

18           DR. RILEY: No. No.

19           MR. BARAB: Southern California has a lot of  
20 warehouses, right?

21           DR. RILEY: Correct.

22           MR. BARAB: The Nevada standard actually exempts

1 from a lot of -- several features in the -- in the  
2 standard, employees who are unloading or loading motor  
3 vehicles. Do you see any reason for that? And what --  
4 what kind of work do you know people loading and  
5 unloading motor vehicles do in the -- in the heat?

6 DR. RILEY: Well, I -- again, I'm not an expert in  
7 that particular field, but I don't necessarily see a  
8 reason to exclude those kinds of activities. It seems  
9 like those activities are going to be -- are going to  
10 provide the same kind of heat exposures as -- as -- as  
11 any other kind of work.

12 MR. BARAB: Okay. Thank you. That's -- that's --  
13 those are the only questions I have.

14 JUDGE FORT: Thank you. And thank you, Speaker  
15 Riley. Do we want to take a short break? You folks  
16 need a break?

17 MS. WANGDAHL: Yes, Your Honor. That would be  
18 appreciated.

19 JUDGE FORT: Okay. Let's take a ten minute break.  
20 We'll be back at 57 after the hour.

21 MS. WANGDAHL: Thank you.

22 (Break.)

1 JUDGE FORT: Welcome back, everyone. Thank you.

2 MS. CARLON: All right. Our next speaker is  
3 Shauna Junco. Please state your name and affiliation  
4 for the record.

5 DR. JUNCO: Hi. My name is Shauna Junco. I'm  
6 here as a private citizen and a clinician in Orlando,  
7 Florida.

8 JUDGE FORT: Thank you. You may begin.

9 DR. JUNCO: Thank you for having me here today to  
10 express my full support of the proposed OSHA standards  
11 to protect workers from occupational heat-related  
12 illness. As a clinician working in the State of  
13 Florida, which has no protections in place for  
14 occupational heat exposure at the state level and which  
15 has outlawed protections at the local level, these  
16 protections are crucial to the safety and resiliency of  
17 my patients, community, and workplace.

18 Opponents of the standard have argued that these  
19 rules are a one-size-fits-all approach and therefore  
20 should not be implemented. But these rules were  
21 thoughtfully designed to apply to only those at risk  
22 and in a way that protects all workers who are at risk.



1 Heat protections that trigger at specific heat  
2 exposures, such as the proposed OSHA standard, are an  
3 optimal design. People will be protected when they are  
4 at risk of heat illness, no matter if they are working  
5 Washington State, which experienced a devastating 120-  
6 degrees high during a recent heat wave, or in my state  
7 of Florida, which consistently ranks as having the  
8 highest or second highest number of heat-related  
9 emergency department visits in the country.

10 As heat becomes more severe in states like mine,  
11 and as unseasonal heat waves become more common  
12 everywhere in the country, federal protections have  
13 never been more important. The OSHA rules are  
14 comprehensive and will be effective because they  
15 implement principles proven to prevent heat illness.  
16 They will provide a critical acclimation period for  
17 people newly working in the heat. The standards then  
18 help make sure people are provided water, rest, and  
19 breaks from the heat.

20 Treating heat illness is also simple, although  
21 best avoided through prevention. Communication and  
22 education aspects of the OSHA standard will ensure

1 employers and employees know what the symptoms of heat  
2 illness are so that it can be recognized, monitored,  
3 and promptly treated like the emergency it is.

4 My additional recommendation is to add a  
5 requirement for remote workplaces, or all workplaces,  
6 to have minimal, inexpensive equipment on hand to  
7 provide first aid to people suffering from extreme -  
8 extreme heat illness. This includes a temporal  
9 thermometer, ice and water, and a waterproof body-sized  
10 bag or other portable container that can be used for an  
11 ice bath. These are inexpensive, widely available, and  
12 easily stored.

13 I have heard arguments that these standards  
14 constitute federal overreach on the grounds they are  
15 overreaching states' power and are placing unnecessary  
16 burdens on businesses. In regards to states' power, I  
17 would ask that people look at what happened last year  
18 in my home state of Florida. Businesses and  
19 legislatures there said they did not want a patchwork  
20 of regulations and outlawed localities from taking a  
21 local-level approach. They enacted no state-level  
22 protections then and failed to again this year. People

1 in my state died preventable deaths. Federal  
2 regulations would protect people and solve this, quote,  
3 unquote, "patchwork" problem.

4 These rules do not place unnecessary burdens on  
5 employers. Employees are dying preventable deaths  
6 because of unsafe working conditions. Not only are  
7 these rules necessary for employees, they will also  
8 protect employers. For anyone who states otherwise, I  
9 ask them again to look to Florida. When looking at the  
10 cases of the people who have died from heat while  
11 working in my state, the simple and inexpensive  
12 measures outlined in the proposed standard would have  
13 protected these workers and their employers. That's  
14 because these businesses, which did not have a clear  
15 heat standard to follow in Florida, were still fined  
16 tens of thousands of dollars for failing to provide  
17 heat illness protections under the general safety  
18 clause.

19 Some people argue that these rules would be cost  
20 prohibitive to businesses. But this small investment  
21 will directly benefit employers, not just by protecting  
22 them from large fines. The human body needs rest and

1 water to recover from the heat. When it gets it,  
2 people can work longer hours and take less time off,  
3 resulting in a more productive and reliable workforce.  
4 These small investments by employers will also prevent  
5 the huge costs patients, hospitals, and taxpayers are  
6 paying to treat emergent heat illness and the many  
7 chronic health conditions heat illness causes.

8 Tragically, we have seen over and over again that  
9 without these science-based standards, these simple,  
10 inexpensive protective and treatment measures are not  
11 put into place, and people die preventable deaths.  
12 These deaths are undercounted, as found in the Tampa  
13 Bay Times investigation last year, that found that  
14 Florida companies failed to report the majority of heat  
15 fatalities in my state to OSHA as required.

16 Occupational heat illness is also placing a huge  
17 burden on our health systems and taxpayers, both  
18 acutely and through the treatment of the long-term  
19 health consequences of health illness, which make it  
20 harder to treat other diseases, including severe  
21 infections in my specialty area of practice of  
22 infectious diseases.

1           As programs that decrease greenhouse gas pollution  
2           are cut, and the heat steadily rises, we need  
3           protection rules in this country more than ever. My  
4           sincerest thanks to OSHA for posing such well-thought-  
5           out criteria to protect our workers, our employers, our  
6           taxpayers, and our health system.

7           JUDGE FORT: Thank you, Speaker. Are there any  
8           questions from OSHA?

9           MS. WANGDAHL: Thank you, Your Honor. This is Amy  
10          Wangdahl with OSHA's Directorate of Standards and  
11          Guidance. And we do have a few questions for Ms.  
12          Junco. As a reminder, you can answer now or you can  
13          submit your responses as a post-hearing comment. I'd  
14          like to turn it over to Zoe Petropoulos, who has a  
15          question on identifying heat hazards.

16          MS. PETROPOULOS: Yes. I actually have two  
17          questions. So I'll start with one that you may have  
18          heard me ask other witnesses. So we've heard from  
19          multiple now medical professionals and surveillance  
20          experts, both last week and today, that they believe  
21          that non-fatal, heat-related illnesses and injuries  
22          among workers are undercounted in official

1 administrative and surveillance datasets. I'm  
2 wondering if you agree with this, and why or why not?

3 DR. JUNCO: Yes. I absolutely agree with that.  
4 Heat illness is insidious. It causes a lot of health  
5 conditions. It can acutely exacerbate existing health  
6 conditions. And when medical professionals see those  
7 patients, they don't always think, what are the  
8 conditions outside or that the patient was in when they  
9 started experiencing acute symptoms of a syndrome that  
10 they were trying to diagnose. So rather than calling  
11 it heat illness, they might call it a myocardial  
12 infarction. They might call it acute kidney injury or  
13 acute renal failure. And with consistent exposures and  
14 acute kidney injuries, that can result in chronic renal  
15 failure. So it's well established in the medical  
16 community that this is underreported.

17 Additionally, just based on personal experience  
18 with friends and colleagues who know people who have  
19 experienced heat-related illness, it's sometimes  
20 diagnosed outside of a clinic or a hospital. So if  
21 somebody gets out of the heat and into air-conditioning  
22 and cools down, and their symptoms start to resolve,

1 people -- especially, I think, occupational heat  
2 exposure in fields like agriculture and construction,  
3 they don't want to pay for medical care because a lot  
4 of times, they can't afford it. Especially  
5 something -- especially when it's going to be something  
6 that they think they might be able to get through on  
7 their own. But that doesn't mean that they're not  
8 experiencing long-term health consequences from those  
9 acute events.

10 I have a friend whose child had heat illness at  
11 school, and she was diagnosed by her pediatrician over  
12 the phone. But since the child was feeling better,  
13 that was never counted in an ICD code or in the child's  
14 medical history as heat illness. And we know that is  
15 happening with our workers, for sure. So I think it's  
16 very well established in the medical community that  
17 this is underdocumented. And when you talk about  
18 chronic medical conditions that result, that is  
19 definitely underdocumented as well.

20 And as mentioned in my testimony, we also know  
21 that it's underreported by employers, at least in the  
22 State of Florida.

1 MS. PETROPOULOS: Thank you. My next question is  
2 about the written comment that you submitted on the  
3 proposal. You wrote in that comment that, quote, "OSHA  
4 needs to decide on one heat metric, heat index or wet  
5 bulb". Can you clarify why you think OSHA should allow  
6 only one heat metric to be used by employers?

7 DR. JUNCO: Well, I think that it's just more  
8 clear. I think that if you -- I think that -- I guess,  
9 I think that it should just be something that OSHA  
10 evaluates what is something that is doable. The wet  
11 globe is a little bit of a better tool, I would say,  
12 because it accounts for things like direct sunlight.  
13 But I'm not sure that all employers will be able to  
14 readily establish that at their worksite. So I think  
15 if that's found to be the case by OSHA that a heat  
16 index is still a really good marker, and it's widely  
17 available -- and I think it's probably also more easily  
18 available to workers, as mentioned in some of the  
19 previous testimony today.

20 MS. PETROPOULOS: Thank you. That's it for me,  
21 Amy.

22 MS. WANGDAHL: Okay. Thank you. We'd like to go



1 to Jason Hammer, who is participating virtually.

2 MR. HAMMER: Hi. Jason Hammer with the  
3 Directorate of Standards and Guidance. Thank you for  
4 your testimony. Your written comment references an  
5 online article on strategies for rapid cooling in  
6 exertional heat stroke patients. And you state that,  
7 quote, "EMS responders providing this method in  
8 localities and states across the country have seen  
9 reductions in morbidity and mortality of heat illness".  
10 Are you referencing specific data or literature here?  
11 And if so, could you share those in post-hearing  
12 comments?

13 DR. JUNCO: I will evaluate what's available and  
14 submit it in post-hearing comments. I have attended  
15 webinars put on by Maricopa County Emergency Response,  
16 and also some different counties in the country that  
17 have done this, where they're implementing something  
18 called treat and then transport; so treating heat  
19 illness at the site when they reach the patient, rather  
20 than transporting them to an emergency department to  
21 then treat them.

22 And according to the people that I have reached

1 out to who have started this method, this has --  
2 they've seen people survive with core body temperatures  
3 that they had never seen survive when they were  
4 transporting them to the hospital first. So I'll also  
5 submit the information that is available in post-  
6 hearing comments. But that's where -- where that  
7 statement came from.

8 MR. HAMMER: Thank you. We appreciate it. That's  
9 it for me.

10 DR. JUNCO: I would also add that, just if you  
11 look at the physics of cooling, using an ice bath is  
12 going to be much more effective at rapidly reducing  
13 body temperature compared to something like the tarp  
14 method, and really doesn't require any additional  
15 equipment. It just requires slightly different  
16 equipment. Instead of a tarp, you use a waterproof  
17 body bag, and these are widely available and very  
18 inexpensive.

19 MR. HAMMER: Thank you. Thanks, Amy.

20 MS. WANGDAHL: Ms. Junco, we'd appreciate any  
21 comments that you'd like to submit as your post-hearing  
22 testimony. And we appreciate your time and attendance

1 today.

2 And Your Honor, that concludes questions from  
3 OSHA.

4 JUDGE FORT: Thank you. Does the Solicitor of  
5 Labor have any questions?

6 MS. WILES: Thank you, Your Honor. Linda Wiles  
7 from the Solicitor's Office. I don't have any  
8 questions, but I thank you very much, Ms. Junco, for  
9 your time and testimony.

10 DR. JUNCO: Thank you.

11 JUDGE FORT: Thank you. Do we have any  
12 participant questions?

13 MS. CARLON: We do not, Your Honor.

14 JUDGE FORT: Thank you. Thank you, Speaker Junco.  
15 I appreciate it.

16 DR. JUNCO: Thank you.

17 MS. CARLON: The next speaker is Scott Schneider.  
18 Please state your name and affiliation for the record.

19 JUDGE FORT: Speaker Schneider, I think that you  
20 are on mute, or I can't hear you for some reason.

21 MR. SCHNEIDER: Sorry. Thank you.

22 JUDGE FORT: There you go.

1           MR. SCHNEIDER: My name is Scott Schneider, and  
2           I'm retired. I'm an industrial hygienist. I retired  
3           about -- after about 40 years of working in the labor  
4           movement, most recently as the Director of Occupational  
5           Safety and Health for the Laborers' Health and Safety  
6           Fund of North America. Since I retired, I have worked  
7           with the states of Maryland and Virginia in developing  
8           their heat standards, and served on the ANSI A10.50  
9           committee, which developed their 19 -- or 2024 standard  
10          on heat stress in construction.

11          I want to start by reminding OSHA that the  
12          standards it sets have to protect all American workers  
13          from material health impairment, even if exposed to the  
14          hazard for their working lifetime. This proposed rule  
15          is a good starting point, but it needs to be  
16          strengthened to meet that test. The industry has  
17          complained that this standard is one-size-fits-all and  
18          provides employers with no flexibility. This is false.  
19          This proposal contains options, like exempting from  
20          acclimatization those who have worked in similar  
21          conditions in the past two weeks.

22          Industry has argued that there needs to be

1 geographic variation in these requirements. The  
2 proposal already includes this flexibility. If you're  
3 working in a state or location where temperatures and  
4 humidity are lower or heat exposures are temporary,  
5 then the requirements don't apply. California has  
6 temperature triggers -- has a temperature trigger that  
7 applies statewide, despite the huge geographic  
8 variation from Death Valley to Mount Shasta.

9 Industry claims that workers in hot, humid  
10 locations are already adapted to the heat. If that  
11 were true, then heat-related deaths would not be higher  
12 in those states. Yet, we've heard testimony earlier  
13 that heat-related deaths on the job and the rate of  
14 heat deaths is higher in hotter, more humid states.

15 Industry argues that without any evidence or  
16 scientific support, that the 80-degree trigger is too  
17 low. Yet, the initial trigger does not require the  
18 more strict precautions, like rest -- like rest-break  
19 schedules, and are only -- which are only required at  
20 the high heat trigger of 90. All employers use some  
21 sort of trigger to decide when to use -- institute  
22 precautions. This standard just makes them uniform and

1 based on actual science rather than guesswork.

2 OSHA's standards are bare minimums, a baseline  
3 that all employers must follow. Even though the courts  
4 have said standards can be, quote, "technology  
5 forcing", OSHA standards rarely push employers to make  
6 changes that are not already widely adopted.

7 Most OSHA standards are programmatic and give  
8 employers a lot of flexibility on how to meet those  
9 objectives. For examples, employers could comply with  
10 the heat stress standard by starting work earlier in  
11 the day and avoiding most of the requirements. Small  
12 businesses are often exempt or given breaks on  
13 compliance. Employers can also get flexibility from  
14 compliance officers on how to meet those standards.

15 Lastly, most employers want to know exactly what  
16 they have to do in order to comply and avoid potential  
17 liability and citations, even though the risk of  
18 inspection is low because of the inadequate inspection  
19 force. The Nevada standard, which industry has pointed  
20 to as a model, is vague and unenforceable. What  
21 standard should be used in doing a JHA to determine  
22 whether precautions are needed? What are the

1 qualifications needed to perform a JHA? How often  
2 would the JHA have to be updated? What about the time  
3 and cost and paperwork burden of doing JHAs?

4 Most small employers do not have the expertise or  
5 staff to make such decisions. If the goal is a safe  
6 outcome -- for example, no heat-related deaths or  
7 illnesses -- does that mean that employer can only be  
8 cited after the fact? That would make the standard  
9 reactive rather than preventative and provide employers  
10 with an incentive to further undercount these  
11 illnesses.

12 While employer associations claim they want vague  
13 standards that give maximum flexibility, what they're  
14 really requesting is unenforceable standards. If a  
15 standard did not have triggers, when would an employer  
16 know the standard needs to be implemented? Setting a  
17 trigger actually benefits many employers since if  
18 they're under the trigger, they can be confident  
19 they're exempt from the requirements.

20 Rest break schedules are necessary to eliminate  
21 the uncertainty of a vague requirement. Workers may  
22 continue to work, even when feeling sick because of

1 production pressures or because breaks are unpaid.

2 Rest break schedules have been set by NIOSH, the Army  
3 Corps of Engineers, and many others because they  
4 provide certainty, as well as worker protection.

5 Acclimatization schedules protect workers and are  
6 needed since it's clear from the data that most  
7 fatalities occur in the first few days on the job.  
8 Specifications on the quantity of drinking water are  
9 needed since thirst is not a good indicator of the need  
10 to hydrate. Specifications save lives and prevent  
11 injury and illness.

12 While we tend to focus on the number of fatalities  
13 a standard can prevent, it's important to remember  
14 there are many more illnesses that occur, though they  
15 are dramatically undercounted. We shouldn't discount  
16 them, particularly as heat exposure and illness has a  
17 significant impact on productivity -- 30- to 35-percent  
18 reductions according to the Flouris paper in 2018.  
19 Implementing heat standard protections will not just  
20 prevent illnesses and injuries. It will help the  
21 bottom line. Working in heat causes fatigue and has  
22 dramatic effect on worker productivity. It can also



1        cause mental confusion and increase risk of injury --  
2        of reg -- of other injuries. Giving a rest break and  
3        water restores workers' ability to work.

4                While the proposed standard is much -- is better  
5        than most of the state standards, it falls short of  
6        being truly protective. There are much better models.  
7        In 2024, ASSP and ANSI approved a new heat standard for  
8        construction. It contains many more specifications and  
9        requires the use of a wet bulb globe temperature, WBGT.  
10       OSHA was on the A10 committee, which approved this  
11       consensus standard. And the committee was one-third  
12       employer reps, yet it was overwhelmingly approved.

13               The 2016 revised NIOSH criteria document is also  
14       much more productive and comprehensive. And this year,  
15       ACGIH published a guidance document entitled, "A Guide  
16       for the Control of Heat Stress and Strain." All three  
17       documents are science-based and contain the latest  
18       recommendations for protecting workers from exposure to  
19       heat. These recommendations and consensus standards  
20       point to a much more protective approach than the  
21       current proposal.

22               Most importantly, they require the use of the

1 WBGT, which includes the significant influence of  
2 radiant heat exposures on heat load. They also include  
3 factors to account for the impact of impermeable  
4 clothing, which reduces the ability to sweat, and  
5 workload, which can significantly increase risk of heat  
6 stress.

7 Workload has even been raised by industries as  
8 significant -- as a significant factor in determining  
9 heat load on the body. In construction, for example,  
10 where I have had the most experience, metabolic heat  
11 from work adds significantly to heat load. So in the  
12 ANSI A10.50 standard, we made the assumption that  
13 workers were working under heavy conditions to adjust  
14 the precautions for metabolic heat.

15 Other elements of these model rules that need to  
16 be considered by OSHA are the provision of electrolytes  
17 and implementation of preventive measures in accordance  
18 with the hierarchy of controls. Protecting every  
19 worker in America from material health impairment  
20 requires a much more protective approach, such as that  
21 laid out in the A10.50, NIOSH, and ACGIH standards.

22 Thank you for your attention. I look forward to

1           your questions.

2                   JUDGE FORT: Thank you, Speaker Schneider.

3                   Are there questions from OSHA?

4                   MS. WANGDAHL: Thank you, Your Honor. This is Amy  
5           Wangdahl in OSHA's Directorate of Standards and  
6           Guidance. And we do have a few questions. I'm going  
7           to start with a few and then pass it off to my  
8           colleagues.

9                   Mr. Schneider, we've heard from multiple witnesses  
10          during this hearing that have recommended that OSHA  
11          should take an approach similar to that of the Nevada  
12          standard, which as you mentioned, does not set any  
13          triggers that would require employers to conduct job  
14          hazard analysis, or JHA. So I have a few questions  
15          related to that.

16                  In your experience, can you discuss the process  
17          for conducting an effective JHA and the components that  
18          OSHA should include in a heat standard if the agency  
19          were to require a JHA?

20                  MR. SCHNEIDER: Wow. Okay. Well, in  
21          construction, JHAs are common practice. But they have  
22          to be done by knowledgeable people and they have to

1 consider all the risk factors that people are exposed  
2 to. So if you're doing a JHA for a particular job or  
3 task, you need to figure out, well, at what point is --  
4 does this hazard represent a risk to employees and tell  
5 them what they need to do to mitigate that risk. I  
6 think, you know, JHAs are often done in construction by  
7 what they call competent persons, people who not only  
8 are knowledgeable about the hazards, knowledgeable  
9 about the standards, and have the authority to stop  
10 work if there's a -- if there's an issue or a problem.

11 So I think the problem with JHAs are, is that, you  
12 know, you need, I think, a uniform standard based on --  
13 on the scientific studies that have been done on this  
14 risk so that everybody is protected. If you're doing a  
15 JHA, you say, well, is there a risk or isn't there a  
16 risk. That can't be a decision that's left up to  
17 individuals from one worksite to another. They -- we  
18 can't have it that -- that loose and vague so that  
19 workers on one site might be protected at a certain  
20 temperature and other site might be protected at a  
21 different temperature. So I think the JHA approach,  
22 although I support JHAs and I think JHAs can be useful,

1 particularly when looking at hazards that people may  
2 not be aware of like ergonomic hazards, I think it  
3 needs to be uniform and protective.

4 MS. WANGDAHL: Okay. And do you believe that  
5 personnel would be required to have specialized  
6 training before doing a JHA? And if so, what do you  
7 think would be included in that training?

8 MR. SCHNEIDER: Yeah, I do think they would need  
9 specialized training. And I think I make the analogy  
10 to the competent person in construction. And there are  
11 competent persons in construction in many OSHA  
12 standards. And that's why -- and that's why I liken  
13 the -- the heat -- the heat stress monitor that use --  
14 or I forget the name -- the actual name of the  
15 individual in your draft standard. But I liken that to  
16 a competent person, somebody who -- who knows all about  
17 the hazards, knows all about the mitigation methods,  
18 knows what to look for, knows the medical issues that  
19 can arise, signs and symptoms, knows how to -- how to  
20 treat illnesses and for emergency response. And so I  
21 do think they'd need specialized training in order to  
22 perform a JHA. Yes.

1 MS. WANGDAHL: Okay. I know you touched on this,  
2 but I just wanted to ask one more time; do you agree  
3 that OSHA should take an approach similar to Nevada,  
4 and why or why not?

5 MR. SCHNEIDER: Yeah. Absolutely not. I -- as I  
6 said, I think the standard is unenforceable because,  
7 you know, how does OSHA come in and issue a citation  
8 for somebody that's doing an inadequate job, saying,  
9 well, we did a JHA, and it says that there's not a  
10 problem. Or -- but the JHA may be inadequate or based  
11 on inadequate standards. I just don't -- I just don't  
12 see how -- how OSHA is going to enforce that until  
13 after the fact, after somebody has already experienced  
14 a heat-related death or illness. And then OSHA would  
15 come in and say well, obviously, whatever you did  
16 wasn't working properly. I don't -- I don't see how  
17 that approach is going to work.

18 And I do think it's going to be a much higher  
19 burden on employers, particularly small employers who  
20 don't have the expertise. And I know OSHA gets  
21 attacked a lot for requiring paperwork. But I think  
22 doing JHAs is going to require much, much more

1 paperwork than under this draft proposal.

2 MS. WANGDAHL: Okay. We've received numerous  
3 comments and heard from many groups testifying during  
4 this hearing that OSHA should adopt a more performance-  
5 oriented standard rather than specifying when and how  
6 control measures must be implemented. Either today or  
7 in your post-hearing comments, can you provide your  
8 thoughts on how such performance-oriented approach  
9 could be, including any specific recommendations on how  
10 OSHA could structure a performance-oriented statement?

11 MR. SCHNEIDER: (Coughs.) Sorry.

12 MS. WANGDAHL: And again, either today or in post-  
13 hearing comments, if you had any suggestions in this  
14 performance-oriented language so that we are able to  
15 provide more flexibility, but ensures that employers  
16 are providing the protection that we are looking for.

17 MR. SCHNEIDER: Okay. Yeah. I don't think a  
18 performance - making the standard more performance-  
19 oriented is going to provide the protection that's  
20 needed because essentially, you're saying a  
21 performance-oriented standard gives employers a lot  
22 more leeway as to how to protect workers but doesn't

1 tell them - doesn't tell them exactly how. And we  
2 know - we know from the scientific literature, for  
3 example, at what temperatures people are at risk. So  
4 if we give people flexibility and say, well, you can  
5 start protections at whatever temperature you believe  
6 is dangerous, then people are not going to be  
7 protected.

8 And as I said, I think my experience has been,  
9 particularly with small employers, they want certainty.  
10 They want to know what do I need to do to avoid a  
11 citation, as well as protect my employees. And a  
12 performance-oriented standard doesn't tell them that.  
13 It tells them -- I mean, we have a performance-oriented  
14 standard already. It's called the general duty clause.  
15 And it's not -- it hasn't been working. It hasn't  
16 prevented any of these -- a lot of these heat-related  
17 illnesses and injuries. So I don't -- I don't --  
18 people know that they're supposed to protect people  
19 from the heat. It's a well-recognized hazard. We have  
20 a lot of guidance out there. But have it -- not having  
21 a specification standard is not really protecting  
22 workers.



1 MS. WANGDAHL: Can you discuss from your  
2 experience what data would generally be necessary for  
3 an employer to show that their plan is meeting  
4 performance objectives?

5 MR. SCHNEIDER: I don't know the answer to that.  
6 I really don't. I don't see how -- I don't see how  
7 they're going to do it. If they're -- I mean, I think  
8 what would happen under a performance standard is they  
9 would hopefully have some sort of written plan, and  
10 OSHA would come in and look at their plan and say,  
11 well, this covers all the bases and -- and then decide  
12 whether or not to issue a citation and look at their  
13 OSHA logs and decide whether -- see if there are any  
14 illnesses. But as I mentioned, I think it would be an  
15 added incentive to undercount illnesses and injuries.

16 MS. WANGDAHL: Okay. Thank you. We're going to  
17 go to Zoe Petropoulos, who is participating virtually.

18 MS. PETROPOULOS: Hi. This is Zoe Petropoulos  
19 with the Directorate of Standards and Guidance. I just  
20 have a couple questions for you about the NIOSH  
21 Recommended Alert Limits and Exposure Limits and the  
22 ACGIH TLV and action limit for heat stress. So are you

1 familiar with either or both of these?

2 MR. SCHNEIDER: I have some familiarity with them.  
3 Yes.

4 MS. PETROPOULOS: Okay. I am wondering -- my  
5 first question; are you aware of employers that  
6 currently use either of these methods to assess heat  
7 stress in their workplace?

8 MR. SCHNEIDER: I -- I can't -- I don't have an  
9 answer to that. I'm not aware of it. No.

10 MS. PETROPOULOS: Okay.

11 MR. SCHNEIDER: But I'm sure some do.

12 MS. PETROPOULOS: Okay. If you become aware of  
13 any examples or data, we would welcome those in post-  
14 hearing comments. And we're particularly interested,  
15 I'll add, just in examples from small businesses and/or  
16 employers who may not have an industrial hygienist on  
17 staff.

18 MR. SCHNEIDER: Yeah. You know, the NIOSH  
19 standard was revised almost ten years ago. And you  
20 know, and the criteria documents that they publish were  
21 designed to be a model for OSHA to follow in actually  
22 regulating these hazards. That's how criteria

1 documents came about 50 years ago. So I think it's  
2 incumbent upon OSHA to look at those very closely and  
3 as much as possible, follow their -- follow those draft  
4 standards.

5 MS. PETROPOULOS: Thank you. My second follow-up  
6 question; are you aware of any adjustments that either  
7 NIOSH or ACGIH provide for accounting for geography in  
8 their formulas?

9 MR. SCHNEIDER: I don't -- I don't think there are  
10 any geographic adjustments. And I don't really  
11 understand this whole push for geographic adjustments.  
12 I mean, my sister lives in Tucson where it's over 100  
13 degrees many, many days during the year. And yet, she  
14 spends all of her day inside an air-conditioned  
15 environment. She is definitely not acclimated to  
16 living in Tucson, no matter the -- despite the fact  
17 she's been there 15 years. So I don't really  
18 understand -- I don't think it makes any sense to do  
19 geographic adjustments. I think it would be enormously  
20 complex for OSHA to enforce and to set those.

21 MS. PETROPOULOS: Thank you.

22 And that's it for me, Amy.

1 MS. WANGDAHL: Okay. Thank you. We'll turn to  
2 Joo-Hyung Shin with a few questions for you, Mr.  
3 Schneider.

4 MS. SHIN: Hi. This is Joo-Hyung Shin from OSHA.  
5 My first question is about the buddy system. So based  
6 on your experience as an industrial hygienist, OSHA  
7 would appreciate any information you have on the  
8 observation of workers for signs and symptoms of heat  
9 illness using a buddy system, specifically for example,  
10 on the average lengths of these interactions to  
11 evaluate a buddy. And we are also interested in any  
12 information you have on the current use of this kind of  
13 buddy system for other non-heat-related reasons across  
14 different industries.

15 MR. SCHNEIDER: Yeah. I mean, I think buddy  
16 systems are -- are actually common in construction, not  
17 for -- not for all hazards, but -- but people --  
18 most -- I mean, there are workers that -- that are lone  
19 workers in construction, particularly for emergency  
20 operations and utility work, et cetera. But for many  
21 many operations in construction people work together,  
22 they work as a team, and they work -- like, you know,

1       drywallers, they may be one person moving the drywall,  
2       another -- another screwing it into the wall, another  
3       taping it.

4               So -- and they work together, and they look out  
5       for each other. So I think -- I think it's not an  
6       alien concept to them. It's something that is -- I  
7       think is very workable. And I think having, you  
8       know -- whereas workers, you know, may suffer from heat  
9       illness and have things like mental confusion or  
10      whatever or being fatigued, that's something that they  
11      may not notice themselves. But having a worker who's  
12      working nearby them observe that and say, "Hey, you  
13      need to take a break now", or "We need to get you, you  
14      know, more -- more hydrated", et cetera, I think it's  
15      very helpful.

16             And I -- I don't -- I can't speak to exactly, you  
17      know, where it's used, but I know that it is used in  
18      construction, and we included it as a provision in our  
19      ANSI A10.50 standard.

20             MS. SHIN: Thank you. My next question is about  
21      emergency response. So in your experience, what are  
22      the most common methods that employers are currently

1       using to -- to respond to heat emergencies at  
2       workplaces?

3               MR. SCHNEIDER: Yeah. I don't have any  
4       information on - on the most common responses. But  
5       from what I heard from when we were developing the ANSI  
6       10.50 standard is, you know, there are - there are  
7       issues that relate to how soon or how quickly, you  
8       know, employers can get an emergency team onto the  
9       site, can call 9-1-1, is there cell service. If  
10      they're working in a, you know, in a wind farm, which  
11      may be in a remote area, it may be quite a ways to get  
12      an emergency team there. So they have to have some  
13      sort of emergency response available on the site. And  
14      that's why we included methods like this tarp method  
15      for cooling the body rapidly in our ANSI A10.50  
16      standard because you have to have some sort of  
17      emergency response right there on the site, or else the  
18      person's going to be at much much higher risk of death.

19             MS. SHIN: Thank you. Just a follow-up question.  
20      So these emergency cooling strategies would normally  
21      require some ice storage, like, ice being available on  
22      site when the emergency happens? So in your

1       experience, is it common for employers to have a method  
2       to store ice, like, an ice maker, an ice freezer so  
3       that is available on-site for fixed - fixed locations,  
4       or is ice also made available at a central location for  
5       mobile employees?

6               MR. SCHNEIDER: Yeah. I -- I think there's --  
7       there's several ways to approach this. I mean, I think  
8       a lot of these work sites have trailers, you know,  
9       particularly for -- for the office personnel, and there  
10      can be perhaps ice makers in those trailers. But --  
11      but I think it varies from construction site to  
12      construction site. So -- but I don't have any doubt  
13      that ice can be made available. We heard testimony  
14      last week about road construction and how they make ice  
15      available even on -- on, you know, long, you know,  
16      highway jobs.

17             MS. SHIN: Thank you. That's all I have.

18             MR. SCHNEIDER: Sure.

19             MS. WANGDAHL: Thank you for your time and  
20      testimony, Mr. Schneider. We look forward to any post-  
21      hearing comments that you might submit.

22             And Your Honor, that concludes questions from

1 OSHA.

2 JUDGE FORT: Thank you. Are there any questions  
3 from the Solicitor of Labor?

4 MS. WILES: Thank you, Your Honor. Linda Wiles  
5 from the Solicitor's Office. I do have one follow-up  
6 question about the buddy system. You mentioned that in  
7 construction it's common for crews to work together and  
8 to monitor one another for hazards and maybe signs and  
9 symptoms of heat stress. Do you have any knowledge of  
10 experience for remote or solo workers, how employers  
11 might be able to monitor or check in with them to  
12 ensure that they're in safe, good working conditions,  
13 or do you have any recommendations how that could be  
14 done?

15 MR. SCHNEIDER: Yeah. I don't have a lot of  
16 personal experience with that. But I know that many of  
17 them have, you know, communication channels, either  
18 cell phone or walkie-talkies or something to -- to  
19 regularly check in with workers. And I think it's --  
20 it's essential because, you know, solo workers that are  
21 experiencing heat illness, somebody needs to -- to  
22 identify that and get them help as soon as possible.



1           So I -- I don't know. I think they're -- the  
2           companies that do this kind of work, particularly  
3           utility companies have worked out all sorts of  
4           arrangements to keep in touch with solo workers where  
5           it's needed. And it can be done; it is being done.  
6           But I don't have enough information as to -- to tell  
7           you exactly what's going on out there.

8           MS. WILES: Thank you very much, Mr. Schneider.  
9           That's it from me, Your Honor.

10          JUDGE FORT: Thank you. Are there any questions  
11          from participants?

12          MS. CARLON: Yes, Your Honor, we have three. The  
13          first is from Mr. Barab.

14          MR. BARAB: Thank you. And thank you, Scott, for  
15          that testimony. So Scott, how many years have you  
16          worked in the construction industry or with  
17          construction unions and workers?

18          MR. SCHNEIDER: About 40.

19          MR. BARAB: Okay. Can you answer a couple  
20          questions? When the construction associations were  
21          testifying, one of the arguments -- well, they made --  
22          they made an argument basically that construction

1 industries should be exempted from this standard, or  
2 maybe there should be a separate standard for  
3 construction workers.

4 One of the main issues they raised was that  
5 compliance with this standard would cause a greater  
6 hazard. One of the examples they used was if -- if,  
7 you know, workers have water bottles on top of  
8 buildings, they might drop them down and hit somebody  
9 in the head, or they might be tripping hazards or  
10 interfere with personal protective equipment, that  
11 coming down for breaks every two hours was more  
12 dangerous than -- than not having a break, even in a  
13 high-heat area. What -- what is you're feeling about  
14 the greater-hazard argument?

15 MR. SCHNEIDER: Yeah. I think it's spurious.  
16 I -- you know, there are a lot of hazards in  
17 construction and -- and you know, construction  
18 contractors are very creative in how to solve those  
19 problems. I mean, look, you have crane operators that  
20 have to -- have to climb, you know, ten stories to work  
21 in -- in a -- in a tower crane, but they have -- they  
22 have all the provisions they need up there to -- they

1 have a restroom, you know, they have food, they have  
2 water, et cetera. And they have communications with  
3 the -- with the -- with the base. I think there are --  
4 I don't -- I don't see -- I don't think those arguments  
5 really -- really don't hold water, so to speak.

6 MR. BARAB: Okay, thanks. And there was also an  
7 argument against scheduled breaks because you'd have to  
8 take the whole crew off or the -- the -- the concrete  
9 might harden or all kinds of reasons you can't schedule  
10 water breaks for construction workers. What do you  
11 think about those arguments?

12 MR. SCHNEIDER: I think -- you know, there are  
13 some -- some operations in construction that -- where  
14 there -- where timing is -- is critical. But I think,  
15 you know, construction contractors have figured out  
16 ways to do this, and they can rotate people in and out  
17 of a pour. They can do it at a cooler time of the day.  
18 And many of them have to do that because, you know, if  
19 it's too hot, that's going to change the consistency of  
20 the concrete. So I think -- I think there are ways to  
21 accommodate scheduling and -- and I don't -- I don't  
22 see that it's a -- it's a major problem.

1 MR. BARAB: Okay. One more question. A lot of  
2 construction companies are very small, right?

3 MR. SCHNEIDER: 90 percent of them.

4 MR. BARAB: Yeah. So do you see any reason that  
5 small companies, small employers should be exempted  
6 from this standard?

7 MR. SCHNEIDER: No. They -- they -- they  
8 experience the same conditions that other large  
9 contractors do, you know. I think -- I think we have  
10 to make it easy for them to comply with the standard  
11 and having a -- a specification standard that tells  
12 them exactly what to do and how to do it and providing  
13 them with things like templates for heat illness  
14 prevention programs and -- and a lot of support. I  
15 think they need a lot of compliance assistance to help  
16 them. But I think they -- I think leaving it up in the  
17 air and vague and having a -- a performance standard  
18 that doesn't tell them what they need to do, it's going  
19 to be impossible for small employers to comply.

20 MR. BARAB: Okay. One final question. Do you  
21 think just more training and education is sufficient,  
22 or do we need a standard?

1           MR. SCHNEIDER: Well, I think training and  
2           education is -- is necessary for every standard.  
3           Workers need to know what the hazards are and how to  
4           protect themselves, but it's not sufficient. It's  
5           not -- it's not equivalent to having a standard in  
6           place because the workers don't have control over the  
7           workplace, you know. And if they're told, you know,  
8           you have to get this job done and -- and yeah, it's hot  
9           out, but you have to keep going, they may not even know  
10          what their rights are to refuse unsafe work or to stop.

11          You know, a lot of employers have said in this  
12          hearing, well, we let workers take breaks whenever they  
13          need to or whenever they want. But that's not been my  
14          experience. And I think that's true in some of the --  
15          in some of the sectors, like in the unionized  
16          construction sector, it's much truer than it is outside  
17          of that. But I think unless you have these -- these --  
18          these rights enshrined in a standard, you're not really  
19          going to protect people.

20          MR. BARAB: Okay. Thank you very much. That's  
21          all I have.

22          MR. SCHNEIDER: Okay.

1 JUDGE FORT: Next question.

2 MS. CARLON: The next one is from Mr. Lundegren.

3 JUDGE FORT: State your name and affiliation.

4 MR. LUNDEGREN: Yeah. Hey Scott, this is Bruce  
5 Lundegren from the Office of Advocacy at the U.S. Small  
6 Business Administration. Good to see you.

7 MR. SCHNEIDER: Hi, Bruce.

8 MR. LUNDEGREN: And thank you for your regular  
9 participation in our Small Business Labor Safety  
10 Roundtable that we also always appreciate you  
11 attending. I just wanted to follow up on this issue of  
12 the small business concerns about flexibility and in  
13 more of a performance-oriented standard. Would you  
14 object to OSHA including a provision that provides a  
15 variance for infeasible, impractical, or creates a  
16 greater hazard? That's not an --

17 MR. SCHNEIDER: Well --

18 MR. LUNDEGREN: --uncommon provision in an OSHA  
19 standard.

20 MR. SCHNEIDER: Right. Right. I think there  
21 are -- there are practicality issues in some cases.  
22 It's rare, but I think it's incumbent on the employer

1 to prove that it's impractical or infeasible.

2 MR. LUNDEGREN: Okay, thank you. And then also, I  
3 wanted to ask you about employee-confounding factors,  
4 whether they be from outside activities or prescription  
5 drug use, whatever it might be. Do you think that an  
6 employee should have some obligation to inform an  
7 employer if they have some kind of a confounding factor  
8 that would make them more susceptible to heat injury or  
9 illness?

10 MR. SCHNEIDER: No. You know, OSHA's required by  
11 law to protect all American workers, even those that  
12 may be susceptible. And you know, this was litigated  
13 years ago with regard to lead exposure and noise  
14 exposure, where people have, you know, outside  
15 exposures; you know, they may be, you know, running --  
16 doing racing cars on the weekend and have noise  
17 exposure or going to Zumba classes. But still, OSHA  
18 has a requirement or an obligation to protect them from  
19 these hazards.

20 And -- and I think, as was laid out in the  
21 standard, their -- they have an obligation to inform  
22 workers about what the risks are of some of these

1 potential personal risk factors. But I think -- but  
2 there are HIPAA restrictions on what they can and  
3 should tell their employers. And I think there is a  
4 risk that they may be excluded from employment if they  
5 divulge something that the employer says, well, I don't  
6 want to take a risk, you know; you're not allowed here.  
7 Just like people who were exposed to lead and -- and  
8 were told, well, you can't work in our workplace  
9 because, you know, because you're pregnant or whatever.  
10 I think it's -- I think it's a slippery slope that I  
11 would not want to go down.

12 MR. LUNDEGREN: Okay. And one - and just a quick  
13 follow-up. How is the employer supposed to know - you  
14 know, I understand your concerns about potential  
15 discrimination, but how is an employer supposed to know  
16 to be mindful that someone is potentially susceptible,  
17 and therefore some precaution needs to be taken?

18 MR. SCHNEIDER: Well, I think Dr. Sokas laid out  
19 some -- a proposal earlier today where she said workers  
20 should -- just like they have respirator medical  
21 surveillance, get a -- have a -- have a -- a screening  
22 as to -- and that the physician who is -- who is --



1       who, you know, they -- they refer to -- are referred to  
2       a physician who then may make a determination that they  
3       may be at higher risk if they're exposed to heat. And  
4       they can tell the employer perhaps they may need  
5       additional precautions. But there's not a -- you know,  
6       they -- they can't reveal any diagnoses or any specific  
7       conditions that this individual has.

8               MR. LUNDEGREN: Okay. Thank you, Scott. Good to  
9       see you.

10              And thank you, Your Honor.

11              JUDGE FORT: Thank you. Next question.

12              MS. CARLON: The next question is from Ms.  
13       Shrestha. Please state your name and affiliation.

14              MS. SHRESTHA: Hello. This is Ayusha Shrestha  
15       from the AFL-CIO. Thank you, Mr. Schneider for your  
16       very -- your very informative and impactful testimony.  
17       I posed this -- a similar question to Ms. Margaret, but  
18       I wanted to ask you the same thing about hierarchy of  
19       controls and their importance in controlling for  
20       hazards. I wanted to ask why engineering controls are  
21       considered more effective than administrative or --  
22       administrative controls or personal protective

1 equipment in many cases, and I wanted to also ask how  
2 that is -- those things in specific to heat hazards.

3 MR. SCHNEIDER: Okay. Thank you very much. Look,  
4 I've been an industrial hygienist for over -- over 40  
5 years, and the hierarchy of controls is integral; it's  
6 fundamental to the profession. And what it's saying is  
7 basically there's a hierarchy based on how effective  
8 these controls are; that where the most -- the most  
9 effective thing you can do to prevent somebody from  
10 getting -- getting ill or injured from a hazard is to  
11 eliminate exposure, okay; and that -- or substitute  
12 with a safer chemical or a safer procedure.

13 And the second thing is having engineering  
14 controls. And engineering controls are -- are more --  
15 are not as effective as -- may not be as effective as  
16 eliminating the hazard, because the controls may  
17 malfunction, for example, and then you're not -- you're  
18 exposed to the hazard even though you have a control in  
19 place. Or it may not be properly maintained, and we  
20 see that many times.

21 But it's still better than -- than using  
22 administrative controls where you rotate -- maybe

1 rotate workers in and out of a hazard -- hazardous  
2 situation, and then you expose more workers to the  
3 hazard or relying on personal protective equipment,  
4 which is not as protective and can also fail. Like,  
5 for example, these cooling cloths that everybody talks  
6 about -- or vests -- I mean, they -- the cooling  
7 cloths, they lose their -- their -- their coolness, you  
8 know, they -- they -- they -- pretty rapidly, and the  
9 vests have to get recharged regularly. So they're not  
10 as protective as we would like, and that's why we want  
11 to -- we want to start at least at the top by  
12 elimination, substitution, and engineering controls.

13 And engineering controls are feasible in a lot of  
14 situations and -- and it's only when an engineering  
15 control is not feasible that you should then move to  
16 the less protective controls like administrative  
17 controls. I mean, look, in construction with heat  
18 hazards, a lot -- I worked in -- I worked with a lot of  
19 the construction unions and the construction employers,  
20 for example, on road construction, and there's a lot of  
21 road work being done in the U.S., a lot of that's --  
22 more that's needed. And much of it is done at night,

1 partly because there's less traffic and they're exposed  
2 to less traffic hazards, but also because it's cooler  
3 there -- cooler in the evening and at night.

4 So I think -- and a lot of construction companies  
5 will start work at -- as soon as it's dawn, like, at  
6 5:30, 6 o'clock in the morning, if possible, and then  
7 quit work by -- by 1 o'clock because they -- they don't  
8 want to work in the hottest part of the day. And I  
9 think we can -- and engineering controls are  
10 particularly important for radiant heat because you do  
11 have radiant heat sources. Like if you're doing  
12 asphalt paving on a roof and you have an asphalt thing  
13 for -- for melting asphalt on the roof, people are  
14 exposed to that. If you're a boilermaker, they may  
15 have to do work in the boiler room and they can -- they  
16 can shield it from -- shield some of the radiant heat  
17 from the -- so the worker isn't as exposed to that.

18 And then workload is another adaptation. You  
19 can -- you know, resting is -- is a reduction in your  
20 workload. Workload produces a lot of metabolic heat,  
21 and that's why we included metabolic heat charts to  
22 revise the standard -- the A10 standard. Metabolic

1 workload charts and also charts for protective clothing  
2 so you could adjust the triggers based on -- on  
3 those -- those factors as well as radiant heat.

4 MS. SHRESTHA: Thank you. That's all from me.  
5 Thank you for that answer, Mr. Schneider.

6 JUDGE FORT: Thank you, Speaker Schneider.

7 MR. SCHNEIDER: Thank you.

8 MS. CARLON: Your Honor, we do have one final  
9 question, if we -- if time permits.

10 MR. GLUCKSMAN: Hi. This is Dan Glucksman with  
11 the International Safety Equipment Association.

12 MR. SCHNEIDER: Hi, Dan.

13 MR. GLUCKSMAN: And Scott, I wanted to ask you  
14 about your comment on PPE and cooling PPE. I mean, do  
15 you feel that if cooling PPE is evaluated and  
16 considered -- thoughtfully considered by the employer  
17 and used, you know, as instructed by the manufacturer,  
18 it could be effective?

19 MR. SCHNEIDER: I -- I -- I think it can help as  
20 an -- as an adjunct to other controls. I don't think  
21 it's a substitute for them. I mean, look -- look at  
22 what's happening --

1 MR. GLUCKSMAN: Yeah, well, I agree.

2 MR. SCHNEIDER: I mean, look, I've been doing a  
3 lot of work on hearing loss prevention and, you know,  
4 people use these earplugs, and they have NRRs that are  
5 totally unrealistic or they don't know how to use them  
6 properly, and -- and teaching people how to use PPE  
7 properly and make sure that it's -- it's used properly  
8 and that you have a good program and training is a lot  
9 of work. And I -- so I -- I don't -- I don't -- yeah,  
10 I mean, we agree. It's not -- it's not a substitute.

11 MR. GLUCKSMAN: But I agree PPE does have a place  
12 in the hierarchy of controls if it is, it's under  
13 engineering, substitution, and administrative. But  
14 just like hearing protection, it can help to protect  
15 the worker.

16 MR. SCHNEIDER: Yeah. I'm not saying it's not  
17 helpful. I'm just saying it's not -- not the solution.

18 MR. GLUCKSMAN: Thank you very much, and good to  
19 see you.

20 MR. SCHNEIDER: Okay.

21 JUDGE FORT: All right. Now, thank you, Speaker  
22 Schneider.

1 MR. SCHNEIDER: Thank you.

2 MS. CARLON: The next speaker is Alejandra  
3 Domenzain. Unfortunately, we do not see your name in  
4 the attendee list. So if you have joined under another  
5 name, please use the raise hand feature to indicate  
6 your presence, and if you've called in, please use star  
7 three to raise your hand.

8 (No response.)

9 MS. CARLON: All right. Moving to our next  
10 speaker group. Our next speaker is the UCLA Heat Lab  
11 represented by Bharat Venkat, Diego Flores, Natisha  
12 Patirupananda, Benjamin Thompson, Elise Whitlinger,  
13 Sofia Sabra, and Samantha Chamorro. Unfortunately, we  
14 do not see your panel listed in the attendee list. So  
15 if you have joined under another name, please use the  
16 raise hand feature to indicate your presence, and if  
17 you have dialed in, please use star three to raise your  
18 hand.

19 (No response.)

20 MS. CARLON: Moving onto our next speaker. Our  
21 next speaker group is the Rapid Anthropology Consulting  
22 Group represented by Rose Jones and Marsha Prior.

1 Please state your name and affiliation for the record  
2 as you move throughout your testimony.

3 DR. JONES: Thank you. My name is Rose Jones, and  
4 I'm the founder of Rapid Anthropology Consulting. It's  
5 an organization that I created to drive awareness for  
6 policy change at the intersection of extreme heat and  
7 public health. By training I'm a medical  
8 anthropologist, I spent the early part of my career in  
9 academic medicine and the latter part working on front  
10 lines of public health, ranging from homelessness to  
11 COVID, HIV, pediatric drownings. And one thing I can  
12 tell you is in my 30 -- almost 30 years of work,  
13 nothing keeps me up at night more than the growing  
14 threat that heat poses to human health.

15 Next slide, please.

16 My colleague, Dr. Marsha Prior, who will speak  
17 after me -- we're both going to focus on Texas, our  
18 home state. I'll begin by outlining foundational  
19 issues related to heat and climate health, and Dr.  
20 Prior will share firsthand data that we've been  
21 collecting in Texas from -- from the ground up. Texas  
22 is a powerful case study for understanding the urgent



1       need for federal heat standards and worker protection.  
2       It consistently ranks among the hottest states in the  
3       country, with heat waves becoming more frequent, more  
4       intense, and more dangerous.

5               Texas also enacted House Bill 2127, known locally  
6       as the Death Star Law. It essentially strips cities of  
7       the ability to enforce basic life-saving protections  
8       for outdoor workers. This included water and shade  
9       breaks for -- every four hours for construction workers  
10      in Austin and Dallas. Texas also has the largest  
11      outdoor labor force in the country, the highest rate of  
12      worker mortality, and it remains the deadliest state  
13      for Latino workers.

14             Texas exemplifies what happens when protections  
15      are absent, politicized, or dismantled. Millions of  
16      workers across our state now face high-heat, high-risk  
17      conditions without guarantee to basics, which again  
18      include water, shade, and rest.

19             Next slide.

20             The first point that I'd like to emphasize,  
21      because it often gets lost in this discourse, is that  
22      heat and human health is a relatively young and rapidly

1 evolving field. We've known for a long time that  
2 rising temperatures drive spikes in ER visits and  
3 hospital admissions, but emerging research shows that  
4 the impact of heat is much more complex, nuanced,  
5 systemic, and harmful than we once understood.

6 And I know you've had a lot of information of the  
7 ICD codes and failure to capture some of this data.  
8 But I would emphasize that heat is not just limited to  
9 heat strokes or heat exhaustion. One recent study  
10 found, for example, that different types of heat waves  
11 had very distinct effects on different types of heart  
12 deaths. Sudden cardiac arrest, heart attacks, and  
13 heart failure are especially sensitive to compound heat  
14 waves, which means the traditional way in which we've  
15 been capturing heat data -- heat waves in particular --  
16 may drastically underestimate these risks.

17 And at the interest of time, I won't continue with  
18 similar studies, but in the very recent past, again,  
19 we're continuing to find just how complex and holistic  
20 these -- the impact of heat is. Probably one of the  
21 more disconcerting and problematic findings is that  
22 we're also learning that sustained exposure to even

1 moderate temperatures can be just as harmful over time.  
2 So we don't even need to talk exclusively about extreme  
3 heat. The bottom line is that we are still  
4 underestimating how deeply heat affects the human body,  
5 and it's much more dire than originally thought.

6 Next slide.

7 When we factor in heat patterns and heat trends,  
8 the outlook for workers becomes even more alarming.  
9 Heat is of course becoming more intense, lasting  
10 longer, and starting earlier in the year -- in Texas,  
11 heat season now routinely extends well into October --  
12 all of which serves to increase the cumulative burden  
13 on the body. And we saw this -- in fact, we saw over  
14 the weekend with what happened at the graduation  
15 ceremony in New Jersey. 150 people who were --  
16 attended an outside graduation became ill from the  
17 heat; 50 in the morning, 100 in the evening, 9 were  
18 rushed to the hospital. The fire marshal declared this  
19 to be a -- classified it as a mass casualty event and a  
20 state of emergency was declared. This is the same heat  
21 where our workers are laboring without that protection.

22 Next slide. And the last point that I would like

1 to make is the importance of microclimates, another  
2 point that's often overlooked but critical to  
3 discussing heat and worker safety. It's often said  
4 that a picture is worth 1,000 words, and here's an  
5 example of this. This is a bus shelter in Dallas, and  
6 you can see there are different ambient temperatures.  
7 Within a very short geographical space, you can see  
8 that that temperature is anywhere from 98 to 127 so  
9 that means even when in a small space, you can have  
10 very different heat exposure. Conditions can -- can  
11 vary dramatically, again, within just a few meters.

12 And I can tell you firsthand in the -- in --  
13 during the summer of 2023, I've spent most of that  
14 summer with my team collecting this type of data. And  
15 when the ambient temperature showed 105, 106, the  
16 reality is that we were capturing data, boots on the  
17 ground where workers often are, at temperatures that  
18 exceeded 120, 130, and even, 150 degrees.

19 The bottom line is that workers don't labor in  
20 climate averages. They labor in place-specific, often  
21 extreme, conditions, and we need policies at the  
22 federal level -- level rather, that reflect this

1 reality. I'm going to turn it over to my colleague,  
2 Dr. Prior, and she'll share some of the human data that  
3 we've been collecting.

4 Next slide, please.

5 DR. PRIOR: Thank you, Dr. Jones.

6 What Dr. Jones and I have realized is that there  
7 is a lack of emphasis on human data, which is why we've  
8 started an initiative called Texas Tales where we are  
9 listening and documenting people's testimonies  
10 regarding heat, health, and its wide web of impacts.

11 Next slide, please.

12 We cannot unhear what we've been hearing. Extreme  
13 heat is not just impacting outdoor workers. It impacts  
14 factory, retail, restaurant workers, parents, teachers,  
15 nearly all walks of life are affected in some way or  
16 another. Last summer, Dr. Jones and I heard  
17 testimonials from workers in Houston -- Houston,  
18 Texas -- and their statements were quite disturbing,  
19 demonstrating the life-threatening conditions they are  
20 forced to endure.

21 We heard from a worker who cleans aircraft cabins  
22 while the air-conditioning is turned off, leaving the

1 cleaning staff in stifling, oven-like conditions, with  
2 no air circulation. Many resorted to drinking bottled  
3 water that had been left behind by the passengers.  
4 Then, after finishing one cabin, they must quickly  
5 cross the hot tarmac, on foot, to reach the next plane  
6 and start the process all over again.

7 We also listened to a letter carrier who drives a  
8 mail truck without air-conditioning. He described it  
9 as feeling like a convection oven. He's recorded  
10 interior temperatures between 140 and 170 degrees  
11 Fahrenheit, which is not sustainable for even a minimal  
12 period of time. Incredibly, he often found relief by  
13 stepping out of his truck, even when it's 110 degrees,  
14 because the air outside was cooler than what he was  
15 experiencing in his vehicle.

16 Next slide, please.

17 Collecting human data on heat is challenging  
18 because workers live in fear of reprisal. Thus, many  
19 of our interviewees have chosen to remain anonymous.  
20 Workers may lose funding sources, as one of our  
21 interviewees noted. They may be reprimanded, punished,  
22 or they may lose their job entirely. One woman working

1 in a factory spoke of the fear she and others  
2 experienced when one of their coworkers fainted from  
3 the heat.

4 Workers are required to remain at their stations,  
5 and not allowed to turn off any machinery. Thus, they  
6 were helpless to assist their coworkers, fearing they  
7 would be fired if they left their stations. And we've  
8 been hearing some talk about the buddy systems, and  
9 clearly the buddy system would not have been effective  
10 in an environment such as this, just something to  
11 consider.

12 In conclusion, Texas is a living laboratory,  
13 revealing both what fails and what could work. It lays  
14 bare the human cost of policy inaction, while also  
15 offering a glimpse of the potential for evidence-based  
16 solutions. Across the state, researchers and advocates  
17 are piloting promising strategies; microclimate  
18 monitoring, wearable sensors, early warning systems,  
19 and worker-centered education.

20 But without federal backing, these efforts remain  
21 limited in scale and lack the enforceability needed to  
22 protect lives. Texas provides both a cautionary tale

1 and a road map for what national heat standards could,  
2 and should, look like. It is not a partisan issue. It  
3 affects everyone, and it takes all of us to create  
4 effective solutions for the greater good of our nation.

5 I'd like to end with just one thought that -- one  
6 last thought -- that came from a worker who poignantly  
7 said, quote, "It's not just about workers. It's about  
8 everyone, the family", end quote. When a worker  
9 becomes ill or dies from extreme heat, the consequences  
10 ripple beyond the jobsite. The emotional toll is  
11 profound, but so too is the economic impact of the  
12 entire household. It is imperative that we set federal  
13 standards. Workers are not expendable resources. They  
14 are human beings who deserve respect and protection.  
15 Thank you.

16 JUDGE FORT: Thank you, Speakers.

17 Do we have questions from OSHA?

18 MS. WANGDAHL: Thank you, Your Honor. This is Amy  
19 Wangdahl with OSHA's Directorate of Standards and  
20 Guidance. We do not have any questions for this panel  
21 at this time.

22 I do appreciate Dr. Jones' and Dr. Prior's time



1 and testimony. If there's anything else that you'd  
2 like OSHA to consider, please submit your post-hearing  
3 comments.

4 Thank you, Your Honor.

5 JUDGE FORT: Thank you. Any questions from the  
6 Solicitor of Labor?

7 MS. WILES: Thank you, Your Honor. Linda Wiles  
8 from the Solicitor's Office. I don't have any  
9 questions, but I would like to mark as Exhibit Number  
10 14, the PowerPoints -- the PowerPoint that was  
11 displayed by Dr. Jones and Dr. Prior, and have that  
12 entered into the hearing docket.

13 JUDGE FORT: And I'm guessing the numbering is  
14 sequential, so it's been going throughout the whole  
15 hearing. Okay. Yes. Admitted. Thank you.

16 MS. WILES: Thank you. That's all for me.

17 And thank you Dr. Jones and Dr. Prior for  
18 participating in the hearing today.

19 DR. PRIOR: Thank you.

20 DR. JONES: Thank you.

21 JUDGE FORT: Any questions from participants?

22 MS. CARLON: There are none, Your Honor.

1 JUDGE FORT: Perfect. Okay. Thank you.

2 Thank you, speakers.

3 DR. JONES: Thank you.

4 MS. CARLON: Next speaker group is Climate Law  
5 Accelerator at NYU Law, LatinoJustice, and Federation  
6 of Teachers of Puerto Rico, represented by Ashley  
7 Nemeth -- excuse me -- Roberto Cruz, and Mercedes  
8 Martinez.

9 Please state your name and affiliation for the  
10 record as you move throughout your testimony.

11 MR. CRUZ: Good afternoon, Your Honor. It's --  
12 Go ahead, Ashley.

13 MS. NEMETH: No, please, go ahead, Roberto.

14 MR. CRUZ: Good afternoon, Your Honor, and members  
15 of the panel. My name is Roberto Cruz. I am the  
16 Southeast Regional Managing Attorney for LatinoJustice  
17 PRLDEF, and I appreciate the opportunity to testify  
18 today in strong support of OSHA's proposed rule on Heat  
19 Injury and Illness Prevention in Outdoor and Indoor  
20 Work Settings.

21 LatinoJustice is a national civil rights  
22 organization serving the LatinX community across the

1 United States and its territories. We work daily with  
2 immigrants, low-wage workers, and community-based  
3 advocates who know firsthand the dangers of working in  
4 extreme heat. We are here today because this rule has  
5 the potential to save lives, particularly the lives of  
6 agricultural workers, warehouse workers, and  
7 construction laborers who are on the front lines of our  
8 climate crisis.

9 We also appear in collaboration with Climate Law  
10 Acceleration at the NYU School of Law, otherwise known  
11 as CLX, and the Federacion de Maestro de Puerto Rico.  
12 Together, we submitted detailed comments recommending  
13 specific improvements to OSHA's proposed rule. My  
14 testimony today will highlight two out of ten of our  
15 most urgent recommendations, starting first, with the  
16 fact that we recommend that OSHA must strongly  
17 encourage employers to use wet bulb globe temperature,  
18 or WBGT, monitoring devices. These devices give a more  
19 accurate reading of heat stress by accounting for  
20 humidity, wind, sunlight, and radiant heat, something  
21 basic heat index forecasts simply cannot do.

22 Researchers show that commonly used OSHA NIOSH

1 heat safety tool app fails to identify high-risk  
2 conditions, especially when solar radiation is a  
3 factor. And while we do not require making WBGT  
4 devices mandatory, OSHA should clearly state that they  
5 are the best available option, and encourage their use  
6 where feasible.

7 Second, we urge OSHA to limit the use of the  
8 exemption for sedentary indoor work. These exemptions  
9 should only apply when indoor temperatures remain below  
10 86 degrees Fahrenheit. Even at so-called light  
11 workloads, temperatures above this threshold pose a  
12 serious risk to health. This is not a speculative  
13 concern. This is what OSHA's own scientific guidance  
14 tells us, and it is consistent with the standards in  
15 states like California and Colorado.

16 Indoor nursery workers, greenhouse staff,  
17 processing facility workers, and as you will soon hear,  
18 even teachers in Puerto Rico may be classified as  
19 sedentary and work under some of these conditions.  
20 They are still vulnerable to extreme heat and with --  
21 our call is just to not leave them behind.

22 So in order to hear more about teachers in Puerto

1 Rico specifically, I have the pleasure of introducing  
2 the Director of Programs at NYU School of Law's Climate  
3 Law Accelerator, Professor Ashley Nemeth.

4 So Professor?

5 MS. NEMETH: Thank you very much, Roberto.

6 I'm here speaking on behalf of CLX, and not the  
7 law school or larger university. We were supposed to  
8 have Mercedes Martinez Ballija, the President of the  
9 Puerto Rican Federation of Teachers, speak today, but  
10 she unfortunately had a personal emergency. So I'm  
11 going to be reading her statement, which was originally  
12 written in Spanish. And we've translated it for the  
13 purpose of this hearing and we'll submit the original  
14 translation in our post-hearing brief. So I'll begin.

15 "Thank you for the opportunity to appear before  
16 you. I'm here today to share an urgent and deeply  
17 human concern -- the impact of extreme heat, aggravated  
18 by climate change, on the health, safety, and dignity  
19 of teachers in Puerto Rico. In recent years, Puerto  
20 Rico has witnessed record temperatures, which have  
21 turned the island's schools into dangerous spaces for  
22 teaching and learning."

1 "What we're experiencing is not an isolated  
2 incident. It is a growing and sustained trend that  
3 demands immediate attention. Since 2023, when the  
4 Federation began to document this crisis more  
5 rigorously, the Federation, along with other teacher's  
6 groups, raised their voices in multiple ways. That  
7 year, we sent a formal letter to the Department of  
8 Education with data, findings, and proposals to  
9 mitigate the effects of heat in schools, and this was  
10 not an isolated complaint."

11 "The Federation continuously monitored the  
12 situation in 2023, 2024, and 2025, meeting with both  
13 the previous and current Secretary, insisting that this  
14 situation cannot continue to be ignored. In order to  
15 demonstrate the magnitude of the problem, the  
16 Federation conducted a survey of more than 2,300 public  
17 school teachers in September of 2023, and the results  
18 were overwhelming."

19 "1,381 teachers reported not having air-  
20 conditioning in their classrooms. 1,606 teachers  
21 reported dizziness among themselves, their colleagues,  
22 and their students. There were documented 295 fainting

1 spells, 213 people required emergency medical  
2 attention, and over 600 teachers reported other health  
3 issues related to extreme heat."

4 "As the Federation knows, currently there's over  
5 1,200 schools whose fields do not even have fans. And  
6 these are not abstract numbers; they are real lives  
7 that are being affected every single day. In some  
8 schools, the Department of Education in Puerto Rico has  
9 authorized reduced hours and reduced classroom  
10 enrollment as a mitigation measure. However, in the  
11 vast majority of these cases, these measures only apply  
12 to students, leaving teachers and non-teaching staff  
13 under the same extreme conditions."

14 "And so the Federation asks, what is the point of  
15 protecting students but exposing those who teach them?  
16 And the school structures in Puerto Rico exacerbate  
17 this reality. Low ceilings that accumulate heat,  
18 classrooms without cross-ventilation, glass windows  
19 that do not open, overcrowding, and in some cases, as  
20 the survey indicates, air-conditioners that don't work  
21 or cannot cope with outside temperatures".

22 "And there have even been reports of repairs that

1 go in and remove windows altogether, therefore  
2 worsening ventilation, not helping. And the health  
3 effects reported by teachers in the survey are  
4 undeniable; headaches, physical exhaustion, respiratory  
5 crisis, anxiety, difficulty concentrating while trying  
6 to teach, and the particular impact on students with  
7 sensory needs and those in special education programs."

8 "And so that's why the Federation insists that  
9 this is not just a consequence of the climate outside,  
10 but also, of the decisions that are made indoors. It's  
11 an occupational health crisis, and this is where OSHA  
12 precisely has a crucial role to play. Its mandate is  
13 to protect the health and safety of all workers, and it  
14 is the view of the Federation that the state, as an  
15 employer, is violating that principle by failing to  
16 guarantee minimum thermal safety conditions for  
17 teaching, administrative, and support staff in the  
18 country's public schools."

19 "And so the Federation would like to reiterate  
20 some of the measures that they have proposed over the  
21 years in order to better protect teachers. And those  
22 include installation of drinking fountains and



1 thermometers in classrooms; equitable application of  
2 reduced schedules also for staff, and not just for  
3 students; reduction of student class sizes to improve  
4 ventilation and teaching conditions; emergency  
5 protocols for when extreme heat days do happen;  
6 preventative maintenance for air-conditioning at school  
7 infrastructure; and a transition to renewable energy  
8 sources that would allow the cooling system to operate  
9 without restrictions and would not be subject to the  
10 failings of the electrical grid; and above all, a real  
11 institutional will to treat this issue as what it is --  
12 a workplace health and safety crisis."

13 "And so the Federation respectfully requests that  
14 OSHA conduct a formal and detailed investigation into  
15 the thermal and environmental conditions in Puerto  
16 Rican public schools, that they require the equitable  
17 application of reduced hours for school staff, and that  
18 they recognize that extreme heat is a real and present  
19 occupational hazard by passing this rule."

20 "OSHA has the power and responsibility to act, and  
21 the agency's intervention can make a meaningful  
22 difference in the health and safety of public school

1 staff and students. Ultimately, it's not about  
2 convenience; it's about labor rights, physical health  
3 and human dignity. And Puerto Rican public school  
4 teachers need OSHA'S support, and the school community  
5 is counting on this rule passing."

6 And so that's the end of the statement on behalf  
7 of the President, Mercedes. I want to quickly just  
8 step out of that voice and back into my own,  
9 recognizing that there's very little time left, just to  
10 reiterate that we hope that the Federation's testimony  
11 provides the agency a view into why changes to the  
12 indoor sedentary exemption are so necessary.

13 The current exemption for sedentary indoor work  
14 risks excluding thousands of workers who may be exposed  
15 to dangerous indoor heat, like public school teachers  
16 in Puerto Rico, and there may be many more indoor  
17 workplaces that are similarly impacted. And so we hope  
18 the agency will keep them in mind as they finalize this  
19 rule. We'll note in our post-hearing brief that we  
20 think these rules protect, you know, paramount health  
21 and safety, but also productivity.

22 And so studies make clear that protecting workers

1 from extreme heat endorses both the right choice for  
2 employees and employers alike. And so we thank OSHA  
3 for providing us this opportunity to testify, the three  
4 of us together. And given that Mercedes is not here,  
5 and our desire to answer all questions thoroughly,  
6 we'll be happy to answer any questions posed in our  
7 post-hearing brief, rather than orally. Thank you so  
8 much.

9 JUDGE FORT: Thank you.

10 Are there questions from OSHA?

11 MS. WANGDAHL: Thank you, Your Honor. This is Amy  
12 Wangdahl with OSHA's Directorate of Standards and  
13 Guidance. We do have a few questions, and the panel  
14 has already indicated that they would like to submit in  
15 the post-hearing brief. So in an interest of time, is  
16 it okay if we just read the questions into the record,  
17 Your Honor?

18 JUDGE FORT: Yes.

19 MS. WANGDAHL: Okay.

20 JUDGE FORT: Please start.

21 MS. WANGDAHL: I'm going to turn it over to Brenda  
22 Finter, who's going to read a few questions.

1 MS. FINTER: Good afternoon. Brenda Finter, OSHA  
2 Directorate of Standards and Guidance.

3 First question has to do with drinking water. In  
4 your written comment, you urged that OSHA should  
5 specify a temperature 65 -- sorry -- 60 degrees  
6 Fahrenheit or cooler for what is suitably cool drinking  
7 water. What's the most effective methods your network  
8 has observed employers used to consistently maintain  
9 water at or below this specific temperature throughout  
10 the entire work day, at work sites, like large  
11 agricultural fields?

12 Also, we heard from multiple witnesses during this  
13 hearing that water temperature is a personal  
14 preference, and therefore, OSHA should not mandate a  
15 specific temperature for drinking water. Do your  
16 organizations foresee any issues among workers who may  
17 prefer drinking water at a warmer temperature?

18 Should I keep going?

19 Okay. And the second question has to do with the  
20 Heat Injury and Illness Prevention Plan. In your  
21 submitted comment, you write that OSHA must prioritize  
22 language accessibility and make sure all plans and

1 training materials are provided in predominant  
2 languages. Do your organizations have recommendations  
3 for translation tools that can accomplish these goals  
4 accurately for most employers?

5 And that's all I have.

6 JUDGE FORT: Thank you. And those are the  
7 questions from OSHA?

8 MS. WANGDAHL: We have a few more questions, Your  
9 Honor, from Joo-Hyung Shin.

10 MS. SHIN: Hi, this is Joo-Hyung Shin from OSHA.

11 I have two questions to read into the record. The  
12 first question is about school bus drivers. So in the  
13 absence of data on the percentage of vehicles who has  
14 sufficiently cooled vehicle cabs, OSHA's preliminary  
15 economic analysis assumed that 50 percent of school bus  
16 drivers work in sufficiently cooled vehicles. Do you  
17 think this is a reasonable estimate for Puerto Rico?  
18 If not, if you have any data on the percentage of  
19 operating school buses that lack air-conditioning in  
20 Puerto Rico, and you could submit those in post-hearing  
21 comments, we would greatly appreciate it.

22 My second question is about the survey data that

1 was cited in the testimony. We would really appreciate  
2 if you provide the -- the survey data outside of the  
3 testimony, and in particular, the survey data that was  
4 mentioned in the testimony; they seem to be presenting  
5 the raw counts, like, the number of teachers that  
6 report heat-related illnesses or the number of  
7 buildings that will likely see. If it -- I think it  
8 will be more -- especially on -- more useful for OSHA  
9 if those numbers could also be expressed in terms of  
10 percentages, like, the share of school buildings in  
11 Puerto Rico that lack AC and et cetera because as we  
12 all know, we don't have a lot of good data in U.S.  
13 territories like Puerto Rico. So yes, that additional  
14 information on those three measures you found in the  
15 survey would be greatly appreciated. Thank you.

16 MS. WANGDAHL: This is Amy Wangdahl, again. You  
17 mentioned a survey, it -- the survey of teachers. So  
18 if that's something that you'd be able to provide, we  
19 would appreciate that as well. And thank you very much  
20 for your time and testimony. We appreciate the panel  
21 being here today and you reading the comments into the  
22 record.

1           Your Honor, that concludes the questions from  
2           OSHA.

3           JUDGE FORT: Thank you.

4           Are there questions from the Solicitor of Labor?

5           MS. WILES: Thank you, Your Honor. Linda Wiles  
6           from the Solicitor's Office.

7           I don't have any questions, but thank you so much  
8           for being here today and participating in the hearings.

9           JUDGE FORT: Thank you.

10          Are there questions from participants?

11          MS. CARLON: There are none, Your Honor.

12          JUDGE FORT: Wonderful.

13          Thank you, speakers.

14          MS. NEMETH: Thank you.

15          MR. CRUZ: Thank you.

16          MS. CARLON: All right. Now that we're at the end  
17          of the speaking order, we're going to go ahead and call  
18          anyone that was marked absent. We --

19          JUDGE FORT: Do we want to take a break before we  
20          do that? Do folks need a break, or are we fine to  
21          continue?

22          MS. WANGDAHL: Your Honor, we're fine continuing.

1 JUDGE FORT: Okay.

2 MS. CARLON: Great. Our next speaker will be  
3 Alejandra Domenzain. Please state your name and  
4 affiliation for the record.

5 JUDGE FORT: Speaker Domenzain, I am not hearing  
6 you.

7 MS. DOMENZAIN: Can you hear me now?

8 JUDGE FORT: I can. Thank you.

9 MS. DOMENZAIN: Okay. Great. I'll start again.

10 My name is Alejandra Domenzain with the Labor  
11 Occupational Health Program, which is part of UC  
12 Berkeley School of Public Health. Our mission for the  
13 past 50 years has been to promote safe, healthy, and  
14 just workplaces, and build the capacity of workers and  
15 their organizations to take action for improved working  
16 conditions.

17 I want to share our recommendations based on our  
18 experience training thousands of workers every year,  
19 including around heat illness prevention, and these are  
20 mostly low-wage, immigrant, youth, and BIPOC workers in  
21 high-hazard industries such as domestic work, day  
22 laborer, janitorial, restaurant and fast food,



1 farmworkers, hotel housekeepers, retail, and others.

2 Our experience also takes into account our  
3 observations of the implementation of California's  
4 outdoor heat standard since 2006 and indoor heat  
5 standards since 2023.

6 So one, the worker fatalities and deadly risks  
7 from exposure to rising heat is more than enough  
8 evidence to warrant action immediately. And we can't  
9 allow employers to give the excuse that protections are  
10 not feasible just because they require investments to  
11 protect worker health. Our laws need to set a higher  
12 bar. Indoors, employers have many engineering controls  
13 at their disposal to reduce indoor temperatures until  
14 they are safely under the trigger point. And if it's  
15 truly impossible, then a combination of administrative  
16 controls must be just as effective as engineering ones  
17 to prevent illness.

18 In California, we've seen creative strategies to  
19 do this, such as including shifting work hours. And  
20 then, in the event that indoor and outdoor heat cannot  
21 be adequately controlled, workers must simply not be  
22 put in dangerous situations. So they can be assigned

1 safe work to do alternatively, or dangerous work has to  
2 be postponed, with workers receiving fair compensation  
3 for circumstances that are out of their control.

4 Number 2, a standard in employers' prevention  
5 plans must put the burden on the employer to ensure  
6 safety rather than expecting workers to ask for  
7 prevention measures. In low-wage work, there's a  
8 dramatic power difference between workers and  
9 employers. Workers usually do not know their rights,  
10 and if they do, they have no leverage to ask for  
11 protections because retaliation among low-rate  
12 employers is rampant, and there's little to no recourse  
13 when it happens.

14 So for example, breaks must not only be allowed,  
15 but enforced. Water must be located close enough that  
16 it's actually accessible. The work pace and production  
17 expectations must accommodate the additional burden  
18 that's going to be placed on workers' bodies that are  
19 doing strenuous work in the heat.

20 Number 3, it should be clear that employers'  
21 responsibility is not just to comply with the  
22 standard's provision triggered at specific

1       temperatures, but to do whatever it takes to actually  
2       protect workers. Many people have health conditions or  
3       are taking medication that makes them more prone to  
4       heat illness, and everybody's tolerance is different.  
5       Even when workers don't report symptoms or illnesses,  
6       just being subjected to heat hazards has an impact on  
7       their health, and this is both short-term and long-  
8       term.

9               Number 4, acclimatization means allowing workers'  
10       bodies time to adjust gradually to doing particular  
11       work in a specific environment, not just monitoring  
12       them as they are assigned a full load from the very  
13       beginning and hoping for the best. True  
14       acclimatization requires a plan to slowly increase time  
15       working in the heat over many days. Just because  
16       someone lives in a hot climate, it does not mean that  
17       they are acclimated to doing a specific job task that's  
18       likely to be demanding for a sustained amount of time,  
19       where they have no control over their environment and  
20       where they have an incentive to self-exploit to keep  
21       their job and bring home a paycheck.

22               Lastly, number 5. Training must be meaningful.

1 This includes useful content such as what personal work  
2 factors may put workers at risk; how to identify and  
3 act on symptoms; the details of the employer's plan to  
4 address heat hazards, including both preventative  
5 measures and emergency procedures; and workers' rights,  
6 including asking for breaks as needed with no  
7 retaliation. We know that the most effective training  
8 is in-person, interactive, practical, and in the  
9 language and literacy level that makes it accessible to  
10 all workers.

11 Climate change is resulting in higher temperatures  
12 for more of the year in more places and extreme heat is  
13 the new normal. However, occupational heat illness is  
14 completely preventable.

15 Even with solid indoor and outdoor heat standards,  
16 in California, workers are suffering. According to  
17 analysis from the California Department of Public  
18 Health, between 2000, 2022, workers filed over 20,000  
19 workers' compensation claims for heat-related illness.  
20 And between 2016 and 2023, there were almost 6,000  
21 emergency department visits for work-related heat  
22 illness. And these are probably gross undercounts,

1 given that many workers do not report illness, and  
2 also, many symptoms are not linked to occupational  
3 exposures. So this points to the need for sustained  
4 education and outreach programs so that employers know  
5 their responsibilities, and then, workers know their  
6 rights.

7 In conclusion, we urge OSHA to implement the most  
8 protective standard possible that puts human life  
9 first. We know that in low-wage industries where  
10 workers are most vulnerable, and where heat protections  
11 are most needed, there are many employers who have  
12 failed to monitor themselves, and in fact, cut corners  
13 as a business strategy.

14 All workers have loved ones waiting for them at  
15 home. They deserve to earn their keep without risking  
16 their lives. Low-wage workers do some of the hardest  
17 jobs that make our economy run. The least we can do is  
18 make sure everything is done to keep them safe. A  
19 strong standard with clear employer accountability is a  
20 basic first step. Thank you.

21 JUDGE FORT: Thank you, Speaker.

22 Are there any questions from OSHA?

1           And I'll remind the speaker that you may respond  
2           by post-hearing comment.

3           MS. WANGDAHL: Thank you, Your Honor. This is Amy  
4           Wangdahl with OSHA's Directorate of Standards and  
5           Guidance.

6           JUDGE FORT: Uh-huh (assent).

7           MS. WANGDAHL: We do just have a few questions.

8           I'd like to go to Zoe Petropoulos, who's  
9           participating virtually.

10          MS. PETROPOULOS: Hi. This is Zoe Petropoulos for  
11          the Directorate of Standards -- with the Directorate of  
12          Standards and Guidance. So I have a couple of  
13          questions, but I think these are best suited for post-  
14          hearing comments, but you're welcome to provide any  
15          comments that you have on these topics now.

16          My first question is, are you aware of any data  
17          reports, analyses, or papers that OSHA did not cite in  
18          the NPRM that could be used to evaluate the  
19          effectiveness of Heat Injury and Illness Prevention  
20          Plans, or components of those plans, their  
21          effectiveness in reducing heat-related injuries and  
22          illnesses? And if you are aware, if you could submit

1           those in post-hearing comment, we would appreciate it.

2           MS. DOMENZAIN: Yes, I would be happy to include  
3           anything I'm aware of. I mean, unfortunately, as I --  
4           you know, as I explained, a lot of our work is with  
5           low-wage industries and informal sectors, right? So if  
6           you have day laborers that are picked up on a corner  
7           and sent to work on a roof somewhere, there isn't just  
8           the -- the same kind of documentation that there is in  
9           more established workplaces. But so -- so that is a --  
10          you know, one limitation of the data. But absolutely,  
11          if there's anything that I can, you know -- that I can  
12          include, I would be happy to.

13          MS. PETROPOULOS: Thank you. You also mentioned  
14          in your testimony that material should be provided in  
15          languages that employees understand. I'm wondering if  
16          you or your organization has any recommendations for  
17          translation tools that can accomplish these goals  
18          accurately and easily for most employers?

19          MS. DOMENZAIN: Yeah, absolutely. I mean, we, you  
20          know -- there's programs like ours and other UC  
21          programs and other locations that -- our -- our sister  
22          organizations that have not just materials in other

1 languages, but literacy level is really important, you  
2 know? Many workers, for example, they might speak  
3 Spanish as a third language, right, but their first two  
4 are indigenous languages, and they don't have a high  
5 literacy level.

6 So even if you translate something that's at a  
7 eighth-grade reading level, or you know, from a  
8 department -- you know, a agency that has very  
9 legalistic terms, it may still not be understandable.  
10 So just to say, you know -- and -- and we -- we know  
11 that that is a requirement for health and safety  
12 training, that it has to be in the language and manner  
13 that workers understand.

14 And manner includes things like literacy and  
15 accessibility. So just to say, it's not just  
16 translating what's on, for example, a government web  
17 page that may not make any sense, but actually having  
18 materials that are literacy-friendly, and ideally  
19 trusted community messengers, right? These worker  
20 organizations that have built trust in the community,  
21 that workers know that they're getting accurate  
22 information that's meant to protect them, and that can



1 explain it, hopefully again, in-person, in a very  
2 practical way. And so any, you know -- we have some  
3 funding in California, for example, that goes to worker  
4 centers and unions and organizations that can do just  
5 that.

6 MS. PETROPOULOS: Got it. And my last question  
7 which, you know -- again, you can answer now or in  
8 post-hearing comments if you have any thoughts. In  
9 your experience, what are the most common methods that  
10 employers are already using to prepare for and respond  
11 to heat emergencies in the workplace?

12 MS. DOMENZAIN: I wish I could tell you great case  
13 studies of this. Again, this is, you know, maybe not  
14 reflective of the whole workforce, but we deal with  
15 mostly low-wage industries where there are a lot of  
16 predatory employers. That is their business model, and  
17 so there isn't -- there isn't very much. With  
18 training, what we hear is there is none, or if there  
19 is, it's, you know -- workers get a little piece of  
20 paper that they don't understand, and they're asked to  
21 sign it so that, you know, employers can check off that  
22 they're in compliance, that they have been trained.

1           They don't get told what the plan is. Often,  
2           there is no plan. The plan is if someone gets ill,  
3           we'll deal with it and figure it out, but they're not  
4           structural changes that are there for prevention.

5           And I --it -- someone said it, and you know,  
6           before me, and it's -- the very sad reality is many  
7           workers in these industries are treated as disposable.  
8           If you are sick, go home; I'll get someone else  
9           tomorrow. So there's not-- there's not a lot of  
10          prevention, there's not a lot of training, and there's  
11          not very comprehensive plans in these industries.  
12          And -- and -- and there's no excuse, right? So for  
13          example, you could say, like, well, the, you know --  
14          the -- the -- there's not -- the -- it would take such  
15          a huge budget to air-condition a whole warehouse or  
16          something like that, but you know, we did a -- a -- a  
17          training with, for example, the workers in Silicon  
18          Valley, and some of the richest tech companies.

19          And they are the workers who are serving the food,  
20          who are in the food trucks right, who are in the  
21          kitchen, and they are getting -- they're fainting.  
22          They're passing out from heat illness, and they are in

1       these air-conditioned buildings with companies that  
2       have a lot of resources to ensure, right, that the  
3       people that are preparing their food are also taken  
4       care of. So that's why I, kind of, really want to  
5       stress the employer accountability.

6               Most of these workers in low-wage settings have  
7       absolutely no leverage to ask for a break or to say  
8       that they're ill. They know they'll be replaced. They  
9       know that the priority is not protecting them.

10              MS. PETROPOULOS: Thank you so much.

11              And that's it for my questions, Amy.

12              MS. DOMENZAIN: Thank you.

13              MS. WANGDAHL: And we want to thank you for your  
14       time and testimony today, Ms. Domenzain. We look  
15       forward to your post-hearing comments and providing the  
16       additional answers from Zoe's questions.

17              And Your Honor, that concludes questions from  
18       OSHA.

19              JUDGE FORT: Thank you.

20              Are there questions from the Solicitor of Labor?

21              MS. WILES: Thank you, Your Honor. Linda Wiles  
22       from the Solicitor's Office. I don't have additional

1 questions.

2 Thank you so much for participating today, Ms.  
3 Domenzain.

4 JUDGE FORT: And are there questions from  
5 participants?

6 MS. CARLON: There are not, Your Honor.

7 JUDGE FORT: Great.

8 Thank you, Speaker.

9 MS. CARLON: And we are going to recall the UCLA  
10 Heat Lab panel.

11 Once again, we do not see your names listed in the  
12 attendee list, so if you have joined under a different  
13 name, please use the raise hand button to indicate your  
14 presence. And if you have dialed in, please select  
15 star three to raise your hand.

16 And at this time, Your Honor, this group is still  
17 absent, so that would be our last speaker for today.

18 JUDGE FORT: All right. Great.

19 We are now at the end of the scheduled witnesses  
20 for today. I'd like to remind the hearing participants  
21 they can submit additional evidence or statements  
22 relevant to the proceeding within 90 days at the end of

1 the hearing, which will be September 30th, 2025. At  
2 that point, the record for this rulemaking will close.

3 On behalf of the Department of Labor, I wish to  
4 publicly thank all the people who gave their time and  
5 their testimony to contribute to this hearing today.  
6 To all the participants, thank you for your interest in  
7 this important matter.

8 The hearing is adjourned for today. We will  
9 reconvene at 9:30 a.m. Eastern tomorrow. Thank you.

10 (Whereupon, at 4:30 p.m., the hearing was  
11 adjourned.)  
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