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Court Reporting

Transcript of **Day 9**

Friday, June 27, 2025

OSHA Heat Injury and Illness Prevention Hearing

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OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

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OSHA'S INFORMAL RULEMAKING HEARING

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FOR HEAT INJURY AND ILLNESS PREVENTION IN OUTDOOR AND

11

INDOOR WORK SETTINGS

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Day 9 of 12

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Friday, June 27, 2025

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9:30 a.m.

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PARTICIPANTS

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PRESIDING:

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LAUREN BOUCHER, Administrative Law Judge,

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Office of Administrative Law Judges, United States

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Department of Labor

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OSHA PANEL:

9

ANDREW LEVINSON

10

STEPHEN SCHAYER

11

TIFFANY DEFOE

12

ZOE PETROPOULOS

13

RACHEL CARSE

14

ADRIANA LOPEZ-MENENDEZ

15

EDUARDO HERNANDEZ

16

OFFICE OF SOLICITOR OF LABOR:

17

LINDA WILES

18

JENNIFER LEVIN

19

20

21

22

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P R O C E E D I N G S

JUDGE BOUCHER: We are now on the record. The hearing will come to order. 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 to the Federal Register on August 30, 2024, in volume 89 of the Federal Register, beginning at 70698.

I am Lauren Boucher, Administrative Law Judge for the US Department of Labor, and I will be presiding over the hearing today. The purpose of this hearing is to receive, from interested parties, oral testimony, as well as other information pertinent to the proposed rule. After this hearing and the post-hearing comment period have closed, OSHA will review the entire record in determining the content of the final rule.

My role as presiding judge will be 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's procedures governing this hearing are available
2 on the website for this hearing at [www.osha.gov/heat-](http://www.osha.gov/heat-exposure/rulemaking)
3 [exposure/rulemaking](http://www.osha.gov/heat-exposure/rulemaking). These documents were sent to
4 people and organizations who filed a timely notice of
5 intention to appear at this hearing.

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

16 Any written comments you have submitted to the
17 docket are already part of the record of this
18 rulemaking. In the rare case where witnesses wish to
19 provide any other documents that have not already been
20 entered into the docket, they should provide them by
21 email to OSHAEvents_DSG@dol.gov -- that's capital O,
22 capital S, capital H, capital A, capital E, lowercase

1 V-E-N-T-S, underscore, capital D, capital S, capital G
2 at D-O-L dot gov -- before the witness begins their
3 testimony so that they can be entered as exhibits in
4 the record.

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

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

1 organizational affiliation.

2 This is the process I intend to follow. After
3 OSHA has finished asking questions of a witness or
4 panel, I will ask participants who wish to ask
5 questions of the witness to identify themselves by
6 pressing the raise hand button in Webex, or by pressing
7 star three on their phones for those who have called
8 in. Based on the hearing schedule and the number of
9 participants who wish to ask questions, I will
10 determine - I will determine the order in which
11 participants will question the particular witness or
12 panel, and any time restrictions on that questioning.
13 If there are more questions than we have time for
14 today, it may be possible to ask additional questions
15 after the conclusion of the final witness's testimony.

16 UNIDENTIFIED SPEAKER: Can you hear me?

17 JUDGE BOUCHER: Further, if witnesses are
18 unavailable to answer a question during today's
19 hearing, or would like to expand on the answers
20 provided, they are welcome to use the post-hearing
21 comment period to submit such information.

22 I would also like to remind you that this

1 proceeding is being recorded and transcribed by a court
2 reporter. To ensure that the reporter is able to
3 provide an accurate record of all the testimony,
4 questions, and responses, please try to remember to
5 provide verbal responses to all questions. The court
6 reporter may have a hard time seeing if you only nod or
7 shake your head in response to a question. In
8 addition, please remember to identify yourself before
9 beginning your testimony and before asking or answering
10 a question. And do not worry; I know many participants
11 are not accustomed to doing these things. I will
12 remind you as we go along.

13 I would also ask that you mute your microphones if
14 you are not actively testifying or asking questions so
15 that the -- we can keep the record clear for the court
16 reporter. The transcript of the hearing will be
17 uploaded to the hearing docket on regulations.gov,
18 approximately two weeks following the hearing.

19 Unless there are any further announcements or
20 other housekeeping matters, I believe we can proceed
21 with public testimony. The expected speaking order is
22 currently on displayed on the screen. Our contractor

1 will introduce each speaker in turn and promote them to
2 be panelists. When you are called to testify, please
3 state your name and affiliation for the record and
4 speak slowly and clearly so our court reporter can
5 record these proceedings accurately. Mr. Roberts?

6 MR. ROBERTS: Your Honor, our first speaker will
7 be David Michaels. David, please state your name and
8 affiliation for the record.

9 MR. MICHAELS: My name is David Michaels. First,
10 I'd like to thank the staff of OSHA, the Office of the
11 Solicitor, and Judge Boucher for holding this hearing.
12 My affiliation -- I'm an epidemiologist and professor
13 of environmental and occupational health at the George
14 Washington University Milken Institute School of Public
15 Health.

16 From 2009 until January 2017, I served as
17 Assistant Secretary of Labor for OSHA, the longest
18 serving administrator in OSHA's history. From 1998 to
19 2001, I was Assistant Secretary of Energy for
20 Environment, Safety, and Health, charged with
21 protecting the workers, community residents, and
22 environment in and around the nation's nuclear weapons

1 facilities.

2 I'm here to report and to ensure the record
3 contains some of what I witnessed and what I learned in
4 the years I ran OSHA. The OSH Act is very clear.
5 Employers have the legal responsibility to provide
6 workers with a workplace free of recognized serious
7 hazards. With that law, Congress created OSHA to
8 enforce, to make sure that they are not killed or
9 injured or made sick because of their work.

10 OSHA's most powerful tool is the standard. Most
11 employers want to follow the law. They make efforts to
12 comply with OSHA standards. The fact that OSHA has no
13 heat exposure standard has meant that many employers
14 make little or no effort to protect workers from
15 dangerous exposures. They don't have an effective
16 rulebook to follow. As a result, many, many workers
17 have been sickened and some killed by extreme heat.

18 Over the past two weeks of hearings, we've heard
19 some of the representatives of employers say that a
20 voluntary standard is all that's needed, that with
21 training and better guidance, employers will ensure
22 workers will be protected from extreme heat. That's

1 fantasy. Yes, many employers will voluntarily do the
2 right thing, but history shows that many will not. The
3 OSH law was written to protect all workers.

4 So there's an important OSHA experience I'd like
5 to recount here. In April 2010, while I was head of
6 OSHA, the Deepwater Horizon rig exploded and oil began
7 hemorrhaging into the ocean. That summer, more than
8 40,000 workers wearing chemical resistant suits, hard
9 hats, and impermeable gloves and boots cleaned up the
10 oil in the shadeless heat of the Gulf Coast states of
11 Louisiana, Mississippi, Texas, Alabama, and Florida.

12 The Department of Labor strongly encouraged BP to
13 hire local residents, especially ones who are not
14 working because the oil spill had severely impacted the
15 hospitality and fishing industries. The cleanup teams
16 include acclimatized and non-acclimatized workers, as
17 well as some workers who were overweight or who had
18 preexisting lung and heart problems, which can increase
19 the risk of heat illness. This is common in many
20 workplaces. Employers must protect all workers, no
21 matter their age or physical condition, from extreme
22 heat.

1 Even before the oil reached the shoreline, OSHA
2 knew the temperatures on the unshaded beaches would
3 often exceed 90 degrees, and the cleanup workers would
4 need to do their jobs wearing PPE, including Tyvek
5 suits, hard hats, impermeable gloves, and steel tipped
6 boots. To ensure their safety, OSHA requested that BP
7 and its contractors follow the work-rest regime that
8 the military used to protect healthy young soldiers
9 from heat exposure in Iraq and Afghanistan.

10 BP accepted and implemented these guidelines
11 voluntarily, no doubt eager to avoid more deaths beyond
12 the 11 workers killed by the explosion and the terrible
13 public condemnation they would receive if more workers
14 were killed. The guidelines were far more protective
15 and costly than the ones in the proposed OSHA standard.
16 That summer, on those beaches, it was very hot. Most
17 workers were given a rest break every hour through
18 which they could rehydrate in the shade of a tent.

19 It was controversial. I took phone calls from
20 high level elected officials who visited the beaches,
21 saw workers resting and rehydrating in shade. Clearly
22 angry, they asked me, why weren't we making those

1 workers work harder? I had to explain we're trying our
2 best not to kill them. This strategy didn't make the
3 news because it was so successful. Not a single worker
4 was killed by heat.

5 Following that success, OSHA mounted a national
6 campaign promoting water, rest, and shade, asking
7 employers to voluntarily embrace that approach. Many
8 employers did. But as we learned from that experience,
9 many did not. Heat deaths and heat illnesses still
10 continued.

11 This is a clear lesson. Voluntary programs are
12 not adequate. The OSHA law says all workers must be
13 protected, not just ones employed by the sorts of
14 employers who have testified at this hearing, who
15 assured the agency they already have successful
16 programs in place.

17 Those employers who are already doing the right
18 thing, who are ensuring their workers are adequately
19 protected, will benefit from an OSHA standard since
20 they will no longer be at a financial disadvantage,
21 competing with low road employers whose workers are
22 endangered by heat exposure.

1 There are a few other points I've heard I'd like
2 to respond to. Over and over again, when I was running
3 OSHA, I heard employers say, please just tell me
4 exactly what I need to do to protect my workers and
5 I'll do it. In contrast, we have all heard numerous
6 employer representatives say there that, if there must
7 be a standard, they would like a performance standard,
8 not a programmatic one, and it shouldn't be burdensome.
9 But real performance standards, ones that don't have
10 any programmatic requirements, are in fact far more
11 burdensome. They require employers to determine how
12 they need to respond to different situations, and to
13 keep extensive records showing they have met and
14 evaluated those requirements.

15 Under a performance standard, every employer will
16 have to do the job of a meteorologist, a physician, and
17 an industrial hygienist to determine whether they --
18 what they need to do in each situation. This is
19 difficult for large businesses and impossible for small
20 ones. Several state programs have programmatic
21 standards that are flexible, similar to the one OSHA
22 has proposed. I have yet to see evidence that

1 demonstrates that the California, or any other state
2 heat standard, is overly burdensome to employers.

3 In these hearings, several business
4 representatives testified that the General Duty Clause
5 is an effective tool to protect workers from heat.
6 This is simply not true. In cases of heat exposure,
7 with very rare exceptions, it is only invoked when a
8 worker has been killed or made very sick, meaning it is
9 not - it is reactive, not preventive. There is no
10 evidence that it influences employer precautionary
11 actions.

12 Similarly, several representatives from the
13 business community have announced their opposition to
14 a, quote "one-size-fits-all standard", asserting that
15 differences between workers, geographic areas, and
16 other factors should allow employers to have different
17 programs. Look some differences are real and
18 important. Workers who have not been acclimatized are
19 at higher risk, and that is addressed in the proposed
20 standard. But acclimatized workers in the hottest
21 states like Florida, are still dying of heat exposure
22 and need water, rest, and shade. The Tampa Bay Times

1 has recently published a powerful exposé about the
2 number of workers killed by extreme heat in that state,
3 which was twice as high as the number reported by
4 employers to OSHA.

5 And yes, there are also differences among workers.
6 Some workers are more susceptible to extreme heat.
7 Variations of susceptibility is true for all hazards
8 covered by OSHA standards. OSHA would never permit
9 workers who have stronger immune systems to have higher
10 exposure to bloodborne pathogens than workers with weak
11 immunity. By law, as I've said, OSHA standards must
12 protect all workers.

13 During the years I ran OSHA, we received numerous
14 reports of young men who were apparently in excellent
15 health before heat killed them. Some of these workers
16 had not been acclimatized. I've yet to hear or read
17 anything that proves that employers can accurately
18 predict which workers would be unaffected by extreme
19 heat.

20 So permit me to end with a plea. In much of the
21 country, we have just suffered under a blistering,
22 record-setting heat wave. I ask OSHA, the Labor

1 Department and the White House to remember that this
2 summer is likely to be the coolest summer for the rest
3 of our lives and that they only consider the most
4 protective, comprehensive standard to ensure the
5 nation's workforce, our greatest resource, receives
6 adequate protection from extreme heat. Thank you for
7 your attention. I look forward to your questions.

8 JUDGE BOUCHER: Thank you, Mr. Michaels. Does the
9 OSHA panel have questions?

10 MR. LEVINSON: Your Honor, this is Andrew Levinson
11 for OSHA. I believe we were going to hear from Mr.
12 Barab as well, since Dr. Michaels and Mr. Barab filed
13 joint comments.

14 JUDGE BOUCHER: You're right. Thank you very
15 much.

16 MR. LEVINSON: And then we would question both of
17 them together.

18 JUDGE BOUCHER: Thank you for the reminder. Yep.
19 Okay. So Mr. Roberts, can we promote the next witness?

20 MR. ROBERTS: The next witness is Jordan Barab.
21 Mr. Barab?

22 MR. BARAB: Yeah. Hi, this is Jordan Barab. And

1 I think just -- Andy, I think we should include Debbie
2 Berkowitz in the question session as well. I think all
3 three of us together would be great.

4 My name is Jordan Barab. I was deputy assistant
5 secretary of OSHA during the Obama administration,
6 working with Dr. Michaels and Ms. Berkowitz. I also
7 worked in the House of Representatives as Chemical
8 Safety Board and spent 16 years running the health and
9 safety program for the American Federation of State,
10 County, and Municipal Employees.

11 I want to thank OSHA for the amazing work they've
12 done on this proposal, the scientific research, the
13 extensive work on economic and technological
14 feasibility, and the skill you've used in writing a
15 standard flexible enough to fit all workers in all
16 locations and all industries. But unfortunately, there
17 are still far too many employee -- employees who are
18 not -- employers, who are not protecting their
19 employees. And there are far too many workers still
20 getting sick and dying from heat-related illness,
21 probably more than we even know because of severe
22 undercounting.

1 But we don't just need to look at the data. We
2 can just pick up the newspaper. And we've seen, over
3 the last several days, three workers who have died of
4 heat-related illness; one in Atlanta -- a construction
5 worker in Atlanta, an umpire in South Carolina, and a
6 letter carrier in Texas. All these workers died in
7 states where heat is common, where if you listen to the
8 some of the industry witnesses, workers come pre-
9 acclimated and don't need a heat standard.

10 One thing that struck me from listening to much of
11 this hearing is how many businesses already seem to be
12 doing a great job protecting their employees. Which
13 reminds me of a story. A little more than thirty years
14 ago, I went to the dentist. The bloodborne pathogen
15 standard had just been issued, but was not yet in
16 effect. And I asked my dentist what he thought about
17 it. He said that he was terrified at all the costly
18 changes they would have to make in their workplace.
19 But six months later, I returned for my next cleaning,
20 and I told him the place looked pretty much the same as
21 it had six months ago. He responded kind of
22 sheepishly, that yeah, it turns out they were pretty

1 much all in compliance. They only had a couple of
2 changes they -- they needed to make.

3 Unfortunately, we've all heard about the
4 standard - he had - all he had heard about the standard
5 came from the American Dental Association, who had
6 condemned the bloodborne pathogen standard as a one-
7 size-fits-all solution that shouldn't apply to dentist
8 offices. Like the dentist 30 years ago, I think too
9 many businesses today are listening to the myths
10 perpetrated by certain industry associations without
11 doing their own research. And like my dentist, most of
12 the business associations we've heard from will realize
13 they're already in compliance with most of the
14 standard, particularly with the initial trigger, the
15 requirements under the initial trigger, and probably
16 most of the requirements under the high heat trigger as
17 well.

18 Now, many witnesses at this hearing have praised
19 Nevada's new heat standard as a model that federal OSHA
20 should follow because it is arguably more flexible and
21 performance-oriented - allegedly more flexible and
22 performance-oriented. But taking a look at the Nevada

1 standard shows that there are major compliance issues,
2 and issues that will negatively impact, not only
3 workers, but small employers the most.

4 First, the OSHA standard is flexible. Employers
5 can develop their own program suited to their own
6 workplace and industry, as long as they satisfy the
7 basic elements of every heat standard. Many witnesses
8 of this hearing have complained about OSHA's heat
9 triggers and praised the Nevada standard's, which does
10 not have a heat trigger.

11 But take a closer look. Instead of a heat
12 trigger, employers in Nevada must assess all of the job
13 classifications for occupational exposure to heat
14 illness. The standard lists seven factors that
15 employers need to consider; air temperature, humidity,
16 radiant heat, conductive heat, air movement, the
17 severity and duration of workload, and protective
18 clothing and personal protective equipment. It's a
19 nice list, but how do - how does an employer easily
20 measure and apply all of that? Can they get away with
21 just measuring some of those factors like air
22 temperature, without considering humidity? Do they use

1 the heat index that factors in temperature and
2 humidity? Air movement? How do you define severity
3 and duration of workloads? And at what temperature
4 might employees suffer occupational exposure to heat
5 illness? A dry bulb temperature of 90? A heat index
6 of 85? A wet bulb globe temperature of 80?

7 The standard directs employers to just figure it
8 out for themselves. A very conscientious employer
9 might consult with other state heat standards and
10 determine that anything over a heat index of 80, like
11 many state plans have, may cause heat illness. But
12 another business across the street might decide that
13 his workers are only exposed to a heat hazard when the
14 temperature reaches 90 degrees. Do they consider
15 humidity? Maybe, if they feel like it.

16 The method may provide flexibility, but it's also
17 particularly problematic for small businesses who
18 really want to do the right thing, because in order to
19 determine their own personal heat trigger, they either
20 have to conduct a job hazard analysis that considers
21 some or all of these factors for every type of job in
22 their workplace, or they'll need to hire a consultant

1 to help, expenses that small businesses can rarely
2 afford.

3 And how is Nevada OSHA supposed to enforce
4 something like that? The only criteria that Nevada
5 suggests is that any measure the employer implements
6 must, quote, "reasonably mitigate the risk of
7 occupational exposure to heat illness for the affected
8 employees". Now, that sounds very performance-y. In
9 fact, I'd love for the police to get rid of speed
10 limits as long as I just, quote, "reasonably mitigate"
11 the risk of traffic accidents.

12 There are many other problems with Nevada's
13 flexible standard. Rest breaks are only required for
14 employees after they exhibit signs or symptoms of heat
15 illness, instead of being used to prevent heat illness.
16 And rest breaks are not paid, which means that many
17 workers on piece rate will be punished for taking a
18 break.

19 The water section is also very flexible. There's
20 no requirement for how much water must be available or
21 how accessible it should be. Do you have to walk a
22 mile to get water? Fine. You only get eight ounces of

1 water per shift? No problem, you're still in
2 compliance. The employer is required to designate
3 someone to monitor working conditions, but only if
4 practicable, whatever that means. And workers are --
5 who are loading or unloading motor vehicles are
6 exempted from coverage -- or exempted from being
7 monitored.

8 There are no acclimatization requirements. None.
9 Even this weak standard exempts employers with ten or
10 fewer employees, under the assumption, I assume, that
11 employees of small employers are either magically
12 immune from heat illness or just don't deserve to come
13 home alive at the end of the workday.

14 So if a worker dies of heat stroke, the employer
15 can probably show that they've taken some of the seven
16 measures, but decided that his employees are, quote,
17 "industrial athletes" who could work safely under a
18 heat index of 95 degrees all day. And there's water
19 and rest a half mile away, if someone starts showing
20 signs of heat illness, but their pay will be docked if
21 they take a break. A worker is dead, but is the
22 employer in compliance with the Nevada standard?

1 Probably.

2 There are many, many other serious problems with
3 the Nevada standard, but time doesn't permit. The
4 bottom line is that they may -- the standard may look
5 more flexible than OSHA's standard, but it doesn't
6 adequately protect workers. And there's no way for
7 Nevada OSHA to enforce safe working conditions that
8 will effectively protect workers.

9 So let me be perfectly clear. First, it is true
10 that this is a one-size-fits-all standard, and that's a
11 good thing, because all humans are basically the same.
12 High heat can kill anyone; young, old, in the south or
13 in the north.

14 Second, there's no such thing as geographical
15 differences that make the standard or the triggers
16 unnecessary in some parts of the country. There are
17 only human beings, all of whom are potentially
18 susceptible to heat illness and death. Despite the
19 myths we've heard from so many witnesses, for the human
20 body, 80 degrees in Dallas or Atlanta is exactly the
21 same as 80 degrees in Minneapolis or Bangor, Maine.

22 Many witnesses have attempted to argue that

1 workers in the South don't need a standard, because
2 they're used to being hot, and workers in the North
3 don't need a standard because it's hardly ever hot.
4 And every single industry in the country is unique and
5 should be exempted from the standard, even industries
6 like construction and agriculture, where most workers
7 die from heat illness. And despite testimony from one
8 large law firm, humans have not evolved to be more
9 tolerant of high heat.

10 In conclusion, for those who fear a strong
11 standard, my advice is to take the science seriously,
12 not the myths. Take the death seriously, not the
13 excuses. Take your workers lives seriously, not the
14 fear mongering.

15 Finally, trust the process. Despite threats of
16 mass bankruptcies, unemployment, and the end of Western
17 civilization that we've seen criticizing every new OSHA
18 standard, the evidence has proven over the past fifty
19 years that strong OSHA standards protect workers and
20 make businesses more productive and more efficient.
21 Thank you.

22 MR. ROBERTS: You're muted.

1 JUDGE BOUCHER: Apologies. That's probably going
2 to happen a lot today. Given the request that we take
3 questions after the testimony of the next witness.
4 Could you please promote Ms. Berkowitz?

5 MR. ROBERTS: The next speaker is Debbie
6 Berkowitz. Ms. Berkowitz, please state your name and
7 affiliation.

8 MS. BERKOWITZ: Hi. Good morning. I'm Debbie
9 Berkowitz, the former chief of staff and senior policy
10 advisor at OSHA, working with Dr. Michaels and Jordan
11 Barab. Over the past 40 years, I've also been the
12 director of the safety and health program at unions and
13 nonprofits. I'm now a fellow at the Kalmanovitz
14 Initiative for Labor and the Working Poor at Georgetown
15 University.

16 I support the OSHA proposed standard, and I'm
17 grateful for the OSHA staff for trying to move forward
18 to protect workers. Had this OSHA standard been in
19 place over the last few years, many deaths would have
20 been prevented. I want to touch just on a few points
21 during my five minutes.

22 First, the evidence is clear that the current OSHA

1 proposed standard with specific temperature triggers
2 and all the specific, basic, commonsense requirements
3 included in the proposal are feasible and effective at
4 saving lives and preventing heat-related illnesses.
5 Over 19 years ago, California implemented a heat
6 illness prevention standard for outdoor workers that
7 requires the full basket of basic commonsense
8 protections, as in the current OSHA proposal.

9 Note that the CalOSHA standard includes specific
10 temperature triggers to make sure all employers know
11 when to implement the protective measures. And it does
12 not leave it to the subjective judgment of every
13 employer to decide if it - if they think it may be
14 hazardous. That all agriculture and construction
15 employers in California have had to comply with this
16 standard for almost two decades, whether they are in
17 the north of California or the south of the state, is
18 clear evidence that this basic commonsense approach
19 taken by OSHA in this proposal is feasible and works.

20 Further, three years ago, Oregon OSHA adopted a
21 heat standard covering both outdoor and indoor workers
22 that also contains the same basket of protective

1 provisions as in the OSHA proposal. And this standard
2 also contains specific temperature heat index triggers
3 that are critical to assuring that protection will not
4 just be left up to an individual employer's best guess.
5 The Oregon OSHA standard has been enforced for three
6 years now, additional evidence that the indoor and
7 outdoor requirements in the OSHA proposal to protect
8 workers from heat are feasible.

9 Second, I want to address the need for specific
10 temperature heat index triggers in any standard. Let's
11 be clear. Without a specific temperature trigger,
12 worker protection will only be triggered when an
13 employer thinks their workers might be in danger.
14 Thus, whether or not an employer provides water, rest,
15 shade, breaks, acclimatization, and training will be
16 based on a subjective decision or when it's already too
17 late for prevention, when a worker is in an emergency.
18 This could leave workers with less protection than they
19 have now with no standard.

20 We also heard from employers who testified here
21 that, though they didn't want specific temperature
22 triggers in any standard, they use specific temperature

1 triggers themselves in their heat safety program. All
2 the more evidence for the need for temperature triggers
3 as in the current proposal.

4 Third, I want to address the narrative we have
5 heard from some that have testified that, depending on
6 where workers live, they may not need to be acclimated.
7 Any review of the data on workers killed on the job due
8 to heat makes clear that the first few days a worker is
9 on the job are the most dangerous for heat. The
10 evidence is also clear that this is true for workers in
11 the north and in the south. That is why
12 acclimatization is so important to saving lives in all
13 parts of the country.

14 For example, in 2018, a farmworker arrived in
15 Georgia in mid-June from Mexico and went to work
16 picking tomatoes right after he arrived. Miguel Angel
17 Guzman Chavez, a seasonal worker here on a work visa,
18 tragically died on the second day on the job as
19 temperatures soared to 95 degrees. He came from a very
20 hot climate, yet he was killed by his exposure to heat.
21 OSHA cited his employer for failing to protect him from
22 heat-related illness and death. Then there's Jonathan

1 Salazar from Guatemala, who was on a landscaping crew
2 as a temporary worker in Florida in 2022. And on his
3 second day on the job, he died of heat stroke.

4 The Tampa Bay Times, in December 2024, released
5 the results of a comprehensive investigation into
6 workers that had died from heat in Florida. The
7 article found that twice as many workers have died
8 across Florida than have been reported to OSHA or
9 other -- or the state. Thus, the official statistics
10 on how many workers have been killed by heat on the job
11 are clearly an undercount. But additionally, many of
12 these workers were either already living in Florida or
13 had just arrived from Latin American countries and
14 often died during the first few days on the job.

15 Last point I want to address is that some have
16 testified that OSHA does not need to require that
17 employers provide breaks to workers as a protective
18 measure in high heat, because workers can take breaks
19 when they want to. I want to be clear in this record
20 that in my 40 years of working in occupational safety
21 and health, I have not known any workers in
22 agriculture, construction, restaurants, warehouse,

1 sanitation and other industries where heat can be a
2 health hazard, who are just able to take a break when
3 they want one. There may be a few companies -
4 construction companies where a union has negotiated
5 this in their contract, but it is rare. That is the
6 exception and not the rule. I want to thank you for
7 this time and I look forward to answering any
8 questions.

9 JUDGE BOUCHER: Thank you very much. With those
10 first three witnesses completed, I think now we are
11 going to questions of those witnesses. So are there
12 any questions, Mr. Levinson, from OSHA?

13 MR. LEVINSON: Yes, Your Honor. Andrew Levinson
14 from OSHA. And I'm going to ask questions. Any of the
15 three of the witnesses are welcome to answer, or - or
16 each of you can answer as you deem appropriate. Also
17 there is a post-hearing comment period. So any
18 thoughts that you have now are welcome, but we're also
19 happy to receive any expanded thoughts in post-hearing
20 comments.

21 As I think all three of you have correctly
22 identified many of the - the comments that we've heard

1 over this hearing have focused on the one-size-fits-all
2 or the - the statement that this is a one-size-fits-all
3 approach and a desire for a more performance-oriented
4 approach. In particular, people have asked for things
5 like flexibility around break time, that two hours is
6 too prescriptive and that they need more flexibility,
7 for example, if they're doing a concrete pour or some
8 other thing that can't be disrupted.

9 We'd like to know your thoughts on performance-
10 oriented standards and is there a way that OSHA could
11 make the regulation more performance-oriented, while
12 still providing essential protections to ensure that
13 workers are adequately protected from heat? Do any of
14 you have thoughts?

15 MR. MICHAELS: First, I want to talk, just in
16 general, about the performance-based programs because a
17 lot of employers do have them. I reviewed some of the
18 submissions. And for example, I looked at the UPS
19 which boasts about having a successful performance-
20 based heat program, over the last two years especially.
21 And it looks like it's great. But if you look at the
22 OSHA Severe Injury Database, I counted 23 heat

1 hospitalizations among UPS workers in the past two
2 years alone. That's 23 hospitalizations in -- (break
3 in audio) -- company. If you look at the OSHA
4 inspections following these hospitalizations, you'd no
5 doubt see, it would have been prevented if UPS had a
6 program that complied with the requirements of the
7 proposed standard.

8 First of all, it's important to take a very hard
9 look at performance-based programs. OSHA -- this
10 standard already has a great deal of flexibility.
11 Obviously, there are some ways to -- that it could
12 probably be made a little bit more flexible, but I
13 think OSHA has to be careful. It would be worthwhile
14 to look at submissions from specific industries that
15 say these are ways you might be able to adjust it.

16 But if people are not given breaks and the ability
17 to rehydrate in shade, they're at risk, especially
18 as -- if you're, you know -- and this only, obviously,
19 occurs at the 90 degree trigger. So we're talking
20 about extreme heat. So if -- if -- if there's a
21 request for flexibility, I think there has to be some
22 accommodation saying -- okay you can take flexibility

1 around this time, but you have to ensure that certain
2 things also occur to make sure people are safe. And to
3 take a hard look at that before moving forward.

4 MR. BARAB: One other thing any, any standard you
5 know, has -- has to be enforceable and it has to be
6 enforceable -- it has to be preventive. It can't be
7 reactive only.

8 JUDGE BOUCHER: Hold on one minute. Mr. -- Mr.
9 Barab, I apologize.

10 MR. BARAB: Yeah.

11 JUDGE BOUCHER: I'm getting some feedback. I
12 don't know, can I just ask everyone -- remind everyone
13 to make sure you're muted if you're not speaking, just
14 see if we can minimize that. Apologies for the
15 interruption. Go ahead.

16 MR. BARAB: Thank you, Your Honor. And you -- you
17 also failed to remind me to introduce myself. So I
18 will introduce myself again. My name is Jordan Barab.
19 Yeah. Any standard that OSHA issues has to be
20 enforceable and has to be preventive. In other words,
21 you don't want to have to wait until after someone is
22 hurt to enforce the standard.

1 Some of the witnesses we've heard promoting
2 performance-based standards have said things like the
3 outcome should be the goal and "OSHA should accept
4 whatever works", quote unquote. The problem is you
5 don't know what's working until it doesn't work. In
6 other words, if somebody -- until after someone has
7 gotten hurt or died. You don't know what the outcome
8 is -- and again -- necessarily until someone gets hurt
9 or dies.

10 And that makes any, you know, performance standard
11 that's defined that way, to wait until the outcome or
12 to wait until you see what works, inherently reactive.
13 In other words, OSHA only able to -- to enforce the
14 fact that the outcome didn't come out so well, only
15 after someone is actually sick or unfortunately passes
16 away.

17 JUDGE BOUCHER: Any other questions, Mr. Levinson?

18 MR. LEVINSON: Yes. Thank you, Your Honor.

19 JUDGE BOUCHER: I think Ms. Berkowitz would like
20 to add a comment.

21 MS. BERKOWITZ: This is a problem of doing this
22 from home. Somebody was at the door, but I just wanted

1 to say -- and I'm Debbie Berkowitz -- about
2 flexibility. I was involved in testifying and hearing
3 the comments for the Maryland heat prevention standard,
4 which follows the same basket of protections that OSHA
5 has proposed.

6 And we also heard from -- the one issue on
7 flexibility was with concrete pours in construction
8 companies. And I just want to remind the record here
9 that these mandatory breaks happen at 90 degrees, 95,
10 100 degrees. And that one of the things that the
11 construction companies figured out is there are -- you
12 know, their crews take breaks every two hours. And so
13 they figured out that they could figure this out just
14 by their own schedule.

15 I mean, I do think that the standard is already
16 flexible and -- you know, it allows fans instead of
17 having to put in engineering controls inside. I mean,
18 I think there's a lot of flexibility built into this,
19 and it's a very basic commonsense standard. So thank
20 you and apologies.

21 MR. LEVINSON: Thank you. My next question
22 touches on something that Mr. Barab raised in his

1 testimony. In performance-oriented approaches, we're
2 curious your thoughts on what it would take for an
3 employer to properly document that they considered all
4 of the factors, such as those raised by Arizona, to do
5 an adequate job hazard assessment or -- or some other
6 sort of analysis on -- in order to determine what was
7 necessary to protect workers.

8 MR. BARAB: Well, yeah. I mean, you know, you're
9 obviously referring to the -- to the Nevada standard,
10 which has seven factors listed. First of all, it's
11 unclear from the standard whether you actually have to
12 consider all seven of those or just some of the seven
13 of those. If you have to consider all of those, you're
14 essentially doing a wet bulb globe temperature reading
15 and another a number of other factors for every job
16 classification, which is -- I think some would -- some
17 would say is more burdensome than the federal proposal.
18 Although, I think the federal proposal should also
19 consider wet bulb globe measurements.

20 And as I said, I mean that and -- so either you
21 have to do all of them, which would really require
22 especially small employers to hire a consultant, or

1 maybe just some of them, but it doesn't say which ones
2 of them. And if you only do, for example, dry bulb
3 temperature, that obviously isn't adequate. So it's --
4 you know, it -- it may be very performance-oriented and
5 that you can do whatever you want, but it does not
6 provide adequate protection for workers. And it
7 doesn't require employers to take into account all of
8 the factors that may endanger workers.

9 MR. MICHAELS: If I can just add, it also
10 imposes - this is David Michaels - imposes significant
11 recordkeeping requirements on employers. There has to
12 be some proof that they actually took these into
13 account. And given we're talking about changing
14 climates, changing situations, or changing jobs. The
15 amount of work that this will require to do it right
16 really is quite extensive.

17 MR. LEVINSON: Thank you. My last question
18 relates to injury and illness recordkeeping. I think
19 all three of you touched upon the issue of recording
20 and reporting of injury and illness information by
21 employers. And given some of the assertions that a
22 performance outcome - a performance-oriented standard

1 should only rely on outcomes, do you have any thoughts
2 on how employers should assess those outcomes, and any
3 concerns you might have related to signs and symptoms
4 being reported and or recorded by workers?

5 MR. BARAB: Well, I think it would be very useful,
6 not only for employers -- or perhaps to say
7 particularly for employers -- and their employees.

8 JUDGE BOUCHER: Take your name again, sir. Sorry.

9 MR. BARAB: I'm sorry. Jordan Barab. I think it
10 would be useful for employers and for workers and --
11 and for OSHA, you know, for there to be a log of heat-
12 related illness. Not necessarily every symptom,
13 obviously, somebody -- somebody suffers, but certainly,
14 you know, some definition of heat-related illness and a
15 logging of that. That would be useful for employers to
16 determine the success of -- of -- of the program.
17 Obviously, it'd be useful for workers to know what's
18 going on in their workplace. And it would be useful
19 for OSHA to determine, you know, how much of a problem
20 there may be at any given workplace.

21 You know, if employers have, you know, good
22 programs, which we hope they would be, once the

1 standard is issued, there shouldn't - that shouldn't be
2 much work, because ideally, if they're complying with
3 the entire standard, there shouldn't be many, if any,
4 heat-related illnesses.

5 MR. MICHAELS: This is - this is David Michaels.
6 One of the very clear and unfortunate outcomes of
7 exposure to extreme heat is greatly increased risk of
8 injury - of workplace injury. In the various
9 performance standards that I've looked at, there's very
10 little discussion of increased risk of injury from
11 extreme heat exposure. But if you're going to keep
12 records about what sort of effects heat has had, you've
13 got to also record your workplace injuries and the heat
14 and humidity or whatever - however the measurement is
15 being done, for every injury that's occurring during
16 hot periods. And that also will be quite a challenge.
17 But to know whether a standard - a performance-based
18 program is effective, you've got to look at injuries --
19 (break in audio) -- OSHA should address if that's a
20 direction it ends up going.

21 MS. BERKOWITZ: I also -- this is Debbie
22 Berkowitz. I also support, you know, the provisions

1 to -- OSHA needs to clarify employers' recordkeeping
2 responsibilities when it comes to heat-related illness.
3 I mean, I think one of the things that the Tampa Bay
4 Times did -- and we'll submit that in post-hearing
5 comments -- is found all these workers that died of
6 heat. You know, they were taken from an ambulance - by
7 an ambulance from their -- their workplace, and they
8 died in a hospital and nobody reported it. So nobody
9 even followed it.

10 Is - and that way you'll get you - not only
11 employers will get a better record of - of heat-related
12 illness in their workplace so that they know -jeez,
13 we've missed the boat here, and we need to do better.
14 But I think that the AFL-CIO submitted comments about
15 recordkeeping provisions that should be added to the --
16 the proposal that OSHA should seriously consider.

17 MR. LEVINSON: Thank you. And Your Honor, the
18 next questions for the witnesses come from Stephen
19 Schayer.

20 MR. SCHAYER: Yes, good morning. Stephen Schayer
21 from OSHA. First, thank you, Dr. Michaels and Mr.
22 Barab and Ms. Berkowitz for being here today and for

1 your testimony. I wanted to follow up with a question
2 about the state heat standards.

3 So first, in your testimony, Mr. Barab, you had
4 mentions of the testimony that we've heard during the
5 hearing, that OSHA should model any federal heat
6 standard after the Nevada heat standard that does not
7 have triggers but requires employers to conduct a job
8 hazard analysis. So I wanted to check with Dr.
9 Michaels and Ms. Berkowitz, if you could also discuss
10 whether you think OSHA should adopt a standard similar
11 to Nevada's and why or why not?

12 And then as a second part to that question, if
13 you'd recommend any other specific changes that OSHA
14 should make to the proposed standard based on existing
15 state heat standards?

16 MR. BARAB: I'm sorry, Steve, did you say I
17 supported -- this is Jordan Barab -- did you say I
18 supported OSHA following the Nevada standard?

19 MR. SCHAYER: Oh, no, I don't think so.

20 MR. BARAB: Okay. I'm sorry; I misheard you.
21 Never mind.

22 MR. SCHAYER: No, I was saying that you've

1 mentioned that we heard testimony during the hearing --

2 MR. BARAB: Testimony, right. Okay, sorry.

3 MR. SCHAYER: That OSHA should model any federal
4 standard after the recently promulgated Nevada heat
5 standard. So just wanted to check with Dr. Michaels
6 and Ms. Berkowitz if they could also discuss whether
7 they think OSHA should adopt a standard similar to
8 Nevada's and why or why not?

9 MR. BARAB: Okay. Thank you.

10 MR. SCHAYER: Sure.

11 MR. MICHAELS: Yeah. No, I agree with Jordan's
12 comments that I think the Nevada standard is severely
13 lacking in enforceability and therefore, it essentially
14 allows employers who decide not to -- to take the high
15 road, to really not do anything significant to protect
16 workers. It allows them to do that.

17 OSHA requires making a plan. The plan,
18 essentially, is a job hazard analysis. It can think
19 about what needs to be done, but you really have to
20 have some -- some triggers, some real requirements.
21 You know, I have to say, you know, we've always
22 heard -- and this is really for 50 years, employer

1 representatives have said -- look, the OSHA proposed
2 standard is technologically and economically
3 infeasible. It's too costly. We really should be left
4 to do whatever we want.

5 But once -- history has shown that, once a
6 standard is issued and it's improved through the
7 evidentiary process, just like this, it's always made
8 better, I think in every case. We generally find out
9 that OSHA standards are effective, and they turn out to
10 cost far less than employer groups have estimated.
11 They cost far less than OSHA estimated. And that's
12 because the nation's businesses and the nation's
13 engineers are -- are innovative, they're creative, and
14 they figure out how to meet the standard, how to
15 protect workers more effectively and efficiently than
16 OSHA even had presumed.

17 You know, I addressed the vinyl chloride example
18 in my book, "Doubt is Their Product," but there are
19 other examples too. The -- the late and lamented
20 Office of Technology Assessment of Congress looked at
21 this and found that it's -- it's all doable. I mean,
22 the -- these -- the complaints that you really just

1 have to let employers figure out what they're going to
2 do and let them do it -- that doesn't work. But -- but
3 the flip side is what OSHA requires is generally,
4 absolutely doable, it's cost effective, and most
5 importantly, it saves lives, which is the point of the
6 OSHA law.

7 MS. BERKOWITZ: Hi, this is Debbie Berkowitz. I
8 can just weigh in before Jordan does, since it's his
9 testimony. But OSHA should do nothing if they're
10 thinking of issuing something like Nevada. It would -
11 it offers less protection than, I feel, the General
12 Duty Clause, right now. Because an employer could say
13 in Nevada - oh, well, two workers got sick, but it
14 still didn't come up in my job hazard analysis because
15 these are the criteria I used, you know.

16 So you know, I was involved in the Maryland OSHA
17 process for setting a standard on heat as well as in
18 Oregon. And never in Oregon, at any point during that
19 whole process, did anybody in the state, no industry,
20 nobody ever said - oh, let's not have specific triggers
21 and let's not have specifics about water and that it
22 has to be accessible and how much water. You know,

1 these are just basic commonsense. And nobody said,
2 let's not include acclimatization.

3 I'm very shocked by the Nevada standard, OSHA. I
4 knew nothing about it until it was published, but
5 it's -- it is not something that any other state
6 should -- should put into place. And I'm hoping
7 Nevada, at some point, you know, will replace this with
8 what -- what federal OSHA comes out with.

9 But I also want to say that in Maryland, and I'm
10 happy to put it in the record, is Maryland was first
11 thinking of a very - you know, not a performance-
12 orientated standard, but a standard with no
13 requirements. Just saying you got to think about heat
14 essentially, which was very much like the Nevada
15 standard. And 37 organizations from AIHA, professional
16 organizations, safety organizations, worker
17 organizations all came together and said, this standard
18 is really fundamentally flawed, and it's less
19 protection than under the General Duty Clause.

20 And then Maryland replaced it with what the -- a
21 proposal and now a final standard, after hearing from
22 industry, with -- very similar to the current OSHA

1 standard with specific triggers, specific requirements
2 on how to protect workers. But just like in the OSHA
3 standard, it retains a lot of flexibility.

4 MR. BARAB: Yeah. Steve just one more thing. You
5 know, any standard, you can't just list like Nevada
6 does. You have to consider, you know, water, you have
7 to consider rest. You actually -- you know, a standard
8 that's going to protect workers actually has to
9 actually make sure that employers are actually doing
10 something that's based on the science.

11 And I would encourage, you know, some of the
12 employers who are basing their testimony off other, you
13 know, testimony and things that they've heard, to
14 actually read beyond just the OSHA regulatory text and
15 look at the voluminous amounts of science that -- that
16 the OSHA staff has compiled, in the -- in the preamble,
17 in the background to the standard. Because everything
18 that OSHA has -- has put in the -- in the proposal is
19 backed up by strong science; the amount of water
20 workers need, the amount of rest workers need. These
21 are not just something -- things that OSHA has pulled
22 out of its hat. And any standard that doesn't

1 actually, you know, respect that science and base their
2 standard on that science isn't going to protect workers
3 adequately.

4 MR. SCHAYER: Okay. Thank you. And my second
5 question, just switching gears a little bit, is about
6 triggers. So we've received many comments and heard
7 many witnesses in the testimony during the hearing say
8 that any triggers in a federal heat standard should
9 account for geographical differences. And so just
10 wondering if you as a panel agree and why or why not?
11 I know, Mr. Barab, you talked a bit about this in your
12 testimony. But if you have anything else to add, or if
13 Dr. Michaels or Ms. Berkowitz have anything to add,
14 that would be helpful.

15 MR. MICHAELS: David Michaels, here. We - no, I
16 think we all addressed this. The - the evidence is
17 very clear that it really doesn't make a difference
18 where the worker is working in the country, whether
19 it's in Alaska or in South -- (break in audio) -- high
20 enough, they are at risk for being killed. The -- the
21 function -- the functional difference is risk is lower
22 if they're acclimatized --

1 JUDGE BOUCHER: Mr. Michaels, we seem to have --
2 seemed to have lost you for a couple seconds there. I
3 don't know if maybe you want to back up and -- five
4 seconds and state again what you said. Is it just me
5 or --

6 MR. SCHAYER: No, I also am not able to hear.

7 MR. BARAB: Yeah, I think he's frozen. Let me.
8 I'll fill in a little bit until he comes out.

9 MS. LEVIN: I think we have -- this is Jennifer
10 Levin from the Solicitor's Office. If Dr. Michaels
11 turns off his camera, let's see if -- if -- if we have
12 better transmission or if he freezes.

13 MR. MICHAELS: Okay.

14 JUDGE BOUCHER: Dr. Michaels?

15 MR. MICHAELS: Okay. I will speak now. I'm
16 sorry, I wasn't heard earlier. No, I was saying there
17 is no scientific evidence to say that the 90 degrees
18 heat index is -- is safer in South Texas than it is in
19 Alaska, where we just had record heat. If workers are
20 acclimatized, they're at lower risk, but they are still
21 at risk. And so acclimatization is important.

22 But the trigger -- the triggers that are in place,

1 the 90 degree trigger to actually trigger regular
2 breaks, is fundamentally important no matter where it
3 is. And there is no evidence at all to suggest that
4 it's -- it's unnecessary, even in hot climates.

5 MR. LEVINSON: Excuse me, Ms. Berkowitz. If -- if
6 you could mute yourself. Ms. Berkowitz, if you could
7 mute yourself. We're getting feedback from your
8 microphone.

9 MS. BERKOWITZ: I'm muted.

10 JUDGE BOUCHER: I think she's muted now.

11 MS. BERKOWITZ: Okay I've been muted. I'm not
12 sure what you hear because it's silence in here, but
13 I'll mute again.

14 JUDGE BOUCHER: Okay. Mr. Michaels were you are
15 finished answering or are we moving on?

16 MR. MICHAELS: Yes, I'm finished. Thank you.

17 JUDGE BOUCHER: Okay.

18 MR. SCHAYER: Okay. Thank you very much.

19 Appreciate you addressing those questions.

20 JUDGE BOUCHER: Thank you.

21 MR. LEVINSON: Your Honor, the next questions from
22 OSHA come from Tiffany DeFoe.

1 JUDGE BOUCHER: Thank you. Go ahead.

2 MS. DEFOE: Good morning. This is Tiffany DeFoe
3 with the Directorate of Standards and Guidance, OSHA.
4 I have a couple questions about rest breaks. And I'm
5 addressing them to Ms. Berkowitz, but definitely
6 welcome commentary from any of the panel members.
7 Thank you.

8 So Ms. Berkowitz, in your written comments that
9 you submitted, you referred to the California outdoor
10 heat standard as one which has been shown to decrease
11 heat-related illness since its implementation. And in
12 that rule, it says that employees shall be allowed and
13 encouraged to take a preventive, cool down rest in the
14 shade, when they feel the need to do so, to protect
15 themselves from overheating.

16 I'd like to ask if there are thoughts you could
17 share on whether you believe the California rule's
18 provision to allow rest breaks in a preventive fashion
19 rather than, for example, as a response to the onset of
20 early signs and symptoms of heat - heat illness is
21 necessary to prevent significant adverse health
22 consequences of heat stress?

1 MS. BERKOWITZ: Thank you. This is Debbie
2 Berkowitz. You know, there's evidence that, not only
3 is the California outdoor heat standard that -- or
4 there's evidence that, not only does heat cause heat-
5 related illnesses, but causes other safety-related
6 illnesses when people are working outdoors in heat or
7 even indoors, you know, with falling off ladders and
8 other kind of things. So I think it's very important
9 that any standard prevent heat-related illness and
10 death and not only implement provisions till after
11 somebody gets sick.

12 Because what we've seen or what we see at OSHA and
13 the cases that I've been involved in, when I get calls
14 from agriculture workers and construction workers, is
15 somebody went very quickly from feeling dizzy and
16 nauseous from heat and then they died. And so that's
17 the problem with heatstroke. I mean, there was, you
18 know, there -- we just had a heat wave and I had a
19 neighbor that lost their air-conditioning that thought,
20 okay, I'll sleep in -- in my house tonight. Woke up
21 with chills and in one second they were in the
22 emergency room and -- and -- for eight hours and

1 survived.

2 But the nature of heat illness is not like -- I
3 get an early symptom or early sign, and if I have a
4 break, then everything will be okay. It could be too
5 late even at the early sign. And so that's why these
6 rest breaks are so important.

7 And I think, you know, other standards that came
8 after the CalOSHA standard - remember, that was almost
9 20 years ago. So their indoor heat standard, the
10 Oregon standard, and the Maryland standard all actually
11 has very specific requirements for mandatory heat
12 breaks with specific times within certain hours, you
13 know, once the temperatures get higher. And I totally
14 support that and totally support the requirement that -
15 that breaks be part of a standard for prevention.

16 And I think if you go back to the record that --
17 of the cleanup during Deepwater Horizon on the beach,
18 you know, we follow the Coast Guard's heat prevention
19 program. Which, whether there were symptoms or not,
20 they had a -- you know, they worked for 15 minutes, off
21 for 15 minutes. You know, that was really instrumental
22 in making sure nobody died of heat stress while

1 cleaning up the beaches after Deepwater Horizon. I
2 hope this is helpful.

3 MS. DEFOE: Thank you. I have one more question.
4 I just wanted to pause and see -- just give a pause in
5 case any of the other participants wanted -- panelists
6 had something on that one. Okay.

7 MR. MICHAELS: No thanks, David Michaels. No
8 thanks.

9 MS. DEFOE: Thank you. Tiffany DeFoe, Standards
10 and Guidance, OSHA. Ms. Berkowitz, you also referenced
11 your involvement in Oregon's development of their heat
12 rules. And in that one, in the outdoor work rule,
13 there is a provision that allows for the use of cooling
14 vests either with fans or ice packs, water dampened
15 cotton clothing, or similar effective measures, as the
16 rule puts it, in lieu of shade, when the employer can
17 demonstrate that providing access to shade is not safe,
18 or if it interferes with the ability of employers and
19 employees to complete the necessary work in a
20 particular situation. And I'm wondering, either now or
21 in post-hearing comments is fine, if you'd rather take
22 some time with it, if you can give any thoughts that

1 you have about how that provision was intended to be
2 used, what kind of situations it's intended to address,
3 and how it's been working out in practice?

4 MS. BERKOWITZ: Yes, I can put that in -- in post-
5 hearing comments. You know, that was part of the
6 comments and, you know, trying to be flexible in some
7 of the provisions in the rule.

8 MS. DEFOE: I had no further questions, but much
9 appreciate all of your testimony.

10 MR. LEVINSON: Thank you, Your Honor. The next
11 questions from OSHA come from Zoe Petropoulos.

12 MS. PETROPOULOS: Good morning. This is Zoe
13 Petropoulos with the Directorate of Standards and
14 Guidance. I have a few questions for you all about
15 OSHA's risk assessment. My first question is, do you
16 agree with OSHA's conclusion that heat poses a
17 significant risk of material impairment to workers in
18 the United States?

19 MR. MICHAELS: David Michaels. Yes, there is no
20 question that's the case.

21 MS. PETROPOULOS: I'm seeing head nods. I assume
22 we need a verbal?

1 MR. BARAB: This is Jordan Barab. I agree 100
2 percent. It does -- it kills -- injures and kills
3 workers. I think that's -- that's the bottom line.
4 And I don't think anybody would deny that.

5 MS. BERKOWITZ: And Debbie Berkowitz. Yes. And
6 not only is it a hazard -- a serious and deadly hazard
7 to workers -- and we agree with your risk assessment --
8 but it's preventable. These deaths are preventable.

9 MS. PETROPOULOS: Thank you. My next question.
10 For the risk assessment, OSHA relied upon multiple
11 sources of data on nonfatal injuries and illnesses,
12 specifically the BLS Survey of Occupational Injuries
13 and Illnesses, and state level data on worker's
14 compensation claims and hospitalizations and emergency
15 room visits. In your expert opinions, do these
16 represent the best available data sources for
17 estimating the incidence of nonfatal heat-related
18 injuries and illnesses among U.S. workers?

19 MR. MICHAELS: If I can step in here first, I
20 think they're good sources, but they -- it's very clear
21 that there is a significant undercount of heat-related
22 mortality and nonfatal events as well. So while it's

1 useful to use those numbers, I think it has to be
2 assumed that the actual impact of heat on worker health
3 and on injuries is far greater than is actually being
4 seen.

5 I'm trying to do some work now looking at the ITA
6 case data to get a better sense from there, to see if
7 we can essentially come up with more information to
8 supplement it. But overall, the risk assessment just
9 has to take -- take all of these into account and
10 recognize that they're -- they're all incomplete.

11 And we know from, you know, other studies that BLS
12 has commissioned, that the SOII data, which - you know,
13 the - the BLS Survey of Occupational Injury and
14 Illnesses is somewhere between a 30 and 60 percent
15 undercount of injuries. And even injuries that we
16 would expect to see picked up much more easily.
17 They're not controversial, say like, say, an ergonomic-
18 related injury where you could say perhaps it didn't
19 occur at work.

20 But traumatic injury, amputations that occur at
21 work, are undercounted in the SOII data. So there's no
22 reason to think that the heat data are -- (break in

1 audio) -- so there --there's reason to think that the
2 heat -- (break in audio) -- is slightly undercounted in
3 SOII. And we know, of course, how heat increases --

4 JUDGE BOUCHER: Mr. Michaels, we're -- you're
5 breaking up again.

6 MR. MICHAELS: I'm sorry.

7 JUDGE BOUCHER: I think it might be worth turning
8 your video off again. Just to see if we can --

9 MR. MICHAELS: Yes. Yeah, I'm sorry about that.
10 Yeah. So just let me repeat. There's also reasons to
11 assume that the fatality data from the CFOI, from BLS's
12 Census of Fatal Occupational Injuries, is also an
13 undercount because extreme heat increases the risk of -
14 of - of fatal heart attacks and other causes of death.
15 And they rarely get recorded as caused by heat directly
16 and so they don't make the CFOI. So again all the
17 evidence says that, well, these are good data sources -
18 they're not complete. And they underestimate the
19 effects of heat on injury, illness, and death. Thank
20 you.

21 MR. BARAB: This is Jordan Barab. A couple other
22 things. I think Ms. Berkowitz mentioned the -- the

1 story in the Tampa Bay Times that documented over a
2 dozen workers, just in Florida, over a fairly limited
3 amount of time, who had died from heat-related
4 illnesses but were not recorded as that -- you know, or
5 picked up by OSHA and probably, therefore, not by BLS
6 either.

7 You also have to consider that a lot of heat
8 illness, you may have some symptoms at work, which are
9 not picked up at all. They aren't reported. They
10 aren't recorded. And the worker may become much more
11 sick at home later on. And that's directly, you know,
12 caused by the exposures to high heat levels at work.
13 But again, those will be missed by any kind of
14 recordkeeping process.

15 MS. BERKOWITZ: And this is Debbie Berkowitz. I
16 just want to add a couple of things. First of all, as
17 you're very aware, folks at OSHA, those recordkeeping
18 guidelines that you have missed a whole lot of
19 workplace-related, serious injuries and illnesses.
20 Because, in many cases, employers feel like they don't
21 have to report or record anything unless someone's gone
22 to the hospital during the workday or they have to see

1 a doctor. And a lot of employers, like, especially
2 agriculture employers, there's no doctor anywhere if
3 somebody is sick. And so they don't send people who
4 are very sick and then who may die. And - and I've
5 seen that in - in many, many other industries, where
6 companies have figured out how to game the OSHA
7 recordkeeping system. So if they don't send workers to
8 a doctor when they're sick and workers go to their own
9 doctor, and then the employer doesn't have to record
10 it.

11 So it definitely -- statistics you're relying on
12 for this standard are an undercount. And that's why --
13 and even those are incredibly high. So you really do
14 need to move forward. But I also think OSHA needs to
15 consider, in this proposal, sort of a better definition
16 of when employers need to keep a record of heat-related
17 illnesses. That's going to be really important for
18 them in monitoring their program effectiveness.

19 And then the last thing I wanted to add is in that
20 2018 case that I mentioned, that OSHA did an inspection
21 in Georgia, that farmworker death wasn't reported or --
22 or -- or recorded.

1 MS. PETROPOULOS: Thank you. My next question is
2 whether you agree with OSHA's conclusions about the
3 effectiveness of the proposed rule in reducing heat-
4 related injuries, illnesses, and fatalities.

5 MR. BARAB: This is Jordan Barab. I think if you
6 look at the science of what, you know, causes heat-
7 related illness and what can be done to prevent heat-
8 related illness -- yeah. OSHA hits all of those nails
9 on the head. You know, there are certainly -- I think
10 we've seen -- I think our testimony, you can look at
11 the AFL-CIO testimony -- there are certainly
12 improvements that can be made in this.

13 But in terms of, not only identifying the factors,
14 you know -- you know, water, shade, rest, emergency
15 response training, and acclimatization, those are all
16 hit. And -- and unlike the Nevada standard, actually
17 require employers to do something to actually implement
18 those protections to the extent that they will prevent
19 most heat-related illness or death.

20 So yeah, I think the, you know, the OSHA standard
21 is -- is great. I mean, there's always room for
22 improvement. And you know, as I've said before, there

1 has never been an OSHA -- final OSHA standard that
2 hasn't had, you know, changes from the -- from the
3 proposal based on public input and hearings such as
4 this. So although they're not perfect, I'm sure it
5 will be better after these hearings. And again, I
6 think it -- it'll go a long way to significantly
7 reducing the incidence of heat-related illness and
8 death in this country.

9 MR. MICHAELS: Okay. I'll add - this is David
10 Michaels. No, in fact, I totally agree with what
11 Jordan said. And I want to compliment the OSHA staff
12 for their - the really excellent work they did on the -
13 the - all the risk assessment data, on - looking at
14 what sort of solutions can be applied, and their
15 determination about the effectiveness of the proposed
16 standard. I think they did an excellent job. It's
17 always challenging to write a standard and to
18 synthesize a tremendous amount of literature. We're
19 fortunate that, until the organization was really
20 virtually destroyed, NIOSH provided a lot of very
21 important information that went into the standard.
22 With luck, we'll have some ability to get some

1 additional assistance from NIOSH, but I'm not sure we
2 will. But I think, generally, when I read the standard
3 and the technical aspects of the standard, I thought
4 they were very well done. And as far as I could tell,
5 accurate and really well presented.

6 MS. BERKOWITZ: And this is Debbie Berkowitz. And
7 I just want to add that the evidence is really clear
8 that the OSHA proposal will save lives and prevent
9 heat-related illnesses and that it works. And if
10 you -- just recently a year ago, there was a tragic
11 death in Baltimore of a sanitation worker. And
12 actually, Eric Conn's law firm did a whole analysis
13 of -- of -- of how this happened, how this worker died
14 of heat stress, and found that Baltimore had no heat
15 program. They had no, you know, comprehensive plan
16 with temperature triggers and with measures and
17 training to prevent this.

18 And Maryland OSHA had proposed a heat standard and
19 had just implemented it after the worker died. And all
20 of a sudden, Baltimore's implementing the program. And
21 that's exactly what, you know, this law firm said you
22 need to do to prevent injuries and illnesses.

1 So this standard will go a long way. And I want
2 to say that just having this proposal out, employers
3 are going to start following it. That's just what
4 happens in the OSHA standard setting process. And so
5 if OSHA, you know, discards it or weakens it, you're
6 going to see a real setback in employee protection.

7 MS. PETROPOULOS: Thanks. I'll just say my last
8 question is if there's any additional input that you
9 would like OSHA to consider on these topics I've asked
10 about, we welcome in post-hearing comments. And that's
11 it for me.

12 MR. LEVINSON: Your Honor, OSHA's last question
13 comes from Eduardo Hernandez.

14 MR. HERNANDEZ: Hi. Good morning. Eduardo
15 Hernandez, Standards and Guidance, OSHA. And I have
16 one question. So we've heard testimony during the
17 hearings that OSHA should continue to rely on the
18 General Duty Clause instead of issuing a federal heat
19 standard. And you've talked about that a little bit
20 today. And Mr. Barab and Dr. Michaels, in your written
21 comments, you mentioned that the General Duty Clause is
22 very difficult to use, and it requires significant

1 enforcement, legal, and administrative resources. So
2 could you further explain some of the difficulties for
3 the record?

4 MR. BARAB: I'll -- I'll start. Yeah. This is
5 Jordan Barab. Yeah. So the -- the General Duty
6 Clause -- I mean, I've heard it characterized as -- I
7 mean, so this standard - you know, for OSHA to issue a
8 standard, they have to show that there's a significant
9 risk, that the standard addresses that significant
10 risk, that it's economically, technologically feasible.
11 And one has heard the -- the General Duty Clause
12 described as having to basically do a mini rulemaking
13 for every single enforcement action under the General
14 Duty Clause. It's a lot of work. And it's also a lot
15 of work for employers, because the General Duty Clause
16 doesn't exactly say what is required. And it's really
17 kind of up to OSHA to determine based on, you know, the
18 four factors of the General Duty Clause, whether
19 there's been a violation or not.

20 But it's, you know, we've heard, as David
21 mentioned, from especially from small employers, that
22 it's a lot easier to comply with the standard, that

1 more or less sets up a checklist of what you have to
2 do, rather than dealing with the vagaries of -- of the
3 General Duty Clause. And I think it was also mentioned
4 in this -- in this hearing, the General Duty Clause is
5 almost exclusively used only after a worker is -- is
6 killed or hurt. That makes it totally reactive.

7 The whole point of the Occupational Safety and
8 Health Act and OSHA is to ensure that workers are
9 protected from -- from hazards before they get hurt,
10 not after they get hurt. So that, you know, that again
11 makes the General Duty Clause not as effective as a
12 specific standard.

13 I also want to point out that, you know, there's a
14 funny phenomenon that goes on here, and I've, you know,
15 been through God knows how many OSHA hearings, as well
16 as congressional hearings, both as a witness and as
17 someone who's organized the hearing. Is that
18 industry -- you know, if OSHA starts using the General
19 Duty Clause a lot, you know, either for ergonomics,
20 workplace violence, heat, industry representatives
21 generally hate that. They -- they -- we have testimony
22 over and over again saying if you have a -- that's not

1 what the General Duty Clause was -- was made for. It
2 was made for exceptional circumstances. If you have a
3 pervasive hazard, that is -- you know, to -- to
4 workers. OSHA really needs to develop a standard and
5 not keep using the General Duty Clause.

6 And then, as soon as OSHA starts developing a
7 standard, suddenly they turn around and they say, no,
8 no, no, we don't need a standard. We just need the
9 General Duty Clause. So it -- it -- it's very unclear,
10 you know, what anybody thinks - in the industry thinks
11 about the General Duty Clause, whatever happens to be,
12 I think, convenient at the time. But the bottom line
13 is, it's just - there's - I don't think there's anybody
14 out there that will say enforcement through the General
15 Duty Clause is really as effective as having a standard
16 that lays out exactly for employers what they have to
17 do to protect workers.

18 MR. MICHAELS: And this is David Michaels. Just
19 to add, I totally concur with everything Jordan has
20 said. It's also worth noting that the OSHA enforcement
21 inspectorate has gotten quite a bit smaller in - over
22 the very recent period. And if you look at the budget

1 being considered by Congress, it will likely stay at
2 record - a record small number of - of inspectors. The
3 General Duty Clause -- use of the General Duty Clause
4 is extremely resource intensive. It takes inspectors
5 away from doing other inspections, which are really
6 needed to make sure workers are safe.

7 So if OSHA were only to rely on the General Duty
8 Clause, it would therefore result in fewer inspections
9 elsewhere. And we know that there is lots of evidence
10 that OSHA inspections reduce injury rates into the
11 future. There are three studies, which use essentially
12 a randomized design, that incontrovertibly show that
13 OSHA inspections reduce injuries. And we'll have fewer
14 OSHA inspections, so just relying on the General Duty
15 Clause not only will mean more workers are exposed to
16 heat, but in addition, it will mean workers at other
17 workplaces will be injured as well.

18 MS. BERKOWITZ: I know you didn't ask me as well,
19 but can I chime in? This is Debbie Berkowitz. When I
20 started my career in worker safety and health, I was
21 working at the Food and Allied Service Trades
22 Department in the AFL-CIO, then called the Food and

1 Beverage Trades Department. And grain elevators were
2 exploding everywhere and killing workers. And I was
3 working for the American Federation of Grain Millers.

4 And OSHA tried using the General Duty Clause to
5 cite these employers' killing workers and explosions
6 continued. OSHA issued -- finally started the
7 rulemaking and sort of telegraphed that they're going
8 to set specifics on how much dust, and that they had
9 performance-oriented standards, but they had to control
10 the ignition sources. You know, with -- with
11 specifics, but some flexibility, that rulemaking went
12 on for almost five years. And then since the rule has
13 been issued, there have been almost no grain elevator
14 explosions. And I think, you know, the record shows
15 very clearly that when you've got a pervasive hazard,
16 like heat, that you need to have a specific rule if
17 you're going to protect workers. And so - - and I also
18 agree with everything that Dr. Michaels and Jordan
19 Barab said. Thank you.

20 MR. HERNANDEZ: Thank you. Those are all my
21 questions.

22 MR. LEVINSON: And Your Honor, that concludes the

1 questions from the OSHA panel.

2 JUDGE BOUCHER: Thank you very much. Did we have
3 questions from the Solicitor, Ms. Levin?

4 MS. LEVIN: Yes, Your Honor, thank you. This is
5 Jennifer Levin for the Office of the Solicitor. I have
6 no questions for the witnesses.

7 JUDGE BOUCHER: Thank you. And did we have any
8 questions from any other online participants?

9 MR. ROBERTS: Your Honor, we have three questions
10 in the queue. First up is Ms. Chenay Arberry.

11 JUDGE BOUCHER: Okay. Go ahead and promote her,
12 please.

13 MS. ARBERRY: Oh, hi there. Chenay Arberry with
14 the AFL. I have a question for Jordan, but the other
15 panelists can answer as well. As you've heard over the
16 past few weeks, a lot of what businesses have stated
17 their preference for a performance-based standard and
18 like, they believe it to mean employers should be given
19 basic goals -- (break in audio) -- decide how to best
20 meet them. But what would you say is wrong with this
21 approach?

22 MR. BARAB: Well, let me just start with saying

1 that's basically where we are right now. You know, the
2 General Duty Clause requires employers to provide a
3 safe and healthful workplace. That is in effect right
4 now. And we've seen that it hasn't been working.
5 There's still far too many workers, many more again
6 than we know, that are dying and getting sick from
7 heat.

8 So it's clear. And I think, as Dr. Michaels
9 explained, you know, having a standard for any - any
10 issue is much superior than the General Duty Clause.
11 Or some employers have said all we need is more
12 training and guidance, which, again, is what we already
13 have. I mean, I -- you know, just as an aside, I --
14 you know, if you -- you do a search for, you know,
15 workplace heat protections on - on the internet. And
16 within half a second, you can get 35 million hits.
17 There's plenty of information out there. There's
18 plenty of guidance out there. We have the General Duty
19 Clause. None of this is working.

20 Employers know they have to keep us -- they have
21 to keep their workplaces safe. It's just not working
22 to protect workers. And we've seen throughout the over

1 50 year history of OSHA, as Ms. Berkowitz testified,
2 you know, only strong standards that, you know, specify
3 what employers have to do, but provide some, you know,
4 flexibility for differences in -- in different
5 industries and different workplaces are the things that
6 actually work to protect workers.

7 MS. ARBERRY: Thank you. And Your Honor, I have
8 one more question to pose. Additionally, why aren't
9 training and guidance documents a better solution than
10 a specific standard? For the panel, thank you.

11 MR. MICHAELS: If I can just follow up on that. I
12 mean, there's -- there's lots of training available.
13 You can train people and tell them, you know, you need
14 to take regular breaks. But unless they're guaranteed
15 the right to take those breaks, that training is not
16 effective. I mean, it's pretty straightforward.
17 Training is useful, but it's not -- it's -- it's
18 necessary, but not sufficient. And that's very clear.
19 And that's why every other OSHA comprehensive standard
20 has training requirements that are a component of
21 programmatic requirements that require engineering
22 controls and other protections.

1 MS. BERKOWITZ: And I want to jump in because I
2 think this is the new thing, that industry is saying we
3 don't need standards. We just have to train workers to
4 protect themselves, I guess. I mean, the training
5 requirements in the standard are very important.
6 They're just one part of a program because you're
7 training workers on the early signs of heat-related
8 illnesses -- illnesses so they can recognize it right
9 away and know to get help. But if -- but if there's no
10 requirements for -- at certain temperatures, for water,
11 rest, shade and when do those -- and what is the
12 trigger for training workers and acclimatization. Then
13 you know, it's -- it's not going to protect workers.

14 And you know, you've got some industries that try
15 to run against OSHA now, saying none of their standards
16 are - are - are legal, and they should be able to just
17 train workers to avoid dangerous equipment. And that's
18 going back to sort of before OSHA, when we know that
19 three times as many workers were killed on the job and
20 that's with half the workforce.

21 MR. BARAB: This is Jordan Barab. So I spent, as
22 I mentioned, 16 years working for a labor union. And a

1 good part of that time I spent training workers out in
2 the field. One thing you understand very quickly when
3 you do that is the differing power relationships in
4 workplaces. You can train workers or employers all you
5 want. I mean, workers will understand how much water
6 they need, how much rest they need, and how much
7 acclimatization they need. But they mostly have zero
8 control over any of that. They can't, as Debbie said,
9 can't just take a break anytime they want. They can't
10 just go get water anytime they want. They can't
11 acclimatize themselves because, you know, that's not
12 within their control.

13 So they don't have -- again, all the training in
14 the world is great. People need to be -- understand
15 what -- what -- what the factors are. But if you don't
16 have -- as a worker, if you don't have control over
17 whether you can implement any of those, they're fairly
18 worthless. Again, you can train employers to and it's
19 great. I mean, I think the more -- the more training,
20 the better. And I think it's important that the OSHA
21 standard not only requires the training of workers, but
22 also the training of employers. But again, unless

1 there's nothing there requiring employers to implement
2 those, you know, the -- the factors that are -- that
3 are stressed in the training, it's fairly worthless.

4 So training, as Debbie said, is very important,
5 it's necessary, it's essential. But it's not --
6 it's -- it's not -- you know, it's not sufficient to
7 really solve the problem, unless you actually have
8 requirements there that -- that require employers to
9 actually implement the factors in the training.

10 MS. ARBERRY: Chenay Arberry with the AFL-CIO. My
11 final question, since you're all hinting at this, so
12 why are workers particularly at risk from heat hazards
13 more so than the average citizen?

14 MR. BARAB: This is Jordan Barab. I think the
15 main reason is, going back to what I just said, you
16 know, workers don't have control over their lives at
17 work, in general. I mean, if they are in a union, they
18 have a lot more control than if they're not. But as we
19 know, you know, the vast majority of American workers
20 are not - do not belong in unions and do not work under
21 union contracts. So I can go out from my air-
22 conditioned house to go to the store and walk all the

1 way to my air-conditioned car and then go into an air-
2 conditioned supermarket. And if I'm out, you know,
3 walking the dogs, I can cut that short and come back
4 home to my air-conditioned house.

5 Workers do not have that option. They are in
6 their workplaces 8 or 10 or 12 hours a day. And you
7 know, without a standard like this, they have no
8 control. They can't just, you know, go get in an air-
9 conditioned vehicle or an air-conditioned rest area
10 unless the employer, you know, is enlightened and lets
11 them do that. And we know a lot of employers do that,
12 but there are still far too many who don't.

13 So I think - I think that is the major factor
14 that - you know, whereas everybody is subjected to heat
15 if they go outside or if, unfortunately, they don't
16 have air-conditioning, there are options that you have
17 if you're not a worker that - that workers, who have
18 little control over working conditions in their
19 workplace, just don't have.

20 MR. MICHAELS: And if I can add -- this is David
21 Michaels -- the other component of work for many of the
22 nation's workers is that work is strenuous, that it's

1 not simply sitting in office, though at a high enough
2 temperature and humidity that alone can be dangerous.
3 But the hard work that's done by agricultural workers,
4 by construction workers, by workers on the tarmac who
5 are unloading luggage, or in cemeteries digging holes,
6 this is -- this adds to the risk of extreme heat.

7 When I refer to the work-rest matrix that the Army
8 used -- used for healthy young soldiers in Afghanistan
9 and Iraq, where it got very hot, there were categories
10 for the most strenuous work. That's something that
11 employers need to think about and consider. It's -
12 it's obviously somewhat complicated. And strenuousness
13 can't be easily measured in a totally objective way,
14 but it's pretty clear that if you're doing work which
15 even in non-heat works up a sweat, then in heat
16 situations is going to be particularly dangerous.

17 And that -- that's what's different about this
18 than just saying that heat is a risk to anybody who's,
19 in the United States, that it's a risk to everybody
20 sort of like a virus that's going around. It's totally
21 different. Work is strenuous, and that strenuousness
22 greatly increases the risk of injury, illness and

1 death.

2 JUDGE BOUCHER: Okay. Ms. Arberry, is that all?

3 MS. ARBERRY: Yes. Thank you so much, Your Honor.

4 JUDGE BOUCHER: Okay. Thank you. Mr. Roberts,
5 who's next, please?

6 MR. ROBERTS: We have Mr. Marc Freedman.

7 JUDGE BOUCHER: Thank you. Mr. Freedman, please
8 identify yourself and your affiliation for the record.

9 MR. FREEDMAN: Hi, good morning. I'm Marc
10 Freedman with the U.S. Chamber of Commerce. Good
11 morning, Dr. Michaels. Been a while since we've
12 interacted. My question to you is the idea that you
13 seem to concede that flexibility is desirable. You've
14 noted several times that the OSHA standard is flexible.
15 I'd like you to help me understand how you see it as
16 flexible. The way I read the proposal, it doesn't
17 allow for any variations in location or nature of jobs
18 or employers or any of the other things that we would
19 likely consider indicia of flexibility. So help me
20 out. How is the OSHA proposal flexible?

21 MR. MICHAELS: Well, Mr. Freedman, it -- it's
22 always nice to see you. You can't see me because we're

1 having technical difficulties, but you can hear me.
2 No, I mean, the -- the -- the ability to select
3 different engineering controls, for example, the use of
4 fans at various points. There's flexibility. It gives
5 employers the ability to think about how are we going
6 to make sure workers are cool, is -- you know, is one
7 example. There are certain things that -- that are
8 biological or physical facts, you know, temperature --
9 a temperature reading is something that I don't think
10 lends itself to flexibility because employers need to
11 know at what point do certain controls -- are they
12 triggered? And that's really what this does. It gives
13 employers some ability to think about how they're going
14 to address these differently, to make sure workers are
15 safe.

16 MR. BARAB: If I could add one thing there. Marc,
17 good to see you again as well.

18 MR. FREEDMAN: And who are you?

19 MR. BARAB: I'm sorry. My name is Jordan Barab.
20 I -- you mentioned -- you mentioned also flexibility in
21 terms of location. Now this continues to puzzle me,
22 the location argument. We've heard that over and over

1 again. You know, witnesses have said, well, you know,
2 it's much more humid in the south than it is in the
3 north. But we all know that the heat index actually
4 takes humidity into account. Workers may be more --
5 you know, workers, whether they're in the north or
6 south need, you know, acclimatization.

7 And while it's true that workers in the south and
8 hot states may tend to be more acclimatized than
9 workers in northern states, the fact is that the OSHA
10 standard provides flexibility for that by exempting
11 workers who can show that they've been working in
12 similar jobs and under similar conditions for the last
13 14 days. So I -- I just don't see any justification
14 for -- for any kind of geographical differences or
15 geographical quote unquote, "flexibility" in the
16 standard. All that is taken into account by the
17 measures and by the requirements and whatever
18 exemptions are in the standard already or in the
19 proposal already.

20 MR. FREEDMAN: Okay. I mean, I -- my -- my
21 feeling is I don't think --

22 JUDGE BOUCHER: Your name again, sir?

1 MR. FREEDMAN: My name is still Marc Freedman.
2 I'm still with the US Chamber of Commerce. I guess
3 I'm -- you know, we're going to have this debate going
4 forward. And I -- you know, you guys have your views
5 on whether this is flexible. And I think we're going
6 to have our views on whether -- whether it is or is
7 not. So we'll continue that discussion, I think.

8 One other question I had for Dr. Michaels, and I
9 think this is specific to him, you -- you've talked
10 about your experiences with the Deepwater Horizon
11 disaster. And you were very aware of the problems with
12 heat and heat exposure. I'm curious why you didn't
13 initiate a rulemaking during the time that you were
14 running OSHA?

15 MR. MICHAELS: That is a really good question.
16 Essentially, to be frank, we didn't have the bandwidth.
17 The OSHA standard setting body -- office is relatively
18 small. We were putting all of our resources into a
19 standard for silica exposure. Workers were - you know,
20 that effects more than a million workers.

21 MR. FREEDMAN: I remember that one.

22 MR. MICHAELS: And we knew that as we - every OSHA

1 standard has to be letter perfect, with extensive
2 studies because we know organizations like yours take
3 OSHA to court. And every "I" has to be dotted, every
4 "T" has to be crossed, in order to ensure that we've
5 answered every single comment and query. And it's hard
6 work, and it requires a lot of resources. And the OSHA
7 silica standard was 600 Federal Register pages, which
8 is 18 -- 1800 manuscript pages. The standard actually
9 is very short, but all the supporting documents to show
10 that you've considered every one of these issues.

11 And we looked at heat and we said, you know, we
12 didn't have the strength then to do it. And so
13 therefore we said we need to do something. So we
14 launched this water, rest, and shade campaign, which we
15 thought was useful and effective, but in a limited way.
16 We think it definitely encouraged employers to do the
17 right thing, and some did. But we also evaluate to say
18 it was not as adequate as the standard.

19 Perhaps what we should have done was initiate
20 rulemaking to say at least it's on the regulatory
21 agenda. But we didn't do that, and I regret that. I
22 think the climate -- things have gotten really very

1 pressing. Every summer is getting warmer. And we
2 really need to address the issue of heat now.

3 MR. FREEDMAN: One other thought along those
4 lines, you did make a big push for your I2P2 effort,
5 the Injury and Illness Prevention Program standard,
6 which would have been the all-encompassing workplace
7 health -- workplace safety program. Had that gone
8 through, I have to wonder how it would have addressed
9 heat and whether, in fact, at that point, you would
10 have been looking at something more like a performance-
11 oriented approach to heat.

12 MR. MICHAELS: Yeah, I think that's an interesting
13 discussion we should have a beer over. But the
14 decision was made at a higher level than me to focus
15 primarily on silica and not the I2P2. And therefore we
16 had limited resources. They went into silica. We
17 issued what I think is a very important standard. And
18 I think it's time for OSHA to move forward and issue
19 both a heat standard and I would like to see an injury
20 and illness prevention program standard as well.

21 MR. FREEDMAN: So just to complete the thought, if
22 the I2P2 -- I'm sorry, this is still Marc Freedman.

1 I'm still with the Chamber. If the I2P2 program had
2 gone through, I have to imagine you would have expected
3 heat to be included. And yet, it wouldn't have had any
4 of the specification requirements that the current
5 proposal had. Would you have been satisfied at that
6 point with heat being included under an I2P2 approach?

7 MR. MICHAELS: Well, you know, this is sort of -
8 I'm sorry, this is David Michaels. And this is one of
9 these necessary but not sufficient. Every employer
10 should have a plan to address injuries and illnesses,
11 and that would include heat as well as silica and
12 standard -- and other hazards that OSHA has a standard
13 for and the standard -- and hazards that OSHA doesn't
14 have a standard for. But standards still have a very
15 important role. You wouldn't say, we don't need a
16 silica standard because every employer has to include
17 silica in their injury and illness prevention plan.

18 So while it would, again, move some employers
19 forward to do the right thing, you still need those
20 programmatic components for -- for important hazards
21 and heat certainly would be one of them. So if -- this
22 is, obviously, I'm not sure speculation, but just

1 thinking about what might have happened. But if we had
2 an injury -- Injury and Illness Prevention Program
3 standard, a requirement that every employer do that,
4 which is a requirement, for example, in most other
5 developed countries, I think you would still want to
6 have a heat standard. But it would also tell employers
7 on the way to do that, that you have to consider heat
8 and think about how you're going to make sure workers
9 are protected. And once you have a heat standard,
10 employers would say, okay, how are we going to meet
11 that heat standard?

12 MR. BARAB: And this is -- this is Jordan Barab.

13 JUDGE BOUCHER: Hold on. I apologize, I you know,
14 if you need one moment to respond, that's okay. But I
15 do need to start moving us along. We have three more
16 witnesses before lunch. And so --

17 MR. FREEDMAN: I've had my fill, Your Honor.
18 Thank you.

19 JUDGE BOUCHER: Okay. Thank you, Mr. Freedman.
20 Mr. Barab, do you need to respond, or are we good?

21 MR. BARAB: Very shortly. This is Jordan Barab.
22 You have to look also at California, which has an I2P2

1 standard, but also has felt the need and, I think we've
2 seen, the usefulness in issuing a number of other
3 standards there covering heat, workplace violence,
4 infectious diseases, and a number of other hazards.

5 JUDGE BOUCHER: Thank you. Okay. Mr. Roberts,
6 who is our last online participant with questions.

7 MR. ROBERTS: So we have Mr. Parsons. Travis
8 Parsons.

9 JUDGE BOUCHER: Okay.

10 MR. ROBERTS: Mr. Parsons?

11 JUDGE BOUCHER: Mr. Parsons, please identify
12 yourself and your affiliation.

13 MR. PARSONS: Travis Parsons with Laborers' Health
14 and Safety Fund of North America. Can you hear me?

15 JUDGE BOUCHER: Yes, go ahead.

16 MR. PARSONS: Yeah. My -- my connection was a
17 little sketchy earlier, so it's gotten a little bit
18 better - maybe the weather. But anyways kind of along
19 the same lines of the previous discussion - and this is
20 for David Michaels and anybody else on the panel,
21 because you all worked together in the same
22 administration. In your tenure of setting standards at

1 OSHA, have you ever heard this whole argument about
2 one-size-fits-all approach for other OSHA standards
3 and, you know, that it's going to put people out of
4 business? And could you expand on that one-size-fits-
5 all idea?

6 MR. MICHAELS: David Michaels here. Thanks, Mr.
7 Parsons. Yes, we always hear that. That comes right
8 out of the playbook of people who don't want to see
9 OSHA standards because, you know, you could cut and
10 dice OSHA standards, many different -- for every
11 different industry, for every different condition.
12 OSHA sometimes looks at some industries and says, well,
13 we -- we need a special standard, for example, in
14 construction, because construction has silica exposure
15 very different than manufacturing and the processes are
16 different. But heat really requires the same
17 approaches. We're talking about how to protect
18 individuals from these environmental conditions that
19 will affect them. And we're not talking about the way
20 the work is done, we're talking about how the worker is
21 protected. And so in this case, really one size does
22 fit all.

1 MR. PARSONS: Thank you.

2 JUDGE BOUCHER: Anything else from our other
3 panelists?

4 MS. BERKOWITZ: Oh, I -- this is Debbie Berkowitz.
5 I just want to agree with Dr. Michaels and -- that --
6 and we've seen it in other states like California,
7 which is a huge state, and Oregon, where you have one
8 standard and all employers are able to adopt it to
9 their specifics. You know, as opposed to a standard
10 just on grain dust, which just affects, you know,
11 certain employers that have the grain dust in them.
12 But you know, in the end, the standard only affects you
13 if -- if heat is an issue in your workplace.

14 MR. PARSONS: Thank you very much.

15 JUDGE BOUCHER: Mr. Parsons, anything else?

16 MR. PARSONS: Nope, that's it. Thank you.

17 JUDGE BOUCHER: Thank you. Okay. I think that
18 was it for questions. Yes, Mr. Roberts?

19 MR. ROBERTS: There is one more person with a
20 raised hand in the queue.

21 JUDGE BOUCHER: Okay.

22 MR. ROBERTS: Ms. Micki Siegel de Hernandez.

1 MS. SIEGEL DE HERNANDEZ: Hi, this is Micki Siegel
2 de Hernandez. I have a question that's related to -

3 JUDGE BOUCHER: Could you please -- I apologize.
4 Could you please keep your voice up because it's a
5 little bit hard to hear you and just identify any
6 affiliation you have.

7 MS. SIEGEL DE HERNANDEZ: Sure. This is Micki
8 Siegel de Hernandez, and I'm from the Communications
9 Workers of America. My question for any of the
10 panelists is regarding section (f) of the proposed
11 standard, the requirements at or above the high heat
12 trigger, specifically, regarding the observation for
13 signs and symptoms for employees who are alone at a
14 work site. And OSHA gives some options about the
15 employer maintaining a means of effective two-way
16 communications and contact being made with employees at
17 least every two hours. My question is, can you comment
18 on the feasibility of this, and do you have any
19 examples from the work that you have done as part of
20 OSHA or what you have seen for remote and lone workers?

21 MR. BARAB: Hi, Micki. Hi, this is Jordan Barab.
22 I don't have any specific knowledge of that. I do have

1 some knowledge with - in general with workers alone.
2 Again, I've worked with, you know, workers -- AFSCME
3 members, for example, who worked out on their own in
4 housing developments or other places where they were
5 working alone, in rather dangerous environments, all
6 the way back into the 1980s, before there were cell
7 phones. And it was really difficult back then to
8 communicate with these workers and our members. Cell
9 phones have made a major change in that in that you
10 can, you know, get in touch with workers at any time.
11 There are all kinds of different, you know, electronic
12 communication devices that can be used even where -
13 where cell phones don't necessarily reach. So I think
14 technologically, I think there certainly -- it
15 certainly is feasible to do that.

16 MS. LEVIN: Your Honor, this is Jennifer Levin
17 from the Solicitor's Office. I just wanted to remind
18 the witnesses that they can supplement their comments
19 with post-hearing comments, if they think of any
20 responses to -- to this question or other questions.
21 Just in the interest of time. Thank you.

22 JUDGE BOUCHER: Okay. Ms. Hernandez, anything

1 else?

2 MS. SIEGEL DE HERNANDEZ: No, that was my
3 question. And thank you, Jordan, for your answer.

4 JUDGE BOUCHER: Thank you. All right. I -- I
5 believe that's all with questions for these panelists.
6 So thank you very much, Dr. Michaels, Mr. Barab, Ms.
7 Berkowitz. We appreciate your time. And let's go
8 ahead and move to our next witness.

9 MR. ROBERTS: Your Honor, our next witness is
10 Ellen Widess. It does not appear Ms. Widess is in the
11 attendee list, so I would just request if she is logged
12 in under an alternative -- alternative name, if she
13 could raise up -- raise her hand. And if not, then we
14 should -- I assume we're okay to move to the next
15 witness, Ms. Michelle Garner-Janna, from What Works
16 Institute.

17 JUDGE BOUCHER: Yes. Ms. Garner -- Garner-Janna,
18 do we have you?

19 MR. ROBERTS: Yes, she's coming now.

20 MS. GARNER-JANNA: Are you able to hear me?

21 JUDGE BOUCHER: Yes.

22 MS. GARNER-JANNA: Okay, hi. Thank you.

1 JUDGE BOUCHER: Please go ahead and state your
2 name and affiliation.

3 MS. GARNER-JANNA: Hi. Yes, my name is Michelle
4 Garner-Janna. And I'm the Chief Experience Officer and
5 co-founder of the What Works Institute. So good
6 morning, members of the panel and fellow participants.
7 I'm honored to be here today and appreciate the
8 opportunity to share a few comments on the proposed
9 federal heat standard.

10 First, I'd like to express my sincere appreciation
11 to OSHA for putting together this proposed standard.
12 It represents a truly meaningful step in protecting
13 workers across the country from the very real risks of
14 heat stress and heat-related illness. I know a
15 tremendous amount of thought and effort has gone into
16 this work, and I want to acknowledge and thank the
17 agency for its commitment to worker health and safety.

18 This standard has the potential to be
19 transformational, especially for industries and regions
20 that are increasingly impacted by extreme heat. A
21 consistent national approach will help ensure that all
22 workers, regardless of where they are or the jobs that

1 they do, are safeguarded in environments that can
2 sometimes be unpredictable and unforgiving.

3 On behalf of the What Works Institute and the
4 member companies we work with, I submitted written
5 comments that reflect a variety of industry
6 perspectives. The goal of these comments is to offer
7 ideas that we believe can help make the standard more
8 workable for employers without losing sight of the core
9 priority, which is keeping workers safe. In the time I
10 have today, I'd like to share a few of the high-level
11 key themes from those comments.

12 First, embracing technology for monitoring. The
13 ability to use remote monitoring tools, particularly
14 for hazard identification and response, can be a game
15 changer. These technologies can offer real time data
16 and provide another layer of protection, especially in
17 more isolated or dynamic settings.

18 Two, practical approaches to observation and rest
19 breaks. We've suggested a bit more flexibility in how
20 high heat observation and rest break requirements are
21 applied. For instance, in small team settings allowing
22 employees to watch out for one another rather than

1 requiring strict buddy systems, can reflect how teams
2 already function safely and effectively. Similarly,
3 many employees already take rest breaks when needed,
4 supported by training and good communication.
5 Acknowledging these practices could help ease
6 implementation without sacrificing safety.

7 Third, acclimatization considerations. This is an
8 area where a one-size-fits-all approach can be
9 difficult to apply. Workload, work site conditions,
10 and employment types - like temporary rotating workers,
11 for example - can all influence how acclimatization
12 happens. We've recommended building in some
13 flexibility here to make - to help make the
14 requirements more practical across different
15 industries.

16 Fourth, drawing on lessons from California and
17 other jurisdictions. California's experience has
18 taught us a lot. We believe that there are helpful
19 elements that could inform the federal approach, such
20 as how water quantity is defined or how indoor cool
21 down areas are described. Clear definition and
22 consistent language can really help with compliance and

1 understanding.

2 And fifth, a few clarifications we hope can be
3 considered. We've also asked for a few clarifications,
4 such as allowing safety committees to gather worker
5 input, recognizing alternative monitoring methods
6 besides WBGT, and defining what counts as emergency
7 response activities under the rule. These
8 clarifications can help reduce confusion and support
9 better implementation.

10 In closing, I just want to reiterate my thanks to
11 OSHA and to everyone who has been part of this process.
12 The proposed standard is a critical and positive step
13 forward. We hope these comments are received in the
14 spirit they're intended, as thoughtful suggestions to
15 help ensure the final rule is as effective and
16 achievable as possible for the broad range of
17 workplaces it will impact. Thank you again for your
18 time and for the opportunity to share these
19 perspectives.

20 JUDGE BOUCHER: Thank you. Mr. Levinson, any
21 questions from OSHA?

22 MR. LEVINSON: Yes, Your Honor. Andrew Levinson

1 for OSHA. Thank you very much for your testimony,
2 ma'am. And for -- for your NPRM comments. So as
3 you've identified, OSHA has heard from a lot of folks
4 the desire for more flexibility under a performance-
5 oriented approach. Do you have thoughts on how the
6 agency could address either rest breaks or heat
7 triggers or other sorts of issues to offer more
8 flexibility, while still having something that is
9 adequately protective?

10 MS. GARNER-JANNA: Yeah, great question. This is
11 Michelle Garner-Janna with What Works Institute. Yeah.
12 So in the feedback that we've received from -- from
13 various organizations across industries, the request
14 has really been around allowing for an approach that
15 looks at the specific work that's being performed along
16 with the environmental and personal conditions. So
17 using technology to help to understand the -- the task
18 specific conditions that are occurring, as well as
19 things like wearables, for example, to understand how
20 they're impacting the individual.

21 So flexibility is --is, you know, certainly
22 appreciated, but while still allowing for organizations

1 to understand the critical conditions that are -- that
2 are occurring for -- for given -- given tasks. So even
3 within an organization, at times, you know, it may
4 require detailed analysis to -- to come up with the
5 correct -- correct protective requirements.

6 MR. LEVINSON: Thank you. Further expanding upon
7 the use of technology and wearables, either now or in
8 post-hearing comments, do any of your members have
9 experience with wearables and how do they use them to
10 assure that workers are adequately protected? And in
11 particular, what I'm looking at is the tension between
12 using wearables that people might -- to indicate what's
13 physiologically going on with that individual worker
14 compared to heat triggers that might be going on in the
15 environment, and how you could use that to inform
16 decision making in a workplace.

17 MS. GARNER-JANNA: Right. And I only have a
18 handful of examples on using wearables for the
19 physiological aspects. But some that we've received
20 good feedback around are related to understanding
21 dehydration before -- before it actually becomes an
22 issue. So you know, wearables that allow for the

1 detection of things like sweat monitoring, for example,
2 that provide a -- a cue -- usually it's an audio cue --
3 of when -- when employees should stop and take a water
4 break, for example. So we've had some good feedback on
5 some of the physiological aspects. And then from the
6 environment. I don't have good information on how
7 environmental wearables are -- are -- are correlating
8 with the physiological. But I think that's a certainly
9 a good question and something that I can try to
10 research within our member organizations more.

11 MR. LEVINSON: Yeah. Thank you. My last
12 question, I guess, refines, you know, the - the point
13 that I'm trying to -- trying to make. For example - I
14 guess, let me ask a kind of multi-part question. We're
15 interested in your members' experience with cooling PPE
16 or other sorts of technology to reduce workers' risk.
17 And so what I'm getting at with the -- the wearables
18 compared to the environmental exposures is -- for
19 example, if somebody was wearing cooling PPE, their
20 wearable might suggest that the worker is not at risk
21 because the cooling PPE is effective, while the
22 environmental measurements might say this person is

1 above the heat trigger, right? And so there's this
2 tension. The wearables arguably would say this is
3 what's biologically affecting the worker. So that's
4 what I'm looking for is any experience your members
5 have with cooling PPE and or if using wearables and
6 other measures such as cooling PPE allows them to work
7 differently than would be suggested by an environmental
8 trigger.

9 MS. GARNER-JANNA: That's a great question. And
10 unfortunately, I don't have statistical data or any
11 even anecdotal data about the -- about the correlation
12 between those two types. But --

13 JUDGE BOUCHER: It sounds like that that might be
14 a good candidate for post-hearing comments.

15 MS. GARNER-JANNA: Absolutely. Yeah. I'm happy
16 to go back to our members and determine if that's an
17 issue or if it's - you know, if it's something that has
18 actually worked congruently. So great question.

19 MR. LEVINSON: Thank you very much. And Your
20 Honor, that concludes OSHA's questions for the witness.

21 JUDGE BOUCHER: Thank you. Ms. Levin, any
22 questions from the Solicitor's Office?

1 MS. LEVIN: Jennifer Levin for the Solicitor's
2 Office. I have no questions for this witness, but
3 thank you very much for your time and testimony.

4 MS. GARNER-JANNA: Thank you.

5 JUDGE BOUCHER: Thank you. Mr. Roberts, do we
6 have any other online questions?

7 MR. ROBERTS: Your Honor, there are there are no
8 online questions.

9 JUDGE BOUCHER: Then Ms. Garner-Janna, I just want
10 to say thank you very much for your time. We
11 appreciate you being here and sharing your testimony.

12 MS. GARNER-JANNA: Thank you.

13 JUDGE BOUCHER: And Mr. Roberts, I believe we can
14 move on to our next witness.

15 MR. ROBERTS: Yes, Your Honor. The next speaker
16 will be Ruth Wilkinson from the Institute --
17 Institute -- I apologize -- Institution of Occupational
18 Safety and Health. Ms. Wilkinson, please state your
19 name and affiliation.

20 MS. WILKINSON: Hi, I'm Ruth Wilkinson from the
21 Institution of Occupational Safety and Health. Good
22 morning, Your Honor and distinguished members of the

1 subcommittee. Thank you for the opportunity to speak
2 at this important public hearing on OSHA's proposed
3 rule for Heat Injury and Illness Prevention in Outdoor
4 and Indoor Work Settings.

5 So as mentioned, I am Ruth Wilkinson. My role is
6 the Head of Policy and Public Affairs at the
7 Institution of Occupational Safety and Health, which I
8 will refer to it as IOSH. We are the chartered body
9 for occupational safety and health professionals. We
10 have approximately 50,000 members in 130 countries,
11 which includes the US. And we have a vision of a safe
12 and healthy world of work. Next slide please.

13 As an international nonprofit organization, we
14 ethically influence important decisions that affect the
15 safety, health, and well-being of people at work
16 worldwide. We responsibly collaborate with
17 governments, advise policymakers, commission research,
18 set standards, engage with global, regional, and local
19 organizations, and run high profile campaigns to
20 promote -- propose -- to promote awareness of
21 occupational safety and health issues. Next slide
22 please.

1 So on this slide you can just see some of the
2 global collaborations that we have in place and
3 different memorandums of understanding. We've also got
4 special consultative status with the United Nations
5 Economic and Social Council. Next slide please.

6 So IOSH is also a liaison member of ISO TC 283,
7 which looks at health and safety management in the
8 international standard setting remit. And currently
9 this group is looking at an ISO standard 45007, which
10 is titled Occupational Health and Safety Management,
11 Occupational Health and Safety Risks Arising from
12 Climate Change and Climate Action providing guidelines
13 for organizations. And this document is due for
14 publication this year, and it will provide guidelines
15 for organizations and professionals to plan for and
16 address occupational health and safety risks arising
17 from climate change and climate action, which will
18 include occupational health and safety risks which
19 arise as a result of climate change adaption efforts,
20 change in ways of working, of work processes, and
21 infrastructure upgrades. Obviously, not forgetting
22 that there are also other standards internationally

1 available, such as ISO 45001 looking at occupational
2 health and safety management systems, but also the good
3 principles of health and safety, generally, which
4 includes principles of prevention and the hierarchy of
5 control, which can also be applied to this topic. Next
6 slide please.

7 And I'll go to the next slide. I'm just going to
8 skip on from that one please. Lovely. Thank you.

9 At IOSH we're deeply concerned about the growing
10 risks posed by excessive heat in both outdoor and
11 indoor workplaces. The organization I represent has
12 been actively involved in research and campaigning to
13 address the risks of solar radiation and occupational
14 cancers, particularly in outdoor workers. And we've
15 provided a number of resources for employers, such as
16 toolkits, posters, training materials that can help
17 organizations implement some safety policies, but can
18 also introduce educational resources that emphasizes
19 the change in attitudes and behaviors around sun
20 protection that is also needed, especially in sectors
21 like construction, agriculture, and landscaping. So
22 there's a few illustrations on the slide here, but all

1 this information is available on our IOSH website.

2 So I intend to provide this testimony today to
3 highlight the urgent need for an enforceable standard
4 to highlight the vital role of occupational safety and
5 health professionals, that we can also play a part, as
6 well as employers. So we need to support the
7 development of a comprehensive, equitable protections
8 that reflect the realities of the labor force today.
9 And if this rule is progressed in the right direction,
10 it could represent a critical step towards protecting
11 all workers, with my emphasis being on all workers.

12 So this piece of work obviously started with the
13 Biden administration, and it's continuing at the moment
14 with the Trump administration. So the bipartisan
15 momentum in this space of occupational safety and
16 health, particularly around heat illness and injury, is
17 obviously unprecedented. And it reflects a shared
18 understanding that excessive heat is a growing and
19 urgent threat to workers' health and safety, and
20 especially in the face of climate change.

21 Workers across industries, from agriculture,
22 construction, to warehousing and delivery, are

1 increasingly exposed to dangerous temperatures and
2 often without adequate protections. I think the data
3 is speaking for itself and the statistics here. So I'm
4 here today to support the development of a strong,
5 enforceable standard that prioritizes the welfare of
6 all workers and helps leveling the playing field, and
7 particularly for vulnerable workers and for all
8 American workers.

9 And just as OSHA's asbestos standard became a
10 landmark in occupational safety and health, saving
11 thousands of lives by preventing long latency diseases
12 that often appears decades after exposures, the
13 proposed heat stress rule has the potential to be a
14 defining public health achievement of this era,
15 especially as climate change intensifies heat risks.
16 So by learning from the success of the asbestos
17 regulation, OSHA can craft a heat standard that is both
18 lifesaving and equitable.

19 So distinguished members, heat is now the leading
20 cause of weather-related deaths in the US, with
21 thousands more suffering illness. I believe some of
22 the previous hearings have not had a strong emphasis on

1 vulnerable working populations. I'd like to address
2 this gap, if I may.

3 So young workers tend to go off the radar because
4 of their physiological vulnerability and their lack of
5 experience. Migrant workers can also be highly
6 impacted and vulnerable to the health impacts of
7 prolonged exposure to extreme heat. When it comes to
8 professional sectors, workers involved in labor
9 intensive physical activity, such as working in
10 agriculture, forestry, public spaces, road repair,
11 fisheries, construction, mining, quarrying and so on,
12 should be provided with enhanced protections. And
13 special attention should be given to these workers
14 being employed in states where prevalence of heat
15 stress is critical, such as Texas, Mississippi, and
16 Florida.

17 Indoor workers continue to be at risk of heat
18 stress that may increase during heat waves, especially
19 those who work in poorly cooled buildings, in cabin
20 operated machinery without cooling, and in settings
21 with high industrial heat production, and those who
22 carry out heavy physical work, as well as those who

1 might be using personal protective equipment in hot
2 conditions. So it's important that we look at both
3 those indoor and outdoor workers.

4 Another aspect that we would like to draw the
5 committee's attention to is the urgent need for the US
6 occupational health system to evolve the reactive
7 crisis management to proactive heat resilience. Mary -
8 - many American workplaces still lack on-site
9 occupational health service, especially in small and
10 rural areas. So especially in small businesses and
11 rural areas. The numbers of occupational physicians
12 are insufficient to meet the needs of millions of
13 workers, especially in rural and high-risk industries.
14 This limits early detection and prevention of heat-
15 related illness.

16 So we're really coming at this from a prevention
17 led approach. And the proposed -- the proposed rule
18 underestimates the critical role of occupational safety
19 and health professionals, and the role that they can
20 play in helping organizations manage climate-related
21 occupational safety and health risks. These
22 professionals -- I forgot. Next slide, please. And

1 next slide please. And next slide please. Sorry.

2 Next slide please. There we go. Thank you.

3 So these professionals, the occupational safety
4 and health professionals, bring essential expertise to
5 support adaptation strategies, infrastructure upgrades
6 and the integration of climate considerations into risk
7 assessments and emergency planning. They also enhance
8 organizational preparedness by guiding health
9 surveillance, heat action plans, and improving
10 transparency around climate-related risks.

11 A preventative approach to heat-related extremes
12 calls for capacity building in occupational health and
13 safety, occupational health programs, and occupational
14 health surveillance. Good practice in pre-exposure
15 screening and pre-employment assessments have the
16 potential to identify people with permanent and long-
17 standing medical conditions that might mean that they
18 are not suited for physically demanding work in extreme
19 heat conditions. As part of this process, occupational
20 health monitoring and self-assessment becomes critical.
21 But without the foundation of a federal standard,
22 thousands of workers could be left vulnerable. So we

1 agree that the proposal shouldn't constitute a growing
2 burden placed on American employers and workers.

3 On the contrary, regulators must acknowledge the
4 toll of inaction. Each year, extreme heat leads to
5 preventable injuries, fatalities, and billions of time
6 lost in productivity, especially in outdoor and labor-
7 intensive industries. It is for this reason that we
8 welcome this OSHA initiative to mandate written heat
9 illness and prevention plans. We see this as a
10 critical step forward to safeguarding workers from the
11 growing risk of heat exposure.

12 However, we are particularly concerned about
13 companies that may fall outside of the direct scope of
14 this proposed rule. We cannot afford to place the
15 burden of protection solely on employers, especially
16 small businesses, which often operate with limited
17 capacity, informal processes, lean management
18 structures, and they don't always have competent
19 occupational safety and health professionals either.

20 That said, exclusion of them from the standard is
21 also not the answer. Instead, the proposed rule should
22 support small businesses in adapting to their unique

1 circumstances. A practical recommendation is to
2 incorporate flexibility through a pragmatic approach,
3 one that allows small employers to tailor their heat
4 illness prevention programs to the specific resources,
5 workforce, and operational realities that they face.

6 So this rule of this nature can only succeed if it
7 actively promotes education and awareness among both
8 employers and workers about the dangers of heat stress.
9 And it must include specialized training for those
10 working in extreme heat conditions and support the
11 development and dissemination of sector specific
12 guidance.

13 I've got three points I'd like to highlight about
14 how this rule can be effective. So one, technical
15 assistance to employers for emergency planning and
16 implementation. Two, to provide clear identification
17 of heat-related illness in high-risk work groups. And
18 three, accessible information on prevention strategies
19 and protective measures. So we therefore recommend the
20 establishment of a national training program for
21 employers and workers, supported by the technical
22 expertise of occupational safety and health

1 professionals. We see that these programs should guide
2 employers in preparing, reviewing and continuously
3 improving their policies, procedures and practices for
4 those who are working in high heat conditions.

5 So at IOSH, we look forward to continuing our
6 contribution to this vital dialog. And thank you once
7 again for the opportunity and our 15 minutes to testify
8 today. I now welcome any questions that you may have
9 and that the slides can come off the screen. So thank
10 you ever so much.

11 JUDGE BOUCHER: Thank you, Ms. Wilkinson. Mr.
12 Levinson, any questions from OSHA?

13 MR. LEVINSON: Yes, Your Honor. OSHA's first
14 question comes from Stephen Schayer.

15 MR. SCHAYER: Yes, hello. Stephen Schayer from
16 OSHA Directorate of Standards and Guidance. First,
17 thank you, Ms. Wilkinson, for your testimony. We
18 appreciate you being here today. I had a question
19 about your written comments. In the written comments
20 you submitted to the agency, you recommended that
21 acclimatization procedures be implemented with --
22 within the course of a ten-day period. And one option

1 that OSHA had proposed for acclimatization for new
2 workers was a gradual exposure option, where exposure
3 to the heat increases by 20 percent per day. So just
4 wondering, either now or in your post-hearing comments,
5 if you could explain how acclimatization over a ten day
6 period would be preferable to what was proposed?

7 MS. WILKINSON: Yes. Thank you ever so much for
8 that question. I think the -- the importance here is
9 that this standard is based on the evidence and the
10 research provided. So on that basis, I would like to
11 take the opportunity to respond to this one outside of
12 the hearing, the post-hearing comments, to make sure
13 that it's a full answer and that we can guide and
14 confirm our thinking on this one. So thank you,
15 Stephen. Thank you.

16 MR. SCHAYER: Sure. That would be great. Thank
17 you, Ms. Wilkinson. That concludes my question, Andy.

18 MR. LEVINSON: All right. Your Honor, the next
19 question from OSHA comes from Eduardo Hernandez.

20 MR. HERNANDEZ: Hi, Ms. Wilkinson, good morning.
21 Eduardo Hernandez, Standards and Guidance, OSHA. So
22 one, if you have any examples of your campaign

1 materials around heat that you would be willing to
2 submit in post-hearing comments, we definitely
3 appreciate that.

4 And I have one question on the heat injury and
5 illness prevention plan. And again, it focuses on your
6 written comment. So you expressed concerns for the
7 exemption for small employers from the written plan and
8 reiterated that those workers would be unprotected by
9 the proposed standard. So but you also kind of
10 mentioned that OSHA should allow for a, quote,
11 "maneuver margin, by providing flexibility with a
12 programmatic approach for those small businesses to be
13 able to tailor their plans to their circumstances", end
14 quote. So what elements of the HIIPP could be more
15 programmatic in nature for small businesses if OSHA
16 were to require a written HIIPP?

17 MS. WILKINSON: Oh, thank you, Eduardo. So as I
18 was coming to your first point about examples of
19 campaign material, we'd be more than happy to share
20 those. A lot of the material came under our No Time to
21 Lose campaign, but we've got a wealth of evidence and
22 research that's looked into solar - solar radiation,

1 where workers are working out in the sun, but also some
2 of the tools that have been there. So I will submit
3 those.

4 And I suppose coming to your -- your second
5 question around the -- the prevention plan and those
6 small medium enterprises. We do see that this section
7 of businesses, they are sort of that harder to reach.
8 And how do you support, given that -- for all the
9 reasons I've just mentioned really. And it's -- I
10 suppose that's the key bit that we'd like to hit. As
11 you can see that I think the bulk of individuals -- and
12 I think it's sort of 80 percent we said in our written
13 submission -- hitting that SME market. And again, I
14 will come back, Eduardo, with some examples here.

15 But I think where that proportionate response and
16 that flexibility and the amount of guidance and
17 training that you can support these organizations to
18 implement the good practice, you know, sort of
19 following on from all the conversations that people
20 have said. And the -- I know that the ILO, the
21 International Labor Organization, have done some
22 research on this as well and even said where in small

1 medium enterprises you can use sort of the -- the wet
2 bulb globe option. So I will look to compile all those
3 together and we'll submit in the post-hearing feedback
4 if that's okay as well. Thank you.

5 MR. HERNANDEZ: Yes. Thank you so much. That's
6 it for me.

7 MR. LEVINSON: And Your Honor. OSHA's next
8 question comes from Tiffany DeFoe.

9 MS. DEFOE: Hi. For the record, this is Tiffany
10 DeFoe with the Directorate of Standards and Guidance,
11 OSHA. So my -- so firstly, in your written comments,
12 you made a recommendation -- you made recommendations,
13 as we mentioned previously, about acclimatization. And
14 then, just immediately following your recommendation
15 for gradual adjustment there, you stated that a similar
16 approach could be considered based on NIOSH and CDC
17 evidence to accommodate the proposed 15-minute rest
18 ratio as temperature levels increase. And I'm just
19 asking, either now or in post-hearing comments, if you
20 could expand a little bit on -- on what you are
21 recommending that we consider doing because I'm -- I
22 apologize, but I'm just not -- I don't think that I'm

1 fully understanding what you're intending to recommend.

2 MS. WILKINSON: No thank you. Oh, no. Thank you,
3 Tiffany. So I will -- I'll write that up in the post-
4 hearing comments, just to confirm on that and to also
5 bring in the -- the evidence that that's based on. So
6 thank you.

7 MS. DEFOE: And then I just -- also just wanted
8 to -- we already have asked you to provide further
9 information about the flexibilities that may be
10 appropriate for small and medium businesses. And I'd
11 like to ask if you would include in that commentary,
12 specifically, your thoughts about the appropriateness
13 and how it might -- you know, and if appropriate, how
14 it might feasibly be done, to add flexibility to -- to
15 what we have proposed for the rest break requirements
16 in the proposed standard?

17 MS. WILKINSON: Lovely, I will do. I'll add that
18 to that submission piece as well. Thank you.

19 MS. DEFOE: Thank you very much. That's all I
20 have.

21 MR. LEVINSON: Thank you, Your Honor. The next
22 question from OSHA comes from Patti Downs.

1 MS. DOWNS: Hi. Patti Downs with the Directorate
2 of Standards and Guidance at OSHA. Ms. Wilkerson, I'm
3 interested in learning are there any controls that OSHA
4 should consider that were not mentioned in the
5 proposal?

6 MS. WILKINSON: Yeah. Good question. Thank you,
7 Patti. And I think that having gone through -- I mean,
8 we come from that prevention first based approach, the
9 hierarchy of control. And having looked at the
10 standard, although we have highlighted areas where we
11 think it can be improved, such as that -- all the
12 questions that I've just sort of had posed to me, I
13 think, in the main, it does follow the -- the control
14 measures that one would expect to see in there.

15 Obviously, the challenge is in the delivery, the
16 enforcement, the implementation, as we've just
17 mentioned, with the -- the -- the majority of
18 businesses being small, medium and -- enterprises, so
19 how we support that. So what we really advocate for is
20 that -- that prevention first approach comes through in
21 the first main, and then obviously following that
22 hierarchy of control that we -- you do implement that.

1 So and the key bit is around that education and
2 training and those collective control measures. So
3 that there's the climate change -- so the -- the
4 adaption methods that you can put into the times of
5 working, the dark times in the day, the breaks, the
6 rest periods are then those cooling hours. So I think
7 that that's -- that's all covered. It's how that then
8 comes out and that gets communicated and educated to
9 all the key players, from workers to the employers, and
10 also toolkits that can help support this to be
11 implemented.

12 And again, in our research, I know when we've
13 looked into sun safety -- I know one of our research
14 areas looked at how technological tools could support
15 some of that education and behavioral change. So
16 again, in our written submission, I'll -- I'll look to
17 pull -- pull some of that out as well.

18 MS. DOWNS: That would be great. Thank you so
19 much. That's all for me.

20 MR. LEVINSON: Your Honor, that concludes OSHA's
21 questions.

22 JUDGE BOUCHER: Thank you. Ms. Levin, anything

1 from the Solicitor's Office?

2 MS. LEVIN: Yes. At this time, I'd like to
3 request that the PowerPoint presentation by the
4 Institution for Occupational Safety and Health be
5 admitted into the record as Exhibit 12.

6 JUDGE BOUCHER: It is -- it will be admitted.

7 MS. LEVIN: Thank you. No -- no further questions
8 from me. Thank you very much to the witness for her
9 time and testimony.

10 MS. WILKINSON: Thank you ever so much.

11 MR. ROBERTS: Your Honor, you're on mute.

12 JUDGE BOUCHER: It's hard to remember. Do we have
13 any other questions from online participants?

14 MR. ROBERTS: We have no questions from the online
15 participants.

16 JUDGE BOUCHER: Okay. Then, Ms. Wilkinson, I just
17 want to say thank you very much for your testimony. We
18 appreciate your time today.

19 MS. WILKINSON: Thank you, Your Honor. Thank you,
20 everybody else, panelists and committee.

21 JUDGE BOUCHER: Is there anything else before we
22 adjourn for the lunch break?

1 MR. ROBERTS: Your Honor, there's been a request
2 to see if we could maybe try and call Ms. Ellen Widess
3 again. We don't see her, but maybe if she is -- if
4 that's okay with you.

5 JUDGE BOUCHER: Sure. Yes. Ms. Widess, if you're
6 there, please make yourself known.

7 MR. LEVINSON: Your Honor, since it appears Ms.
8 Widess is not making herself known, just for the
9 record, that if she has any post-hearing comments, we
10 are certainly welcome to -- to receive them as she has
11 filed a timely notice of intent to appear.

12 JUDGE BOUCHER: Thank you. Anything else?

13 MS. LEVIN: Nothing from me, Your Honor.

14 JUDGE BOUCHER: Okay. And it sounds like we are
15 finished with our morning session. So we are
16 adjourned. We can go off the record. We'll be on
17 lunch break until 1 o'clock, and we will reconvene and
18 resume the proceedings at that time. Thank you
19 everybody.

20 (Lunch break.)

21 MR. ROBERTS: This is Drew Roberts from OSHA as
22 OSHA's contractor. It is 1 p.m. Eastern Time, and we

1 are rejoining OSHA's informal rulemaking hearing for
2 heat injury and illness prevention in outdoor and
3 indoor work settings.

4 Before we begin, we'd like to go over some
5 logistics for today's public hearing. As a reminder,
6 all attendees are muted automatically. All Webex
7 attendees can access closed captioning and translated
8 captioning by clicking the CC icon in the lower left-
9 hand corner of the application. You can individually
10 select your caption language if translation is
11 required. I will now share the same slide in Spanish.

12 All YouTube viewers will have access to auto
13 translation the day after the hearing. All Webex
14 attendees delivering testimony will have access to a
15 countdown timer to ensure allotted time is adhered to.
16 We will launch the timer for you, and it should be seen
17 on the right-hand side of your screen. If you do not
18 see this app when launched in your Webex window, please
19 follow the instructions on the screen to manually
20 launch this app.

21 If you are speaking today, you will receive a
22 notification on your screen that you are being promoted

1 to the panelist group a few minutes before it is time
2 to give your testimony. Once promoted to the panelist
3 role, you'll be able to unmute and turn on your camera.
4 We ask that you do not unmute or turn on your camera
5 until your name has been called, and you've been asked
6 to start your testimony. Speakers connected by
7 telephone should unmute their phones when called to
8 testify.

9 If you submitted a presentation in advance, we
10 will share the file and advance the slides. Please cue
11 us verbally by saying next slide when you need us to
12 advance. Depending on timing, there may be the
13 opportunity to ask questions of other speakers giving
14 testimony. You may press the raise hand button at the
15 bottom of the Webex application to indicate that you
16 have a question. If there is time, you'll be called on
17 by name and promoted to the panelist group to unmute
18 and ask your question. If you have any technical
19 difficulties, please send an email with your name and
20 phone number to public_hearing@abtassoc.com.

21 Your Honor, do you want to say anything or should
22 I continue?

1 JUDGE BOUCHER: No. I think if we're ready to
2 proceed with our remaining witness testimony, we can go
3 ahead.

4 MR. ROBERTS: We'll continue with the testimony.
5 The expected speaking order is displayed on the screen.
6 And I will introduce each speaker in turn. First
7 speaker will be Ashley Gregor, who I do not see in the
8 list. Ms. Gregor, if you could raise your hand if
9 you're under a different name.

10 MS. GREGOR: I'm here.

11 MR. ROBERTS: Oh. You're -- look at that. You're
12 already there. Please state your name and affiliation
13 for the record.

14 MS. GREGOR: Thank you. Good afternoon, and thank
15 you for the opportunity to speak with you today. My
16 name is Ashley Gregor, and I am an assistant attorney
17 general in the Environmental Protection Bureau of the
18 New York State Office of the Attorney General. Along
19 with 15 other state attorneys general, New York
20 submitted comments on OSHA's proposed rule, urging the
21 agency to finalize its heat standard as soon as
22 possible. In addition, New York has twice petitioned

1 OSHA to issue emergency temporary standards to protect
2 workers from extreme heat, and we've also called on
3 Congress to pass legislation that would require OSHA to
4 promulgate a heat standard. And New York may not be
5 the first place that comes to mind when we think about
6 extreme heat, but in our rapidly changing climate, no
7 state is immune from dangerously high temperatures.

8 In recent summers, New York has experienced
9 sustained heat waves and oppressive humidity that
10 imperil the health and safety of millions of our
11 workers, from construction workers in Manhattan to
12 farmworkers upstate. Just earlier this week, much of
13 New York State was under an extreme heat warning. On
14 Tuesday, the heat index reached at least 111 degrees in
15 New York City and 107 in Albany. But every year across
16 the United States, outdoor and indoor workers are
17 exposed to dangerous levels of heat and humidity. And
18 tragically, some of these workers never come home.
19 Just last year, Wendy Johnson, a 20-year veteran of the
20 U.S. Postal Service, died after delivering mail from a
21 postal truck with no air-conditioning during 95-degree
22 heat. Ronald Silver, a 36-year-old-solid waste worker

1 in Baltimore, died from hyperthermia after working
2 outdoors when the heat index was 108 degrees
3 Fahrenheit. Unfortunately, these are not isolated
4 events; rather, they are the predictable and the
5 preventable consequences of inaction. And while
6 nothing can be done to bring these workers back, OSHA
7 can take action to finalize a proposed rule to prevent
8 these types of needless heat-related deaths from
9 happening in the future.

10 Today, I would like to underscore three key points
11 from our multi-state comment letter in support of the
12 proposed rule. First, we need a baseline national
13 standard, and OSHA cannot wait for all 50 states to act
14 on their own. Currently, a handful of states have
15 adopted heat standards, and representatives from some
16 of those states will testify later this afternoon. But
17 others, including some of the most heat vulnerable
18 states, like Florida and Texas, have gone so far as to
19 preempt local ordinances that would protect workers
20 from extreme heat. That means that a worker in Miami
21 or Houston has fewer protections than a worker doing
22 the same job in the same temperatures in Los Angeles or

1 San Diego. Extreme heat doesn't stop at state lines,
2 and neither should basic workplace protections.

3 New York is not an OSHA state plan state, so we
4 depend on federal OSHA, not our state Department of
5 Labor, to set and enforce safety standards for private
6 sector workers. But in the absence of federal action
7 on workplace heat, the New York State Legislature has
8 been forced to try to fill the regulatory gap where
9 federal OSHA should be leading. New York lawmakers
10 have introduced the Temp Act, a bill that would require
11 private employers to implement basic safeguards like
12 water, rest, and shade during high heat conditions.
13 But with competing legislative priorities, the bill has
14 yet to pass. While the Temp Act is certainly
15 commendable, our state legislature should not have to
16 solve a problem that federal OSHA is uniquely equipped
17 to handle. With its health and safety expertise and
18 enforcement infrastructure already operating in New
19 York, OSHA is best positioned to implement a heat
20 standard to protect our workers, and OSHA should not
21 abdicate its responsibility to do so.

22 Second, reliance on existing enforcement

1 mechanisms is not enough. Currently, OSHA relies on
2 the General Duty Clause of the Occupational Safety and
3 Health Act to enforce heat hazards, which requires a
4 case-by-case showing that a recognized hazard existed.
5 This approach is inefficient. It's legally vulnerable
6 and reactive rather than preventative. Plus, it
7 disadvantages employers because without a defined
8 standard, employers have no clear guidance on when and
9 how to act. We need a clear, enforceable standard that
10 allows OSHA to move proactively before a worker
11 collapses from heat stress, not after.

12 Third, OSHA must include strong recordkeeping
13 requirements in the final rule. Recordkeeping is not a
14 punitive or an administrative exercise. Rather, it's a
15 knowledge building tool that supports continuous
16 improvement in employer practices to prevent future
17 harm. That's why our multi-state coalition has urged
18 OSHA to require comprehensive recordkeeping as part of
19 the final rule, including logs of all heat-related
20 incidents, not just those that resulted in
21 hospitalization; documentation of worksite
22 temperatures; acclimatization procedures for new or

1 returning workers, including for H-2A visa workers; and
2 critically, a written heat injury and illness
3 prevention plan that is regularly reviewed and improved
4 as appropriate.

5 In sum, OSHA has the obligation and the moral
6 imperative to ensure that every worker in every state
7 is protected from extreme heat. So let's not suffer
8 through another summer of needless and preventable
9 heat-related worker deaths. Thank you again for the
10 opportunity to testify today, and I'll be happy to
11 answer your questions.

12 JUDGE BOUCHER: Thank you. Mr. Levinson, any
13 questions from OSHA?

14 MR. LEVINSON: Yes, Your Honor. Thank you. And
15 thank you, Ms. Gregor, for your testimony today. OSHA,
16 throughout this hearing, has heard from a number of
17 groups that have called the current proposed regulation
18 a one-size-fits-all standard and argued that we should
19 have a more performance-oriented approach to give
20 employers more flexibility in how they deal with
21 temperature and rest breaks and other aspects of the
22 rule. We're curious to hear your thoughts on whether

1 or not OSHA should allow more flexibility, and if so,
2 how and what sorts of basic requirements should still
3 be in in order to assure workers are adequately
4 protected?

5 MS. GREGOR: Thank you for your question.

6 MR. LEVINSON: And I should offer, in addition to
7 hearing what you have to say now, we also have a post-
8 hearing written comment period. We're happy to hear
9 either now or in post-hearing comments.

10 MS. GREGOR: Thank you, Mr. Levinson, for your
11 question. This is Ashley Gregor speaking again, and I
12 would like to submit post-hearing comments on that
13 particular question. I do have a few initial thoughts
14 about that, though. First of all, I do think that the
15 proposed rule is inherently flexible. It does have
16 basic protections. It has heat thresholds, and at
17 certain thresholds, employers are required to provide
18 basic protections like water, rest, and shade. But
19 they do have flexibility about how to implement those
20 protections, specifically through drafting their own
21 heat injury and illness protection plan, which can
22 include site-specific ways for the employees to stay

1 safe during extreme heat conditions.

2 And I would also say that human bodies are
3 inherently the same. They react to heat in the same
4 way. So I'd like to counter some of the testimony that
5 we heard earlier. I'm thinking specifically of some
6 testimony I heard last Friday that claimed that
7 farmworkers that are part of the H-2A temporary visa
8 program are only here for a short period of time. So
9 these employees are probably already acclimated to the
10 heat. And that statement in particular, I think, is
11 both scientifically flawed, and it's dangerous.
12 Acclimatization is not simply about where someone's
13 from; it's about the specific environmental conditions
14 that the worker is currently exposed to and how their
15 body adapts to those conditions over time. So even if
16 an H-2A temporary farm worker in New York has
17 previously lived in a hot climate, they may not have
18 performed intense physical labor outdoors in similar
19 humidity, in direct sunlight, or at the same pace. So
20 if someone comes from Central America and arrives in
21 New York and begins picking apples for eight to ten
22 hours a day, going up and down a ladder, possibly in

1 full sun or in personal protective equipment, they will
2 be physiologically unacclimated to those new stressors.
3 So human bodies, they react to heat in the same way.

4 Moreover, I think that making assumptions about
5 workers' heat tolerances based on their country of
6 origin and their race or their ethnicity is not only
7 unsupported by occupational health research, but it
8 also risks reinforcing really discriminatory and
9 exploitative labor practices. Heat illness is a
10 physiological process; it's not a cultural trait. So
11 all workers, regardless of where they're from, deserve
12 evidence-based protections and basic protections, such
13 as water, rest, and shade. And I think that the
14 proposed rule adequately provides for that.

15 MR. LEVINSON: Thank you. My next question is
16 related but a little bit more specific. A number of
17 stakeholders have asked OSHA in particular to take the
18 approach employed by Nevada, where they did not include
19 many criteria, but instead, relied upon a job hazard
20 analysis by employers as the way of determining how and
21 when to protect workers. Again, either now or in post-
22 hearing comments, we would very much like to hear your

1 thoughts on that particular approach by a state and
2 what New York thinks about that.

3 MS. GREGOR: Yes. So I would like the opportunity
4 to comment in post-hearing comments on the Nevada rule.
5 That rule was only finalized in April 2025, so we
6 didn't get the chance to comment on that in our January
7 comments. But I will say, just based on my read of the
8 Nevada standard, I think that it's lacking in many
9 respects. For example, the temperature - it doesn't
10 have a temperature threshold, so it allows employers to
11 subjectively choose a threshold that would apply to
12 their employees. The rest breaks are available only
13 after a worker starts experiencing signs and symptoms
14 of heat-related illness, which is wholly inadequate.
15 We need a preventative standard.

16 And moreover, the rest breaks aren't paid, so that
17 disadvantages piece rate workers such as farmworkers.
18 And critically, there's no acclimatization required in
19 the Nevada standard. So I think because of these
20 provisions in the Nevada standard, it's lacking in
21 enforceability. I don't see how they're going to
22 enforce a rule like this. So generally, I do think

1 that the Nevada standard is lacking, but I will provide
2 more detailed comments in the post-hearing comment
3 period.

4 MR. LEVINSON: Thank you. That concludes my
5 questions. Our next question from OSHA comes from
6 Tiffany DeFoe.

7 MS. DEFOE: Hi. This is Tiffany DeFoe with the
8 Directorate of Standards and Guidance, OSHA. I wanted
9 to ask -- you've already addressed some of the
10 questions that I had for you. But I do want to ask,
11 earlier in the hearing, we've received a variety of
12 comments that mandatory rest breaks at or above the
13 high heat trigger in the proposed standard are not
14 feasible for all workplaces and recommending that OSHA
15 should either remove those proposed requirements in any
16 final rule or should add flexibility to the proposed
17 timing schedule for mandatory scheduled rest breaks.
18 And I'd like to ask, either now or in post-hearing
19 comments, if your group would be willing to provide any
20 thoughts you have on those two recommendations for
21 addressing some of the concerns that have been raised
22 about flexibility and rest breaks.

1 MS. GREGOR: Again, I would be happy to address
2 that in post-hearing comments. Many of our states do
3 have mandatory rest breaks, and OSHA's proposed rule
4 provides for mandatory rest breaks when the heat index
5 is 90 degrees Fahrenheit, so that's talking about
6 extreme heat conditions. And in preparing for our
7 multi-state comments and preparing for this testimony,
8 we spoke to a lot of workers who work in extreme heat
9 and in these extreme heat conditions, and they
10 generally do take rest breaks. So it seems that many
11 workplaces, they do have the flexibility built in to be
12 able to take rest breaks, especially during high heat
13 conditions, to stay safe. But again, I will provide
14 more commentary in post-hearing comments.

15 MS. DEFOE: Thank you. And I realize that you're
16 already planning to provide some comments about the
17 importance of -- or I'm sorry, you stated the
18 importance of giving rest breaks before the signs and
19 symptoms of heat illness arise. But if you do comment
20 on that in your post-hearing comments any further
21 discussion on why that is, why it's important to pre-
22 empt even early signs if you believe that's true.

1 MS. GREGOR: Yes, we can provide more comments on
2 that. And I do believe that's true to prevent heat-
3 related illnesses before it happens. Many of the
4 symptoms of heat-related illness are nonspecific and
5 may be things like dizziness or feeling weak. So it's
6 important to be preventative before those kind of
7 things come on because workers may not know that
8 they're experiencing a heat-related illness when they
9 start to feel those nonspecific symptoms.

10 MS. DEFOE: Thank you. That's all I have.

11 MR. LEVINSON: Your Honor, the last question from
12 OSHA comes from -- actually, it's not from an OSHA
13 person. I think it's our Solicitor, rather, will be
14 asking the question. So I guess that concludes OSHA's
15 questions. Let me turn it over to our Solicitor.

16 MS. WILES: Thank you, Andy. This is Linda Wiles
17 from the Solicitor's Office. Thank you, Ms. Gregor,
18 for being here today and for your testimony. I heard
19 that in your testimony, you touched upon OSHA's current
20 enforcement policy to protect workers against
21 occupational heat under the General Duty Clause of the
22 OSH Act. And you noted that there are some challenges

1 or shortcomings with this enforcement. During this
2 hearing, we've heard alternatively from other witnesses
3 that OSHA should continue to rely on the General Duty
4 Clause instead of issuing a federal heat standard. I
5 just would like to ask if you could elaborate, either
6 now or in post-hearing comments, why you feel that the
7 General Duty Clause is inadequate.

8 MS. GREGOR: Sure, I can address that now. And
9 this is also discussed on pages 31 to 32 of our written
10 comments. So the General Duty Clause requires
11 employers to provide a workplace that's free from
12 recognized hazards that are causing or are likely to
13 cause death or serious physical harm to employees. But
14 the clause itself is ineffective as a primary mechanism
15 to protect workers from extreme heat for a few
16 different reasons.

17 First, the clause is generally reactive. It's
18 enforced after an injury, illness, or fatality has
19 occurred, rather than requiring employers to implement
20 proactive safety measures to prevent hazardous
21 conditions. So this post hoc enforcement leaves
22 workers vulnerable to entirely preventable outcomes.

1 Second, the General Duty Clause is legally burdensome.
2 To issue a citation under the clause, OSHA must
3 demonstrate four individual elements, and these
4 requirements make enforcement time-consuming and
5 legally vulnerable.

6 For instance, I'm sure you're familiar with the
7 case Secretary of Labor v. A.H. Sturgill Roofing, Inc.
8 That's on page 31 of our comments. In there, OSHA
9 issued a citation to Sturgill under the General Duty
10 Clause for exposing its employees to excessive heat
11 after a 60-year-old man died on his first day on the
12 job replacing a roof when the heat index was 85 degrees
13 Fahrenheit. And the administrative law judge in that
14 case affirmed the citation, but the Occupational Safety
15 and Health Review Commission reversed, finding that
16 despite this workplace death, OSHA failed to establish
17 the existence of a hazard. So this demonstrates the
18 inherent vulnerability of citations issued under the
19 General Duty Clause.

20 Third, the General Duty Clause lacks clarity for
21 employers. Without a specific standard, employers have
22 no clear benchmark for compliance. For example, some

1 employers may not know when the heat index is high
2 enough to warrant interventions or how long of a rest
3 break is necessary, whereas a formal rule provides
4 predictability and consistency, which the General Duty
5 Clause simply cannot do. In fact, there's a footnote
6 in the Sturgill Roofing case that I mentioned where the
7 Occupational Safety and Health Review Commission found
8 that OSHA's reliance on the General Duty Clause often
9 leaves employers confused as to what is required of
10 them. So a standard, unlike the General Duty Clause,
11 would clearly lay out what employers are required to do
12 to protect their employees. And employees, on the
13 other hand, know their rights.

14 And finally, and relatedly, the General Duty
15 Clause fails to send a strong regulatory signal.
16 Specific OSHA standards can help to create compliance
17 cultures. For example, they can lead to an employer
18 investing in safety systems, or they can empower
19 workers to recognize violations. So while the General
20 Duty Clause is a useful backstop in some cases, it was
21 never meant to stand in for a detailed, enforceable
22 standard that's tailored to an occupational hazard like

1 extreme heat.

2 MS. WILES: Thank you so much, Ms. Gregor. That's
3 all for me.

4 JUDGE BOUCHER: Mr. Roberts, do we have any
5 questions from other online participants?

6 MR. ROBERTS: Your Honor, we have Mr. Jordan Barab
7 in the queue. Please state your name and affiliation.

8 MR. BARAB: Did you say Jordan Barab?

9 MR. ROBERTS: Yes.

10 JUDGE BOUCHER: Yes.

11 MR. BARAB: That would be me. Okay. This is
12 Jordan Barab. Ashley, thanks for your testimony. Got
13 a few questions here. In your comments, you stated
14 that OSHA's National Emphasis Program was not really a
15 replacement for a comprehensive and preventive rule
16 that's legally binding on employers. Can you elaborate
17 on that?

18 MS. GREGOR: Sure. Thank you for the question,
19 Jordan. And again, this is Ashley Gregor speaking.
20 Yes. In our comments, we mentioned that OSHA's
21 National Emphasis Program -- it's a meaningful interim
22 measure, for sure, but it's not a substitute for a

1 comprehensive, enforceable federal heat standard. For
2 one, the National Emphasis Program is not legally
3 binding. So the program allows OSHA to prioritize
4 inspections and enforcement related to heat, but it
5 doesn't create any new obligations for employers. For
6 example, under the National Emphasis Program, employers
7 aren't required to provide water, rest, or shade or
8 develop a written heat injury and illness protection
9 plan.

10 Additionally, enforcement under the National
11 Emphasis Program relies on the General Duty Clause,
12 which, as I discussed earlier, is insufficient to
13 enforce workplace heat standards. And finally, the
14 National Emphasis Program is an administrative program
15 that OSHA could change or terminate at any time. So
16 it's not nearly as durable as having a federal standard
17 created through notice-and-comment rulemaking like
18 this. So I think that reliance on the National
19 Emphasis Program can leave worker protections
20 vulnerable to shifting agency priorities or funding or
21 changes in political leadership.

22 So again, I think the National Emphasis Program is

1 an important interim step, but it's inherently limited.
2 So that's why we're calling on OSHA to finalize the
3 proposed heat standard.

4 MR. BARAB: Okay. Thank you. I know you all have
5 been in contact with farmworker advocates in New York
6 and farmworkers. Can you tell me from those
7 conversations -- from your experience with those
8 conversations, are farmworkers always free to take a
9 break anytime they feel they need it or go grab a --
10 grab some water somewhere?

11 MS. GREGOR: Thanks, Jordan. And again, this is
12 Ashley Gregor speaking. Yes. My office did speak with
13 some farmworkers, both in preparation for the comments
14 and in preparation for the testimony here today. We
15 spoke with farmworkers who work in tomato greenhouses,
16 who work on fields and in dairy farms, both in central
17 and western New York State. And in tomato greenhouses,
18 the workers said that they spend their entire day under
19 plastic coverings with very limited ventilation. So
20 even though they're not exposed to direct sunlight,
21 they still endure very high temperatures. And because
22 of the fast-paced nature of their work and the fact

1 that they're paid at the piece rate rather than
2 receiving an hourly wage, they don't have opportunities
3 to take rest breaks.

4 Similarly, farmworkers who we spoke to who work in
5 fields, planting and harvesting fruits and vegetables
6 under direct sunlight are generally provided no access
7 to shade, and they have very limited opportunities to
8 take rest breaks or take water breaks. Most of those
9 workers, again, are paid based on how much they
10 harvest, or they have to keep up with a moving tractor,
11 leaving them no choice but to keep working. And then -
12 sorry. Go ahead.

13 MR. BARAB: Go ahead. Are you done?

14 MS. GREGOR: Just, just finally, I'll mention the
15 workers that we spoke to who work on dairy farms. The
16 cows are actually housed in barns that have fans and
17 sprinklers and drinking water to keep them cool. But
18 the workers themselves, they don't have access to clean
19 drinking water unless they bring it themselves. In the
20 milking parlors in particular, they lack ventilation,
21 so the heat generated by the cows, compounded by the
22 tin or the metal roofs, can cause temperatures to rise

1 to really unsafe levels. So these are just a few of
2 the anecdotes that we collected that demonstrate the
3 dangerous heat conditions for farmworkers in New York
4 State and, again, speak to the need for a really strong
5 and enforceable federal standard.

6 MR. BARAB: Okay. One more. So you know, we're
7 going through a major heat wave right now, and
8 everybody suffers from the heat, you know, walking the
9 dogs, you know, going to the store, gardening. Why are
10 workers more vulnerable to than, you know, everyone
11 else to heat than the average citizen?

12 MS. GREGOR: Well, everyone is vulnerable to heat,
13 but workers are particularly more vulnerable due to the
14 combined effects of ambient temperature and metabolic
15 stress. So when you're working, for example, if you're
16 a farmworker in a field, your body just builds up and
17 retains more heat than someone just walking their dog
18 on the sidewalk in New York City. But that does also
19 remind me of the urban heat island effect. So workers
20 in New York City who are working on construction sites
21 are often exposed to greater temperatures than workers
22 in more shaded or green areas. So that's another thing

1 to take into consideration.

2 MR. BARAB: Okay. Thank you. That's all I have.

3 JUDGE BOUCHER: Mr. Roberts, anybody else.

4 MR. ROBERTS: We have Ms. Anastasia Christman.

5 Ms. Christman, please state your name for the record.

6 MS. CHRISTMAN: Yeah. I'm here. Can you hear me?

7 JUDGE BOUCHER: Yes.

8 MS. CHRISTMAN: Yes. Thank you. This is

9 Anastasia Christman from the National Employment Law
10 Project. Thank you, Ms. Gregor, for your testimony.

11 And we've heard repeatedly some assertions that
12 different regions, workers experience heat in different
13 ways, with the implication being in some places they're
14 very used to it, and some places heat just doesn't
15 really happen. And as you noted, New York is not a
16 place people typically think of when they think of
17 heat. And I really appreciated the anecdotal evidence
18 you were just sharing. I'm just curious whether you
19 could share now, or later in your written follow up, if
20 there's any other data or any other information about
21 the scope of the problem in New York.

22 MS. GREGOR: Thanks, Ms. Christman, for your

1 question. And again, this is Ashley Gregor speaking.
2 I can certainly provide more detailed information in
3 written comments following the hearing, but I will say
4 that there are two New York specific reports that were
5 published last year that have really excellent data.

6 First, in September 2024, the New York City Office
7 of the Comptroller issued a report called Safeguarding
8 Outdoor Workers in a Changing Climate, and this is
9 cited on page 24 of our comments. And the
10 Comptroller's report estimates that 1.4 million New
11 Yorkers, which is about a third of the city's
12 workforce, spend significant time outdoors, including
13 170,000 workers with near constant outdoor exposure.
14 Many of those workers are immigrants. They're people
15 of color and low wage earners working in jobs like
16 construction, delivery, building maintenance, and
17 street vending. So these workers often lack basic
18 protection like access to restrooms, water, or shade.
19 And they face heightened risks of heat-related illness
20 and injury, especially during heat waves like we saw
21 earlier this week, and air quality emergencies. The
22 Comptroller's Office report, it recommends concrete

1 policy changes, including the promulgation of
2 enforceable heat standards to address these inequities
3 and protect New York City's workforce that is
4 increasingly exposed to extreme heat.

5 And the second report that I'll mention now was
6 published in May 2024, and it's from the New York State
7 Insurance Fund, and that's our state's largest worker's
8 compensation insurer. And their report's called
9 Insurance is a Catalyst for Climate Action, which is
10 cited on pages 29 to 30 of our comments. And that
11 report found that, on days when the heat index in New
12 York is above 80 degrees Fahrenheit, the likelihood of
13 a workplace injury in New York increased by 45 percent,
14 and the severity of those injuries rose by 20 percent.
15 And these findings are not hypothetical. They're based
16 on 95,000 workers' compensation claims from 2017 to
17 2021. And the report, again, underscores the need for
18 a federal heat standard to reduce preventable harm. So
19 I will also provide some more data in written comments
20 following the hearing period.

21 MS. CHRISTMAN: Thank you. This is Anastasia
22 Christman again. Thank you for that. And that's my

1 only question. Thank you.

2 MS. GREGOR: Thank you.

3 JUDGE BOUCHER: Thank you.

4 MR. ROBERTS: There are no further questions in
5 the attendee queue.

6 JUDGE BOUCHER: Okay. Then Ms. Gregor, thank you
7 very much for your comments. We appreciate your time
8 today.

9 MS. GREGOR: Thank you.

10 JUDGE BOUCHER: And Mr. Roberts, could you please
11 promote the next witness?

12 MR. ROBERTS: Next witness is Mr. Bob Harrison
13 from the California Department of Public Health. Mr.
14 Harrison, please state your name and affiliation for
15 the record.

16 DR. HARRISON: Good morning or afternoon depending
17 where you may be. My name is Dr. Robert Harrison. I'm
18 a physician from the University of California, San
19 Francisco, and with the Occupational Health Branch in
20 the California Department of Public Health and I'm here
21 to express my strong support for OSHA's proposed Heat
22 Injury and Illness Prevention Rule.

1 California successfully implemented the first
2 outdoor heat regulation in the country in 2006, and
3 then just last year our state passed an indoor heat
4 standard in July of 2024. And I was on the standards
5 board in California in 2006 when we passed the standard
6 and if anyone has any questions directed at our process
7 or the success of our standard over the last almost 20
8 years, I'd be happy to answer questions or put it in
9 the post-hearing comments.

10 But the bottom line is that it's been, in my view,
11 a very successful rule and has prevented many cases of
12 heat illness and injury, fatalities. Back in 2006 we
13 passed this because we had many heat-related deaths.
14 And we had an emergency standard. The water, rest, and
15 shade triad actually comes from California and a
16 massive education and outreach campaign that we
17 launched, and that was adopted by -- by federal OSHA in
18 their education and outreach tools and now by several
19 other states around the country.

20 Many people are probably familiar with the most
21 extreme health impacts of heat, but this really
22 underestimates the real human toll. And we also know

1 that heat wave drive -- increases in heart attacks,
2 strokes, and severe complications from other chronic
3 diseases such as diabetes. I've also been an
4 occupational medicine physician for the last 40 years
5 and have treated many cases of heat illness. And I've
6 seen, really, firsthand how dangerous heat can be on
7 the job and these conditions that could have been
8 prevented with basic protection like shade, water, and
9 rest.

10 In California, although our standard has been
11 extremely successful and I would say quite practical
12 and easy to -- relatively easy to implement by
13 employers across the state, we continue to have
14 sporadic deaths; a landscaper new to the job who died
15 from working in the heat and a 51-year-old letter
16 carrier who lost consciousness and later died from heat
17 stroke. There are a few specific comments I wanted to
18 make about underreporting and recordkeeping in the
19 proposed standard.

20 Our tracking -- first, our tracking of heat-
21 related illnesses, injuries, and fatalities shows that
22 there's a significant underreporting in existing

1 administrative and surveillance data sets. And this
2 happens for many reasons, including lack of awareness
3 of heat illness, barriers to getting care, inadequate
4 reporting mechanisms. And in addition, employers may
5 fail to correlate cardiac problems, injuries, and other
6 symptoms to heat illness.

7 For example, we see many fatalities that are
8 deemed cardiac, but where the medical examiner and
9 coroner didn't recognize that heat may have also played
10 a contributing factor. We also know that heat
11 increases the risk of injuries, but our databases about
12 injuries don't collect information about heat as a
13 factor. There's also variability in how states collect
14 and calculate rates of heat-related illness using
15 workers' compensation data.

16 Finally, we also agree with OSHA that incidence
17 estimates that are calculated by using the entire U.S.
18 working population in the denominator really
19 underestimates the true risk of heat-related illness
20 because these estimates include workers who are not
21 exposed to heat. To address some of these problems
22 with undercounting and reporting and get a true picture

1 of heat-related illness, we recommend the following.

2 First, a heat incidents log would help both
3 employers and workers recognize and keep track of all
4 heat-related illness, not just the most severe ones.
5 In California, we've had for many years the Bloodborne
6 Pathogen and Workplace Violence and Healthcare
7 Standards that requires an incidents log that includes
8 both OSHA recordable and nonrecordable incidents.

9 Second, we found that education and heat -- about
10 heat illness is one of the essential steps in
11 protecting workers. Because heat illness can progress
12 very rapidly from very mild to very severe, OSHA should
13 define the full spectrum of heat illness in the
14 standard ranging from heat cramps to heat stroke.

15 And then finally because many cases of heat
16 illness go unreported. This applies even to the more
17 severe cases that need emergency care. The final
18 standard should specify that all heat-related - be -
19 all heat-related cases be reported within eight hours
20 as part of OSHA's existing Severe Injury Reporting
21 regulation. In closing, I strongly support the
22 proposed rule and urge OSHA to adopt and implement it

1 as swiftly as possible. Thank you for prioritizing
2 worker's safety in the face of this growing climate
3 threat.

4 JUDGE BOUCHER: Thank you. Any questions from
5 OSHA, Mr. Levinson?

6 (No response.)

7 JUDGE BOUCHER: You're on mute.

8 MR. LEVINSON: Sorry. Yes, Andrew Levinson for
9 OSHA. Thank you, Your Honor. And Dr. Harrison, thank
10 you very much for your testimony. One of the issues
11 that's come up quite often in this hearing is employers
12 who have asked for flexibility in heat triggers because
13 of the perception that heat is different regionally.
14 And we'd like very much your thoughts on the medical
15 literature and/or workers' experience of heat in
16 different regions and does the heat -- does a heat
17 measure that accounts for both temperature and humidity
18 adequately adjust or is there some other need for
19 regional flexibility?

20 DR. HARRISON: Yeah, great question. Thank you,
21 Mr. Levinson. I -- I don't know of any evidence
22 scientifically that a worker responds differently to a

1 dry bulb temperature or as OSHA proposes, using the
2 heat index which is a combined measure of heat and
3 humidity, by region of the country or by race and
4 ethnicity. I -- I'm just simply not aware of any
5 scientific data that would support regional variability
6 in the physiologic response to heat. I think that's
7 sort of the bottom line there. I'm just not aware that
8 the heat index in Louisiana and the effect
9 physiologically on an outdoor worker is going to be
10 different than that same heat index in Wyoming or in
11 New York or Florida.

12 MR. LEVINSON: Thank you. And I -- I should have
13 said at the beginning, we appreciate your comments now,
14 but the agency also has the opportunity for a written
15 post-hearing comment period. Anything that you'd to
16 say now is certainly welcome, but also anything you can
17 add in post-hearing comments is also very much welcome.
18 Particularly on the point of a body of literature or
19 absence as you've said of -- to -- that would allow the
20 agency to make such short of -- such adjustments.

21 The next topic relates to acclimatization. Many
22 employers have talked about the challenges of

1 acclimatization, and we would appreciate it very much
2 if you could offer your thoughts on the degree to which
3 it's important and how it can be accommodated in
4 workplace settings.

5 DR. HARRISON: Acclimatization is physiologically
6 very important, and I agree with OSHA's analysis that
7 they did of acclimatization. In fact, that's something
8 we looked at almost 20 years ago in California and I
9 was sitting on the seven-person board as the only
10 scientist at that time, actually, with subject matter
11 expertise. And I recommended that we build into
12 California standard the acclimatization issue.

13 I would -- I would ask -- I would suggest that
14 OSHA consider some of the practical applications for
15 acclimatization, and so that would -- it would give
16 employers and employees the tool to understand best how
17 to adjust return to work and the unacclimatized and
18 acclimatized worker so that it's feasible and practical
19 for both workers and employers. But there's no
20 question scientifically from the point of view of the
21 physiology that acclimatization is crucial.

22 I think what OSHA proposed is probably

1 scientifically grounded in terms of the acclimatization
2 schedule that you've proposed. And we also I guess
3 would ask early on when we developed our standard, we
4 did a survey -- and I can provide this data in post-
5 hearing comments. We found that one of the most
6 critical factors in causing the heat-related fatalities
7 we were seeing in the mid-2000's was the lack of
8 acclimatization. So your concept of building in
9 acclimatization I think is scientifically very sound.

10 MR. LEVINSON: Thank you. And my last question
11 relates to indoor sedentary workers. OSHA has proposed
12 exempting indoor sedentary workers from our heat
13 standard, and a number of commenters have opposed that
14 exemption. And we're curious, do you and/or California
15 have any thoughts on the topic and/or do you have any
16 evidence or data related to heat illness among indoor
17 sedentary workers?

18 DR. HARRISON: Why do you ask the most difficult
19 questions? I don't think we dealt with indoor
20 sedentary workers. I'll double-check in our standard.
21 Let me -- let me give that to you in post-hearing
22 comments because I -- I can certainly understand the --

1 if a worker is in a hot indoor setting and is not
2 exerting himself or herself, what risk does that pose
3 at that point? So let me punt that down the road to
4 post-hearing comments.

5 MR. LEVINSON: Thank you very much. And I always
6 appreciate the opportunity to -- to test you a little
7 bit.

8 (Laughter.)

9 MR. LEVINSON: The next comment -- or the next
10 questions from OSHA, Your Honor, come from Zoe
11 Petropoulos.

12 MS. PETROPOULOS: Hi. This is Zoe Petropoulos
13 with the Directorate of Standards and Guidance. You
14 answered some of my questions about underreporting, but
15 I would still like to ask some questions along that
16 topic and particularly from your experience as a
17 practicing physician and if you could weigh in on some
18 of these questions. In your experience, are you aware
19 of cases of heat-related injuries and illnesses that
20 are treated in hospitals, emergency rooms, urgent care
21 settings, any other healthcare facility that were
22 occupational in nature but not documented as work-

1 related in any way?

2 DR. HARRISON: We have - thank - thanks - thanks
3 for the question. We have a number of data sets and
4 we - we can certainly provide those to you in the post-
5 hearing comment period where we've looked at heat in
6 emergency room during hospitalizations. Your question,
7 though, gets to the other side of that coin, right, are
8 there injuries or illnesses that are heat-related that
9 were never documented in these data sets that we have.
10 We have not done that study. We have not gone out and
11 gone to emergency room records and looked for heat-
12 related illnesses that were not reported in emergency
13 room data set or hospitalization but were truly heat-
14 related illness. And I'm trying to think whether
15 there's anyone who's done that data mining or research.
16 I will - we will - our group will certainly look and
17 provide that to you because I think that would be
18 important for you to consider.

19 MS. PETROPOULOS: Thank you. And yeah, I'll just
20 clarify that we talked about this in the Risk
21 Assessment of the proposed rule and -- and this is
22 getting to a question -- that there are probably cases

1 that aren't coded as heat-related but may have been,
2 and that there may be cases that were work-related but
3 not coded. And so either now or in post-hearing
4 comments if you could speak to kind of your experience
5 and any data or literature you know of in addition to
6 what OSHA has cited, we would welcome feedback on that.

7 DR. HARRISON: Certainly.

8 MS. PETROPOULOS: Another question, from your
9 experience as a practicing physician, are you aware of
10 workers not reporting heat-related injuries and
11 illnesses that they experience to their employer?

12 DR. HARRISON: That is pretty universal. Not only
13 for heat-related illness but across the board. You
14 know, for example, in a paper we published several
15 years ago that we are updating on heat-related illness
16 in California -- that'll probably be submitted soon and
17 published in a -- in about a year is my guess -- we see
18 a differential in heat illness rates by occupation and
19 by industry. And that is probably the result of
20 differential reporting among those occupational groups.

21 For example, firefighters and emergency responders
22 have some of the highest rates of heat-related illness,

1 and agriculture workers have average rates of heat-
2 related illness; and I think that's probably entirely
3 due to access to care and -- and reporting between
4 those two groups. There's some differences in risk,
5 obviously, and exposure differential. But if we know
6 anything about the risk to heat among farmworkers, we
7 know that it's very high. I mean, we have workers out
8 in our -- we have about three million farmworkers in
9 California, and the average temperature in the summer
10 in many of our counties is over 100 degrees. And yet
11 we see that the rates of reported heat-related illness
12 are much lower than I'd expect.

13 MS. PETROPOULOS: Thanks. And my last question is
14 if you were aware of any papers, reports, or data on
15 these topics of heat-related injury and illness
16 incidence data or underreporting that OSHA did not
17 cite. If you are aware, if you could share that with
18 us in your post-hearing comments and we would also
19 welcome any additional input you have on our risk
20 assessment. And I will also add that we talk about
21 underreporting in the benefits analysis of the proposed
22 rule on page 7-0-9-6-2. And if you have any comments

1 on that section, we also welcome those in post-hearing
2 comments.

3 DR. HARRISON: Yes, absolutely. We -- we -- we
4 have a team of epidemiologists here at our health
5 department. I'll -- I'll have them take a look at them
6 and make sure we provide those to you.

7 MS. PETROPOULOS: Thank you so much. And that's
8 it for me, Andy.

9 MR. LEVINSON: Your Honor, the next questions from
10 OSHA come from Tiffany DeFoe.

11 MS. DEFOE: Hi. Excuse me. This is Tiffany DeFoe
12 with the Directorate of Standards and Guidance OSHA.
13 And Mr. Harrison, I -- or Dr. Harrison, I have a series
14 of questions for you on the topic of rest breaks.
15 First, I wanted to ask about the provision in
16 California's rule for as needed rest breaks, which
17 require that employees shall be allowed and encouraged
18 to take a preventable cool down rest break in the shade
19 when they feel the need to -- to do so to protect
20 themselves from overheating. And I'd like to ask if
21 you have insight you can share into why that provision
22 was written in this way: when they feel the need to do

1 so to protect themselves from overheating, rather than,
2 for example, you know, when they first feel symptoms of
3 overheating or heat illness coming on? Is that
4 something that you could speak to?

5 DR. HARRISON: Sure. Yeah. I sat there for many
6 hours probably similar to your position thinking about
7 the development of this standard because I voted as a
8 member of the seven person board in 2007. And this was
9 the subject of many hours of conversation. It was
10 written that way to encourage employees triggered by
11 symptoms -- and perhaps it could have been more clear
12 in our standard -- but our -- our intent and my intent
13 as an occupational medicine physician was if somebody
14 had any early sign or symptom that they had the ability
15 to take a rest break. And I think we originally wrote
16 it as up to five minutes. That's gradually been
17 expanded and amended over the last several years.

18 And they were called preventative recovery period
19 because of some interpretation of Wage and Hour Law on
20 the provision of rest breaks. California is one of the
21 states that I believe has -- and I'm not an attorney
22 here -- but has a required 15-minute rest breaks every

1 two hours under our Wage and Hour laws. So that was
2 already existing in California. The concept that I
3 supported back when we passed this, Ms. DeFoe, is
4 that -- the idea that when somebody has an early
5 symptom, that -- that an employee or worker is able to
6 take that break I think has been the absolute key to
7 preventing work-related heat illness.

8 And whether that's in the form of a mandatory rest
9 break so that everyone's aware that if they have a sign
10 or symptom of heat illness, they stop, they take a
11 break is absolutely critical to employers providing
12 protection against heat illness. It sets in place this
13 idea in the workplace that taking breaks and a cool
14 down period is absolutely critical to preventing heat
15 illness. So on a -- personally, I didn't think five
16 minutes, physiologically, was enough for a lot of the
17 hard jobs that we have in California.

18 But what I've realized over the last 20 years is
19 that this idea of rest break sets a benchmark for
20 safety in the workplace. And -- however that's
21 designed in, whether it's mandatory 15 minutes every
22 two hours or it's some other mechanism, it's critical.

1 MS. DEFOE: Thank you for that. I also wanted to
2 follow up with a question about the sort of in practice
3 use of the as needed rest breaks. To the best of your
4 knowledge, have employees by and large been making use
5 of the preventative cool down breaks provided for in
6 the rule, the ones that are sort of at their request
7 that is? And if -- if you are aware of any significant
8 challenges with implementing those provisions, could
9 you provide information now or to the record to help us
10 understand why and where those challenges are arising,
11 and your recommendations for how a federal standard
12 could help address them.

13 DR. HARRISON: Yeah. I'd be happy to put that in
14 post-hearing comments because I think it is a really
15 important issue and I thought about it quite -- quite -
16 - quite a lot. I am not aware -- and I'll see if I can
17 up with information that will be helpful for the
18 record -- that there's been any significant challenges
19 or problems in workers taking rest breaks. There was a
20 lot of concern when we talked about this that there
21 would be employees who would take advantage and take
22 breaks when they didn't need to because they would say,

1 well, it's too hot. I need to take a break, and
2 they're really going to go off and to do something
3 else.

4 I have not heard a single complaint about that
5 over the last almost 20 years, and I'll see if I can
6 get some data to provide to you about that that there
7 really has not been much of a hurdle or issue. There
8 was a lot of worry and concern when we passed this, but
9 I don't think it's happened.

10 MS. DEFOE: Well, Dr. Harrison, if you -- so
11 certainly that feedback is very welcome if you have any
12 information on that.

13 DR. HARRISON: Yeah.

14 MS. DEFOE: But I -- I think perhaps was not clear
15 in what I meant with my question.

16 DR. HARRISON: Okay.

17 MS. DEFOE: I meant are you aware of significant
18 challenges in employees being made aware of or able to
19 use as needed rest breaks?

20 DR. HARRISON: Oh, oh, I see. I'm sorry. I
21 didn't understand your question. Let me get back to
22 you. After -- after we had -- or we passed our heat --

1 heat illness standard, we implemented a very large
2 compliance program. And this may be directed to our
3 OSHA folks as well. We've had thousands and thousands
4 of sweeps, unannounced inspections with wage and hour
5 violations as well as OSHA compliance enforcement
6 inspections on this standard.

7 And we collected some data early on. And let us
8 take a look at this and provide that for you because it
9 could provide some useful insights about how often this
10 happened, what you're asking me. Did workers have
11 problems taking, you know, using this five minute break
12 period, getting to a shade tent, finding water?
13 Because we have a database of citations that we were
14 collecting, and that might help.

15 MS. DEFOE: Thank you very much. And any insight
16 that comes out of that for -- for what -- if, you know,
17 the situation has perhaps improved over time, if you
18 find that. Any information that would help us
19 understand why -- why improvements have happened in any
20 particular areas would be helpful as well. Now, you
21 mentioned the mandatory breaks under the high heat
22 trigger and I -- and it sounds like the -- those

1 were -- if I understood your testimony correctly, those
2 requirements in the heat standards were aligning with
3 previously existing rest break requirements. Did I
4 catch that right?

5 DR. HARRISON: Correct.

6 MS. DEFOE: Okay. Thank you. Because I was going
7 to ask you a question about whether employers by and
8 large have been complying with those mandatory rest
9 break provisions and if you're aware of any challenges
10 that have been arising for employers, you know, in
11 terms of extreme hardship or significant feasibility
12 issues. And I, you know, if there are -- if they were
13 already in compliance with -- with these other
14 provisions, that may not have been something that you
15 saw developing.

16 DR. HARRISON: No. No. Most workers in
17 California already get 15-minute rest breaks every two
18 hours, and so I -- I'm not aware that that -- that's
19 been a significant issue. You know, that -- that it's
20 come up. And I -- I am aware that this -- this has
21 been raised in your current comment and it was brought
22 up 20 years ago that there might be certain

1 circumstances where workers are out doing a certain job
2 and it's not going to be really easy or feasible for
3 them to take a 15-minute rest break.

4 MS. DEFOE: Thank you. Well, yes, I mean, as you
5 mentioned, we have received a lot of comments
6 expressing concerns about situations in workplaces
7 where, you know, it may not be feasible or may even
8 cause safety hazards in some circumstances. So based
9 on California's experience, any recommendations that
10 you have for how a federal standard could avoid any
11 such consequences while still protecting workers would
12 be much appreciated.

13 DR. HARRISON: Thank you.

14 MS. DEFOE: And thank you. That's all I have.

15 MR. LEVINSON: And Your Honor, the final question
16 from OSHA comes from Rachel Carse.

17 MS. CARSE: Hi, this is Rachel Carse from OSHA's
18 Directorate of Standards and Guidance. Mr. Harrison,
19 OSHA has received comments recommending the removal of
20 the scope exemption for emergency response and the
21 inclusion of emergency services workers in this
22 standard. On the other hand, we've also received

1 comments supporting that exemption and proposing an
2 expansion of the exemption to include activities such
3 as power restoration work. Could you share any
4 thoughts on the issue?

5 DR. HARRISON: Yeah. I -- and I -- I think we put
6 this in in the initial comment period, not -- not for
7 this hearing. Because we supported the concept that
8 workers at -- that all workers at risk be provided with
9 the equivalent of the proposed heat rule for general
10 industry or -- or for the nonemergency response. I had
11 some concern when I looked at the fine print of the
12 emergency response regulations that they were not
13 equivalent, and I think put those in there in my
14 comments to you.

15 So I guess my - my take home message would be that
16 the physiological effect of heat, regardless of whether
17 or not you're an emergency responder or construction
18 worker or a restaurant worker or a farmworker is the
19 same. And I would recommend that OSHA take a look at
20 those emergency regs and just make sure that everyone's
21 getting the equivalent protection no matter where
22 they -- they -- they wind up in a regulation.

1 MS. CARSE: Okay. Thank you. That -- that's my
2 only question.

3 MR. LEVINSON: Your Honor, that concludes OSHA's
4 questions.

5 JUDGE BOUCHER: Thank you. Ms. Wiles, anything
6 from the Solicitor's Office?

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 thank you, Dr. Harrison,
10 for your time and testimony.

11 DR. HARRISON: You're welcome. Thank you.

12 JUDGE BOUCHER: Mr. Roberts, do we have any other
13 online participants with questions?

14 MR. ROBERTS: We currently have two, Your Honor.
15 The first one is Jordan Barab. Mr. Barab?

16 MR. BARAB: Yes, thank you. Jordan Barab. Thank
17 you, Bob, for that testimony. It was very interesting.
18 I want to follow up a little bit on Mr. Levinson's
19 question, who highlighted the huge geographic diversity
20 in California. You got - you have the highest
21 mountains, the lowest deserts, you got a huge
22 agricultural sector in the Center Valley -- Central

1 Valley, lots of construction. Just about everything
2 that the country as a whole has. And you actually --
3 California's actually issued -- well, actually, issued,
4 I guess, two one-size-fits-all standards. One for
5 indoor and one for outdoor.

6 And you - you - you talked a little bit about, you
7 know, the impact on the human body. But let me ask you
8 this. From your knowledge, has -- have these one-size-
9 fits-all standards been difficult for all kinds of
10 different industries and companies to comply with?

11 DR. HARRISON: Not in my experience over the last
12 almost 20 years. As I say, there -- there was a lot of
13 the same discussion that I heard for - for many days,
14 you know, sitting in my esteemed colleagues' position
15 here. And it's turned out, I think, to be a very
16 successful implementation. I have not been aware -- I
17 mean, quite -- quite simply put, you know, I used to
18 drive out to Yosemite for my vacations and I would
19 come -- I'd come through the fields, and I would see
20 nothing.

21 Now I drive, and I see tents and igloos and water
22 and folks doing the same work that they've always done.

1 I haven't -- not been aware of any impediment to
2 agricultural or construction productivity. Our economy
3 has expanded quite successfully over the last 20 years.
4 And I - I simply put, have not been aware of any
5 significant challenges. It's - it's proved to be a
6 very successful commonsense rule. And as you pointed
7 out, we have a very wide - I mean, I -- we -- probably
8 we have every climate in California that the rest of
9 the country has.

10 MR. BARAB: I have one more question. The Nevada
11 standard that some witnesses seem so enamored of
12 exempts workers -- basically warehouse and trucking
13 workers who are loading and unloading materials from
14 trucks into warehouses. And I know California's
15 standard covers that. Has there been a problem with
16 enforcing that or complying with that?

17 DR. HARRISON: No. Not to my knowledge. You
18 know, again, employers in our state have really quite
19 successfully implemented this standard in my view. And
20 I would also point out that some of these employers are
21 multi -- you know, they have operations in all 50
22 states, in fact, they're global corporations, they're

1 global companies. And so they're responsible large
2 employers who are already implementing this in
3 California.

4 I think would probably be able to implement this
5 quite successfully in the other 49 states if they had
6 the same programs in place.

7 MR. BARAB: Okay. Thank you. That's all I have.

8 JUDGE BOUCHER: Thank you. Who's next, Mr.
9 Roberts.

10 MR. ROBERTS: Ayusha Shrestha. Ms. Shrestha?

11 MS. SHRESTHA: Hello, can everyone hear me?

12 MR. ROBERTS: Yes.

13 JUDGE BOUCHER: Yes.

14 MR. ROBERTS: Thank you.

15 MS. SHRESTHA: Thank you, Dr. Harrison for your
16 testimony today -- a lot -- and we really value your
17 expertise on this. This is Ayusha Shrestha from the
18 AFL-CIO. I wanted to ask, we've heard a lot in this
19 hearing about acute heat exposure, so I was wondering
20 about what the medical implications of chronic repeated
21 heat exposure is on the body, since many workers who
22 are impacted by heat, it's not just a one off thing for

1 them, and does OSHA need to account for this in its
2 risk evaluation?

3 DR. HARRISON: Thank you for the question. When I
4 went to -- when I was in medical school, 40 years ago
5 now, I learned that acute heat illness, if somebody --
6 if an individual was acutely dehydrated and let's say
7 had some mild to moderate forms of heat illness, they
8 would completely recover and there was no lasting
9 effect on the body.

10 The scientific data has changed over the last four
11 decades and shows that repeated heat exposure, even if
12 somebody is recovered or had mild heat illness that
13 never had treatment, increases the risk of chronic
14 kidney disease and cardiac -- long term cardiac
15 complications.

16 And I do think that that should be recognized in
17 the evaluation of the scientific data, because we now
18 know that there are long term risks of repeated lower-
19 level heat exposure.

20 I point, in particular, the data from Latin and
21 Central America on chronic kidney disease, particularly
22 in the sugarcane workers in Guatemala.

1 And I simply can't remember whether OSHA has
2 sufficiently reviewed that literature and incorporated
3 it into their risk analysis, but there's certainly a
4 very robust body of literature now on repeated low
5 level heat-related illness and chronic disease.

6 MS. SHRESTHA: Thank you for that answer. And to
7 build off of that, are people who experience heat
8 strokes, not just lower levels of chronic repeated heat
9 exposures -- are people who experience heat stroke
10 more -- once more sensitive to experiencing heat
11 illness in the future?

12 DR. HARRISON: Probably the answer to that is yes.
13 That a worker who has heat illness and let's say had
14 that happen to him or her multiple occasions, they're
15 probably more susceptible to the effects, which I think
16 makes it even -- which I think provides scientific
17 evidence and a basis for the concept of early
18 reporting, tracking, education, setting a threshold of
19 temperature low enough.

20 I agree with the 80 degrees trigger, for example,
21 because I think it provides a margin of safety there,
22 because of exactly what you just pointed out.

1 MS. SHRESTHA: Thank you so much. And -- sorry,
2 you've already answered that question. Thank you so
3 much for your -- that's all from me.

4 DR. HARRISON: Thank you.

5 JUDGE BOUCHER: Thank you. Mr. Roberts, anyone
6 else?

7 MR. ROBERTS: No one else in the queue, Your
8 Honor.

9 JUDGE BOUCHER: Then Dr. Harrison, thank you very
10 much for your time. We appreciate you sharing your
11 testimony with us today.

12 DR. HARRISON: Thank you.

13 JUDGE BOUCHER: And Mr. Roberts, I believe we can
14 move to the next witness.

15 MR. ROBERTS: The next speaker will be Maggie
16 Leland from the Washington State Department of Labor
17 and Industries. Ms. Leland, please state your name
18 and affiliation.

19 JUDGE BOUCHER: Ms. Leland, if you're there you're
20 on mute and we can't hear you.

21 MR. ROBERTS: I can see Ms. Leland is off mute.

22 JUDGE BOUCHER: If we think she's having technical

1 difficulties --

2 MR. ROBERTS: Yeah, she moved --

3 JUDGE BOUCHER: Should we go to the next witness
4 and then come back to her?

5 MR. ROBERTS: Come back, yeah. So the next
6 witness is Kate McCoy from the Occupational Health
7 Subcommittee, Council of State and Territorial
8 Epidemiologists. Ms. McCoy, please state your name and
9 affiliation.

10 MS. MCCOY: Can you hear me?

11 JUDGE BOUCHER: Yes.

12 MS. MCCOY: Thank you so much. Just pulling up my
13 notes. Good afternoon, my name is Kate McCoy, along
14 with Dr. Ken Rosenman, I serve as co-chair of the
15 Occupational Health Subcommittee of the Council of
16 State and Territorial Epidemiologists. Our members are
17 based in states and use a variety of data sources to
18 track occupational illnesses and injuries.

19 Our work helps our states identify and address
20 emerging and persistent threats to our workers. Most
21 of our programs are funded and made possible by NIOSH.

22 As public epidemiologists we understand better

1 than most how much our current data systems fall short
2 when it comes to capturing the true health effects of
3 heat on workers.

4 We know that the data systems we use, such as
5 workers' compensation data, hospital emergency room
6 department data, death certificate data, death
7 certificate data and even Bureau of Labor Statistics
8 SOII and CFOI data consistently has substantially
9 failed to fully identify work-related illness and
10 death, including related heat illness and death.

11 In the context of this hearing, this means two
12 things; one, our systems currently underestimate the
13 threat that unaddressed heat exposure poses to our
14 workers, our economies and our states' abilities to
15 maintain functional operations in extreme heat
16 conditions. And two, as a result we are also vastly
17 underestimating the benefit that an OSHA Heat Standard
18 would, undoubtedly, provide to those same workers,
19 economies and state systems.

20 Even with the holes in our current data systems,
21 the need for an OSHA standard to protect workers from
22 heat is abundantly clear.

1 In Louisiana, which is recently slated to lose its
2 OSHA office despite extreme temperatures and other
3 threats to worker health, all of the state's
4 occupational health fatality assessments to date have
5 focused on heat-related deaths. One such death was a
6 24-year-old archaeologist, who died only a few hours
7 into her first day on a dig site. The temperature
8 reached 98 degrees and a heat index of 107 at that
9 point.

10 In another Louisiana case, a 27-year-old sugarcane
11 worker also died on his first day on the job. He'd
12 received heat training and had access to water but was
13 not acclimatized and had no access to shade.

14 Dr. Anna Reilly who runs Louisiana's Occupation
15 Health Surveillance Program notes that such deaths are
16 not always marked as heat-related or work-related on
17 death certificates.

18 When she learns of such discrepancies she uses
19 OSHA investigation reports and her team's findings to
20 petition coroners to correct the death certificate to
21 accurately reflect these as heat-related deaths.

22 This is the slow and painstaking work of trying to

1 piece together as many pieces of the heat risk threat
2 puzzle as possible.

3 In Michigan, Dr. Rosenman shared another fatality
4 case picked up by their Occupational Surveillance
5 Program. A 39-year-old H-2A migrant agricultural
6 worker from Southern Mexico was assigned to an
7 asparagus farm in Michigan. He passed the H-2A pre-
8 placement physical exam with no chronic conditions
9 noted. Four days into his work on the Michigan
10 asparagus farm he was admitted to hospital in renal
11 failure, of which he later died after being sent back
12 to Mexico. His condition and the circumstances were
13 consistent with the kidney disease that has been
14 recognized among young male agricultural workers in
15 regions of North America.

16 He and his family were not awarded workers
17 compensation despite Michigan H-2A workers being
18 eligible for such benefits.

19 Workers' compensation claim data is one of the
20 main ways that occupational health epidemiologists
21 track work-related morbidity and mortality. But
22 because the asparagus worker did not receive workers'

1 compensation his case was one of many not included in
2 the nearly 400 Michigan hospital and ED visits from
3 2020 through 2023 for which workers' compensation was
4 the payer.

5 His case came to the attention of Michigan's
6 Occupational Surveillance System only through the
7 review of Poison Center data as he was originally
8 believed to have been pesticide poisoned, not to heat-
9 related illness.

10 In my state of Wisconsin, where the ice get so
11 thick in winter that people drive their trucks out on
12 it to spend the day ice fishing, our workers'
13 compensation indemnity data shows the same basic heat-
14 related illness risk groups as found in warmer states.
15 That includes, among others, warehouse workers.

16 We recently worked with a 21-year-old college
17 student who also had a job at a warehouse for a global
18 corporation. He sat at an internship with us, after
19 suffering from heat illness at his warehouse job and
20 seeing firsthand how his health needs were brushed
21 aside. As an intern for us and a member of an
22 immigrant community, he worked passionately to design

1 and disseminate heat safety materials for warehouse
2 workers in their own language to fill a gap that should
3 have been addressed by the employer.

4 These are only a few examples. Every single state
5 Occupational Surveillance Program could offer similar
6 examples of how unaddressed heat poses a significant
7 yet underreported threat to their workers.

8 Some of the data from my colleagues in other
9 states appears in the proposed rule document. As
10 stated above such analyses represent our profession's
11 commitment to advancing the science even as we're aware
12 of the extent of underreporting.

13 Even our imperfect data makes clear that too many
14 workers are suffering and dying from heat exposure and
15 that this has long been the case. And as I was
16 preparing for these remarks, it struck me that NIOSH
17 first recommended a heat standard before most of us in
18 this field were even born.

19 We are at a pivotal moment now; the decimating
20 federal funding cuts to NIOSH and other agencies
21 threaten to remove our ability to track all serious
22 instances of work-related morbidity mortality,

1 including heat-related illness.

2 At the same time as our systems are going down,
3 heat risk to workers are going up. That means our
4 ability to understand and address this risk is likely
5 to worsen unless action is taken.

6 Whether they are counted or not worker deaths and
7 heat illness episodes will still reverberate deeply in
8 their affected communities across the country. We urge
9 passage of the heat standard without delay. Thank you.

10 And when I can start my video, I might need to
11 turn it off if there are questions, because I don't
12 have a great connection here.

13 JUDGE BOUCHER: Thank you, Ms. McCoy. Any
14 questions from OSHA, Mr. Levinson?

15 MR. LEVINSON: Yes, Your Honor. OSHA's questions
16 will come from Zoe Petropoulos.

17 MS. PETROPOULOS: I'm on mute, I'm sorry. This is
18 Zoe Petropoulos from the Directorate of Standards and
19 Guidance. Thank you so much for your testimony.

20 I do have some questions for you pertaining to
21 things you spoke about in your testimony, but also
22 specific questions related to OSHA's risk assessment.

1 And because these questions are specific and about
2 specific arguments that OSHA makes in the risk
3 assessment, I'll just let you know that risk assessment
4 begins on page 70732 of the preamble, and so for any of
5 these questions if you'd like to go back and read any
6 parts of that section before answering and then
7 responding in post-hearing comments, you're welcome to
8 do that.

9 So my first question, in the preamble of the
10 proposed rule OSHA - in the risk assessment of the
11 proposed rule, OSHA relied on, among other sources,
12 CSTE's Occupational Health Indicator No. 24 - and for
13 the record this is Occupational Heat-Related Emergency
14 Department Visits -- however OSHA noted in a
15 limitations section, which begins on page 70740, that
16 determining when emergency department visits and in-
17 patient hospitalizations are both work-related and
18 heat-related is challenging to do with existing
19 datasets and coding structures. Therefore, OSHA noted
20 that indicators like CSTE's likely do not capture all
21 relevant cases. Do you agree with this assessment?

22 MS. MCCOY: Yes. So that indicator is based on

1 looking at emergency department visits for persons age
2 16 years or older with a primary or contributing
3 diagnosis of heat-related illness and with a primary
4 care coded as workers' compensation or a work-related E
5 code listed in the -- in the ED record.

6 And so this goes a little back to one of the
7 questions that you had for Dr. Harrison. I can speak
8 to why we know -- we don't know the extent, we don't
9 have a good number on the extent of underreporting,
10 because as Dr. Harrison mentioned, that would take a
11 different kind of work to -- to go to emergency
12 departments and do a rigorous study where you're
13 verifying cases as they come in, which is not feasible.

14 But we know that systematically there is
15 underreporting work-relatedness and these systems --
16 the underreporting is not nefarious, the underreporting
17 is because these systems are relying on busy medical
18 personnel to fill in several different fields, and
19 additional fields beyond what is kind of minimally
20 necessary for them.

21 We know, for instance, even in instances where
22 work-relatedness is required -- which it generally is

1 not required in an emergency department visits -- but,
2 for instance, in trauma centers, at least in my state,
3 those trauma centers some of their funding relies on
4 the collection of specific indicators, including
5 indicators related to work-related and traumatic
6 injuries.

7 When we looked at that data, this is -- you know,
8 these are the cases where we should have excellent data
9 on work-relatedness, but what we see in a lot of that
10 data is the same -- the same occupation that industry
11 comes out over and over again. And when you look at it
12 it's because that was what was sort of the top of the
13 dropdown list for one of these major trauma centers.

14 So what that speaks to is, these are very busy
15 medical personnel who are just clicking through until
16 they get to the next screen, oftentimes. So when we do
17 get work-relatedness we presume that's more the
18 exception than the rule to get that information in
19 something like an emergency department visit record or
20 a hospital record.

21 And we do see those, we do see instances where
22 that data comes up, but we're humble enough and aware

1 enough to know that those are not always included, that
2 our data needs are not top of mind to medical providers
3 in those circumstances.

4 MS. PETROPOULOS: Thank you. My next question is
5 kind of similar but stepping back and so you touched on
6 this a bit, but I'm still curious to your thoughts.

7 So OSHA relied on multiple sources not just the
8 CSTE indicators in the risk assessment, specifically
9 BLS SOII and also state-level workers' compensation
10 claims. In your expert opinion, do these data in
11 addition to the emergency department data you just
12 mentioned, do these data represent the best data
13 sources that are currently available for estimating the
14 incidence of non-fatal heat-related injuries and
15 illnesses among U.S. workers, even in spite of the
16 limitations you've mentioned, and other witnesses have
17 mentioned?

18 MS. MCCOY: Yes. I think in combination, you
19 know, all of these together help us piece together the
20 full extent of the morbidity and mortality that we are
21 facing. The issue is that they all have different
22 liabilities as I was speaking to about emergency

1 department data. You know, SOII data is self-reported,
2 that BLS data that is survey based. CF0I is based on
3 whether or not that was - those deaths were captured in
4 data systems, news reports, et cetera.

5 So, you know, really putting together as many
6 different data sets as you can is going to provide a
7 better picture, but there isn't a single gold standard
8 that isn't currently being accounted for that is out
9 there, I would say, putting together as much as you
10 can. And I would say the anecdotal evidence really
11 needs to be taken seriously under these cases, under
12 these conditions, because we simply know there are so
13 many ways and so many reasons why underreporting
14 happens. So I spoke to what happens in the medical
15 system and I think Dr. Harrison spoke a little bit
16 earlier about some of the other reasons why there's
17 underreporting.

18 But, you know, whether workers aren't coming
19 forward, whether it's people not being delivered
20 medical care, whether it's employers not reporting when
21 they should, you know, all of these different things,
22 make it so that the true funnel of what we imagine to

1 be the underlying burden of occupational injuries and
2 illnesses gets whittled down to a much smaller official
3 number.

4 And so that's why in those situations where we
5 know that our data systems are faulty, we really do
6 need to privilege these voices that come from workers,
7 from worker organizations, from communities, from
8 families that say here was an instance where this
9 happened and it might not be reflected in official
10 statistics.

11 That example I gave of our intern who we had last
12 year, a young college student, he was a young public
13 health student who was working at that warehouse, he
14 wasn't treated medically for his instance of heat-
15 related illness, he was just sort of told to sit down
16 on the job and then get back to the line. So -- get
17 back to work -- and so he's not going to show up in any
18 of those data systems. That's an example where he
19 maybe should have been seen medically, but it's
20 underreporting.

21 So I listen to those instances of anecdotal
22 evidence of qualitative data in ways that help to flush

1 out the picture.

2 MS. PETROPOULOS: Thank you. My next question for
3 you is about comparing these data between states. So
4 in its risk assessment OSHA relied in part upon state-
5 level data of workers' compensation claims, I think
6 including data from your office in Wisconsin. OSHA did
7 not directly compare incidence rates derived from these
8 data between different states, and we noted that this
9 is because there are differences in incidence that
10 would not necessarily reflect the risks to the workers
11 in these states. There are differences in eligibility
12 criteria between states and varying rates of usage of
13 workers' compensation insurance by workers. We cited a
14 paper by David Bonauto et al., 2010, showing this
15 varying usage of workers compensation insurance and I'm
16 curious if you agree with OSHA's decision to not
17 compare rates between states and the reasons that I've
18 outlined and the reasons we outlined in the risk
19 assessment?

20 MS. MCCOY: Unfortunately, yes. It's one of our
21 major frustrations as a field that we don't have the
22 kind of standard, shared, uniform data systems that we

1 would like, and it makes it very difficult to do those
2 kinds of comparisons that we'd like to have.

3 Just by way of illustration, the analysis that we
4 did in Wisconsin is based on workers' compensation
5 indemnity claim data, so all we can speak to with our
6 comp data is lost time, not medical only claims. And
7 that's because in Wisconsin, we, at the state level do
8 have access to indemnity data, we do not have access to
9 the medical claims data, that's not true in every
10 state.

11 So that's just speaking to the data, not the
12 underlying eligibility questions, which, as you
13 mentioned can also vary.

14 MS. PETROPOULOS: Thank you. And I'll just
15 conclude by saying, you know, given your background and
16 your testimony and your expertise, we welcome any
17 additional input you want to share with us on our
18 limitations and underreporting section of the risk
19 assessment, this begins on page 70740, in your post-
20 hearing comments. I also mentioned this to Dr.
21 Harrison, that we talk about these topics in the
22 benefits section on page 70962. And if you want to

1 share any comments or if we are missing any papers,
2 reports or data on these topics that you're aware of
3 that we did not cite, we would also welcome those in
4 your post-hearing comments.

5 MS. MCCOY: Thank you very much.

6 MS. PETROPOULOS: Thank you.

7 MR. LEVINSON: Your Honor, that concludes OSHA's
8 questions for this witness.

9 JUDGE BOUCHER: Thank you. Ms. Wiles, anything
10 from the Solicitor's Office?

11 MS. WILES: Thank you, Your Honor. Linda Wiles
12 from the Solicitor's Office. I do not have any
13 questions. Thank you so much for your time and your
14 testimony today, Ms. McCoy.

15 MS. MCCOY: Thank you.

16 JUDGE BOUCHER: Mr. Roberts, any additional
17 questions from online participants?

18 MR. ROBERTS: We have Ms. Ayusha Shrestha. Ms.
19 Shrestha, please state your name and information.

20 MS. SHRESTHA: Hello, my name is Ayusha Shrestha
21 from the AFL-CIO. Thank you for your testimony today.
22 You kind of already -- you touched on this a bit in the

1 OSHA -- the questions from OSHA, but I wanted to ask if
2 you could expand on this. From a data variability
3 perspective, why does the illness need to be addressed
4 for workers in a uniform standard?

5 MS. MCCOY: From a data perspective? Yeah, well,
6 I think just -- we were coming right up against that
7 question at the end of the last questioner's
8 interaction. So comparability, right? I mean, to be
9 able to have comparisons across states as well as over
10 time we really need that standard type of reporting,
11 standard interpretation of guidance and standard
12 enforcement so that any place in the country we know
13 that the same -- the same types of incidents are
14 hopefully being reported. Otherwise, it's very
15 difficult to make decisions based on the reading of the
16 data.

17 If I can just go beyond the data part about why
18 it's also important just, generally, for worker
19 protections. I know a number of speakers have talked
20 to the fact that really there are heat risks across the
21 country, and so we need protections across the country,
22 but also this may have been previously mentioned as

1 well, but a lot of workers who face heat risks do
2 travel across state lines for their work, and so having
3 that uniformity of protections across state lines can
4 be helpful for them within the same season.

5 MS. SHRESTHA: Thank you so much. That's all from
6 me.

7 MS. MCCOY: Thank you.

8 JUDGE BOUCHER: Mr. Roberts, anyone else?

9 MR. ROBERTS: There's no one else in the queue,
10 Your Honor.

11 JUDGE BOUCHER: Okay. Thank you, Ms. McCoy, for
12 your testimony today, we appreciate your time.

13 MS. MCCOY: Thank you.

14 MR. ROBERTS: Your Honor, if you are happy to, I
15 believe we have Ms. Leland from the Washington State
16 Department of Labor and Industries ready.

17 JUDGE BOUCHER: Sounds good.

18 MR. ROBERTS: Ms. Leland, please state your name
19 and affiliation.

20 MS. LELAND: Hello.

21 JUDGE BOUCHER: We can hear you, go ahead.

22 MS. LELAND: Hello. Hello, my name is Maggie

1 Leland, I'm with the Washington State Department of
2 Labor and Industry. We are an OSHA approved state
3 plan, and we also run a state workers' compensation
4 program where all employers in Washington obtain their
5 workers' compensation insurance either through L&I or
6 through - or become self-insured with oversight from
7 L&I. This makes us uniquely -- a unique entity to be
8 providing testimony to OSHA in favor of this rule.

9 We're also one of the few states who have a
10 heat -- an outdoor heat specific rule in place. We've
11 had this rule in place since 2008. We updated the rule
12 in 2021 with emergency rules, 2022 with emergency
13 rules, and a permanent update in 2023.

14 We are here today testifying in support of OSHA's
15 rule. We believe heat is an occupational safety
16 hazard, and rules are necessary and appropriate to
17 reduce a significant risk of material impairment to
18 health.

19 Heat has long been recognized as an occupational
20 hazard. Similar to other physical hazards like
21 electricity and noise, despite the hazard such as noise
22 and electricity existing in non-occupational settings.

1 It is important to note that occupational
2 regulations are based on the premise that employers
3 have a duty to provide a safe and healthful workplace,
4 as they have control over the workplace and the way
5 work is performed. Physical activity is associated
6 with the increased metabolic work - metabolic load and
7 the body heat of workers and metabolic heat is a risk
8 factor for heat-related illness.

9 Employers have control over the physical activity
10 associated with work, pace of work, the ability to take
11 breaks, the need for personal protective equipment and
12 other risk factors such as working in direct sunlight,
13 access to water; as such we believe that it is
14 important that OSHA address this occupational hazard.

15 Washington State and other states are an example
16 that outdoor heat rules are necessary, appropriate, and
17 feasible. Washington adopted its first rule in 2008
18 specific to outdoor heat. This was triggered by a
19 farmworker death in 2025 -- or in 2005, excuse me. At
20 that time our rule set a trigger for most work
21 performed at 89 degrees. We then got a petition to
22 update the rules in 2020 following Washington's heat

1 dome, to look at having our rules include more
2 preventive measures.

3 Our rule at the time had specific requirements
4 related to water and it also included specific
5 requirements related to responding to workers who were
6 showing signs and symptoms of heat-related illness.
7 But our rule lacked concrete requirements to prevent
8 heat-related illness.

9 We looked at our workers' compensation data at the
10 time and we realized that we were having - from 2006 to
11 2017, we had 918 heat-related illness claims; 654 of
12 those claims were accepted and of those, 45 percent
13 were below the 89-degree threshold. As such we
14 realized that we needed to have a lower threshold in
15 order to be preventing heat-related illness. In
16 addition, we wanted more preventative requirements.

17 Our previous rule had directed employers to
18 include heat-related illness in their accident
19 prevention program which is Washington's Injury and
20 Illness Prevention Program. Employers in Washington
21 have a responsibility to have an accident prevention
22 program that is tailored to the hazards of their

1 workplace, and under our previous rule, they were to
2 address heat exposure in their accident prevention
3 program.

4 As a result, this is similar to critique that OSHA
5 has heard around requiring the -- following the General
6 Duty Clause and having a more performance-based rule,
7 that this did not provide clarity to employers and to
8 workers as to how to actually - what preventative
9 measures were necessary. As such, when Washington
10 updated our rule, we included requirements -- specific
11 requirements, for heat -- or for shade, for rest
12 breaks, and for both preventative rest breaks and
13 mandatory rest breaks, and specific requirements around
14 acclimatization and - and training and working under
15 high heat hazards.

16 Our rule -- our longstanding rule since 2008 and
17 the updates show that this is feasible for employers to
18 be having prescriptive requirements to prevent
19 workplace heat-related illness, as well as long-term
20 implications from heat, which includes kidney disease.
21 And issues based on research that is done in
22 Washington, which we have provided in our comments, as

1 well as research in other states that show that there's
2 an increased risk of traumatic injuries from workers
3 when there is -- when they are working in high heat. So
4 this includes risks from traumatic injuries from, for
5 example, falls or other types of injuries in the
6 workplace.

7 Washington supports the rule having an initial
8 trigger of 80 degrees. Again, we lowered our trigger
9 to 80 degrees because our previous trigger of 89 was
10 not protective enough to prevent workplace -- to
11 prevent heat-related injury and illness. We recognize
12 that, again, there are those who feel that a more
13 prescriptive -- or a more performance-based rule would
14 be helpful providing flexibility for employers, but
15 without clarity on what heat and what temperature
16 employees need to be protected from, that more
17 prescriptive -- performance-based rules are not going
18 to be protective enough of employees.

19 We also, in Washington, believe that humidity is
20 an important consideration that OSHA needs to have in
21 looking at their rule. So we appreciate that their
22 rule includes consideration of humidity.

1 In Washington, our rule uses an ambient
2 temperature. However, that is because we were able to
3 work with experts, including Dr. Bernard, who at the
4 time was the chair of the ACGIH's Physical Hazard
5 Committee, to look at our rule and our unique
6 situations in Washington. And he was able to help us
7 look at our dew point observations, which is a measure
8 of humidity, and calculate that out to determine that
9 our rule - that using an ambient temperature in
10 Washington would allow for consideration of - of
11 humidity in Washington's environment.

12 Given the diversity in temperature and humidity --
13 or humidity across the country, we believe that it's
14 important that OSHA's rule does consider humidity.

15 JUDGE BOUCHER: Is your testimony complete, Ms.
16 Leland?

17 MS. LELAND: Oh, I'm sorry. So we also, no, we
18 also believe that it is important that the rule include
19 recognition of acclimatization. That is an important
20 risk for workers. And we believe that the rule, it is
21 appropriate that the rule include acclimatization. We
22 also support the rule with respect to rest breaks.

1 Given the variability and the type of work,
2 environmental and personal factors across occupations
3 and workers, ensuring workers understand that they have
4 the right to take preventative cool-down rest periods
5 when needed, and that those rest periods be paid unless
6 during a meal period, will prevent workers from
7 overheating or be overheated.

8 We believe that it is important that the rule
9 include emergency response and planning, such as
10 relieving workers who are experiencing signs and
11 symptoms of heat-related illness, offering first aid,
12 and contracting -- contacting emergency medical
13 services. We support rest periods at high
14 temperature -- high heat temperatures.

15 JUDGE BOUCHER: Ms. Leland --

16 MS. LELAND: We support training --

17 JUDGE BOUCHER: -- your allotted time is up. If
18 you just want to finish up, then we'll move to
19 questions.

20 MS. LELAND: Yes, thank you. I'm ready to move to
21 questions.

22 JUDGE BOUCHER: Okay, thank you. Mr. Levinson,

1 any questions from OSHA?

2 MR. LEVINSON: Yes, Your Honor. Andrew Levinson
3 for OSHA.

4 Ms. Leland, thank you very much for your
5 testimony. My questions center around Washington's
6 experience with the concept of close observation
7 requirements in your standard for newly assigned and
8 returning workers. Can you discuss a little bit your
9 experience, or the state's experience, with employers'
10 compliance with that requirement?

11 MS. LELAND: Yes. That requirement was added into
12 our rule, our permanent rule in 2023, and we require
13 close observation for 14 -- for 14 consecutive days for
14 new employees who are not acclimatized to the heat and
15 new employees returning from work. And that also
16 includes times for all workers when there's heat waves,
17 when the heat is at or above the action level, which is
18 80 degrees, and at least 10 degrees higher than the
19 five day average highs.

20 And we have not experienced any concern from
21 employers with the ability to -- to comply with this
22 since we have had it in place. We are happy to update.

1 We'll take a look at our data and update you on if
2 we've had any specific complaints regarding this or
3 citations, but I'm not aware of any concerns from
4 employers with the ability to implement this
5 requirement.

6 MR. LEVINSON: Thank you. And I should have said
7 at the beginning, in addition to the opportunity to
8 respond now, OSHA also has a post-hearing comment
9 period, and we're also happy to take any thoughts or
10 observations or data that you have in the post-hearing
11 comment period.

12 In particular, what would be helpful is if the
13 State of Washington has any experience with enforcement
14 around the logistical administrative requirements of --
15 or challenges for the close observation requirement.
16 So have you enforced it, in fact, and if so, how do
17 your enforcement personnel know when an employer did or
18 did not meet the close observation requirements? That
19 information would be particularly helpful to us.

20 MS. LELAND: Great. We will take a look and we
21 will update information for you in our post-hearing
22 comments. We do have a directive to our inspectors as

1 to how they are to go about enforcing our heat rule,
2 and we can also share that with you that has
3 information for them on how they're to be assessing an
4 employer's compliance with the requirements, including
5 with the requirements for close observation.

6 MR. LEVINSON: Thank you. My next question
7 relates to heat waves and we're curious, are there
8 specific tools or processes that Washington State uses
9 with employers to identify heat waves and how to
10 anticipate when that's occurring or triggering specific
11 acclimatization requirements in your standard?

12 MS. LELAND: So we are happy to update this --
13 supplement this data as well, in our post-hearing
14 comments. We do in Washington -- we have a robust
15 Department of Health that sends out notifications at
16 times when there's anticipation of heat waves. And so
17 not necessarily a heat wave as defined under our rule,
18 but when there's high heat advisories and heat -- heat
19 warnings and advisories, they send out notifications
20 and our communications staff here at L&I, we also send
21 out and use social media to send out notifications, but
22 it is not an automatic system in place that we have to

1 provide employers that information, we -- but we do try
2 to.

3 MR. LEVINSON: Thank you, and as you're providing
4 additional comments for the record, any thoughts that
5 you might have on the suitability of National Weather
6 Service alerts and/or why Washington does issue
7 advisories from the state health department or from
8 other state agencies would also be helpful.

9 MS. LELAND: We will look at that.

10 MR. LEVINSON: Thank you. The next question from
11 OSHA comes from Zoe Petropoulos.

12 MS. PETROPOULOS: Hi, Zoe Petropoulos with
13 Directorate of Standards and Guidance. My question was
14 about your written comment and something that you all
15 wrote about training.

16 So you wrote -- you mentioned a recommendation in
17 your comment for quote "specific workplace supervisory
18 training requirements, such as the use of engineering
19 or administrative controls" end quote. Could you tell
20 us more either now or in post-hearing comments about
21 what these requirements might look like and why you
22 think OSHA should include this requirement?

1 MS. LELAND: So if there -- we will update that so
2 that in comment, but this in part gets at -- if an
3 employer's way of addressing heat includes some
4 engineering controls, for example, then the supervisors
5 need to be trained to understand what those are. So
6 they can be ensuring that they're -- that they
7 understand it and ensuring that the supervisors can be
8 implementing them and that employers under -- the
9 workers understand them.

10 So an administrative control could be that the use
11 of access to air-conditioned spaces or scheduling
12 certain work, more physical work, during cooler hours
13 of the day. Those are examples of where it's important
14 that a supervisor be trained and understand that an
15 employer is using those to mitigate heat exposure.

16 MS. PETROPOULOS: Thank you, and that was my only
17 question.

18 MR. LEVINSON: Your Honor, the next questions from
19 OSHA come from Tiffany Defoe.

20 MS. DEFOE: Hi, this is Tiffany DeFoe with the
21 Directorate of Standards and Guidance, OSHA. Thank you
22 for the information that you provided to us about the

1 history and status of your -- of your state's rules.
2 Very interesting, as well as helpful, but interesting
3 too.

4 I wanted to ask, to the best of your knowledge,
5 have employers in your state by and large been
6 complying with the rest break provisions in your rules?
7 And if so, would you share your thoughts and any
8 available evidence that you may have on whether the
9 rest break provisions in particular have helped to
10 reduce heat-related illness among the exposed workers?
11 And to be clear, discussing this now is fine, also in
12 post-hearing comments, or either. Thank you.

13 MS. LELAND: We will update - provide response to
14 this question on our response. I will note, Washington
15 State, under our wage and hour law, does have a
16 requirement for ten-minute rest breaks every four
17 hours. And so employers in Washington have understood
18 the need to follow rest break laws, but regarding
19 compliance specific to heat, I will get with our
20 compliance data and respond back in our post-hearing
21 comments.

22 MS. DEFOE: Thank you. Thank you very much. And

1 I also wanted to ask, to the best of your knowledge, in
2 the history of the implementation of the rule and its
3 various phases, have there been significant disruptions
4 or hardships you're aware of to Washington State
5 businesses as a result of coming into compliance with
6 rest break requirements? And if you are aware of any
7 significant disruptions or hardships that have
8 occurred, if there's information you could provide to
9 the record that could help us better understand where
10 and why those challenges arose and any recommendations
11 based on Washington's experience that you might have or
12 how a federal standard could help mitigate those kinds
13 of issues while still protecting workers from heat-
14 related illness.

15 MS. LELAND: We can take a look at that
16 information and provide that in our follow-up comments.
17 I am not aware of any specific issues in particular
18 where employers have identified challenges with rest
19 breaks. Our rule did include a provision that we would
20 be reviewing the requirements for rest breaks in
21 following - following the adoption of the rule. We
22 would be looking at it within three years. So we would

1 review data regarding work rest periods and look at
2 heat-related illness claims inspections, information
3 from other states and national regulations, and we
4 would be looking at peer-reviewed publications and
5 other nationally recognized standards. So we've
6 committed to doing a review and looking at that as well
7 in our -- to our stakeholders.

8 MS. DEFOE: Thank you. Thank you very much.
9 That's all I have.

10 MR. LEVINSON: Your Honor, the last questions for
11 this witness come from Rachel Carse.

12 MS. CARSE: Hi, this is Rachel Carse from OSHA
13 DSG. Just following up on Tiffany's question. It
14 sounded like you did some analysis of the effectiveness
15 of earlier versions of the rule. If there's anything
16 that you learned or any details or results from that
17 that you can share, that you haven't shared already, we
18 would appreciate that type of information.

19 I have, in addition to that, some questions about
20 your final cost-benefit analysis for the 2023 final
21 rule. So I'm going to really just read these into the
22 record because they're very specific about the cost

1 estimates and we don't expect that you have that
2 information with you today, but if you do, we'll take
3 it.

4 So the first question was that there was an
5 estimate that it would cost employers approximately \$20
6 to \$75 for translation services. If possible, can you
7 provide the source of that estimate?

8 The second question is how did Washington State
9 estimate the percentage of workers that are working
10 alone and/or in remote locations that would be exposed
11 to outdoor conditions?

12 And the third question is in the final cost-
13 benefit analysis, it is assumed that unreported
14 incidents have ten percent of the cost of cases
15 reported and accepted to the workers' comp system. Can
16 you explain a little bit more the basis of this
17 assumption? And that is our questions that we wanted
18 to read into the record. Thank you.

19 MS. LELAND: Thank you. We will look at those and
20 provide information for you in our post-hearing
21 comments.

22 MS. CARSE: Thank you.

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

3 JUDGE BOUCHER: Thank you. Anything from the
4 Solicitor's Office?

5 MS. WILES: Thank you, Your Honor. Linda Wiles
6 from the Solicitor's Office. I do not have any
7 additional questions. Thank you so much for your time
8 and testimony today, Ms. Leland.

9 JUDGE BOUCHER: Mr. Roberts, any other
10 participants with questions?

11 MR. ROBERTS: We have Mr. Dan Glucksman with a
12 question. Mr. Glucksman, please state your name and
13 affiliation.

14 MR. GLUCKSMAN: Hi. Thank you, Your Honor. I'm
15 Dan Glucksman, the International Safety Equipment
16 Association, and my question for Ms. Leland is -- well,
17 I noticed that Washington State's recent outdoor heat
18 stress rules for ag workers and others, their
19 definition of water included electrolyte replenishment
20 beverages, parentheses, i.e. sports drinks, that do not
21 contain high amounts of sugar, caffeine, or both, such
22 as energy drinks. I guess my question is, have you

1 found that this provides needed clarity for employers
2 and employees? You know, that adding that definition.

3 MS. LELAND: Yes, that definition was added in our
4 rule in 2008 when we first adopted it as to -- that
5 electrolyte beverages would be meeting the definition
6 of -- of water, and it was updated in our last rule to
7 include looking at ensuring that they were not energy
8 drinks or high sugar. And this does provide clarity to
9 employers as to what they can provide and our
10 expectations. So it's critical that employers not be
11 questioning whether something is acceptable, a beverage
12 if they're going to be trying to meet a requirement in
13 the rule to provide a certain amount of drinking water.
14 We felt that it was important.

15 We had got questions from employers during the
16 rule development phase as to whether it would be
17 acceptable. There are many times where certain
18 physical jobs and some construction jobs, for example,
19 had already been providing electrolyte beverages on the
20 job site. So this -- we have found this to be helpful
21 clarity for both our inspectors and for the regulated
22 community.

1 MR. GLUCKSMAN: Okay, great. Thank you very much.
2 And thank you, Your Honor.

3 JUDGE BOUCHER: Thank you. Mr. Roberts, anybody
4 else?

5 MR. ROBERTS: There is no one else in the queue,
6 Your Honor.

7 JUDGE BOUCHER: Okay. Ms. Leland, thank you very
8 much for your testimony. We appreciate your time.

9 MS. LELAND: Thank you.

10 MR. ROBERTS: The next speakers are Sarah Bucic,
11 Milagros Elia, and Daniel Smith from the Alliance of
12 Nurses for Healthy Environments.

13 MS. BUCIC: Thank you so much. Good afternoon.
14 My name is Sarah Bucic. I'm a registered nurse and I
15 represent the Alliance of Nurses for Healthy
16 Environments, and I really appreciate the opportunity
17 to speak today.

18 Our organization is the only global nursing
19 organization focused solely on the intersection of
20 health and the environment. We have close to 10,000
21 individual nurses dedicated to promoting healthy people
22 and healthy environments, and we're committed to

1 advancing regulations that protect workers from
2 preventable harms.

3 Heat is now the leading cause of weather-related
4 deaths in the US, and according to recent studies,
5 heat-related illnesses and injuries, such as exertional
6 heat stroke are becoming more frequent due to rising
7 temperatures and the increasing physical demands of
8 labor-intensive industries like agriculture and
9 construction.

10 Exertional heat stroke, in particular, remains a
11 significant cause of morbidity and mortality among
12 workers performing physically demanding tasks in
13 extreme heat, leading to long-term health consequences,
14 including multi-organ failure and cardiovascular
15 dysfunction. Research on exertional heat illness
16 indicates that workers exposed to high ambient
17 temperatures and humidity are at increased risk of
18 heat-related illnesses. The body's thermoregulatory
19 system becomes overwhelmed when conditions hinder
20 effective heat dissipation, especially in outdoor
21 environments and this issue is exacerbated by the
22 physical demands of jobs in high-risk industries, such

1 as construction, firefighting, and agriculture, where
2 workers are exposed to prolonged heat stress, often
3 with insufficient rest breaks or cooling measures.

4 Indoor workers are also at risk of heat-related
5 illness, including those working in warehouses, indoor
6 construction sites, vehicles, manufacturing, food
7 services, and maintenance of older public buildings.

8 Further complicating the problem, workers with
9 pre-existing health conditions, such as cardiovascular
10 disease, diabetes, and kidney disorders, are
11 particularly vulnerable to heat stress. And studies
12 show that heat exposure can exacerbate these
13 conditions, leading to severe heat-related illnesses
14 and long-term health effects, including chronic kidney
15 disease, which has been linked to chronic dehydration
16 and repeated heat exposure.

17 Medications also, such as diuretics and beta
18 blockers, also impair the body's ability to regulate
19 heat, placing many workers at even higher risk.

20 While we strongly support the proposed heat injury
21 and illness prevention standard, we believe OSHA must
22 address several critical areas, and one of them being

1 the implementation of medical screening. The current
2 OSHA proposal does not include a provision for medical
3 screenings to identify workers who may be more
4 vulnerable to heat stress.

5 And heat-related illnesses disproportionately
6 affect workers with underlying health conditions, such
7 as cardiovascular disease, diabetes, and kidney
8 disorders. In addition, certain medications, as I
9 noted, such as diuretics and anticholinergics, impair
10 the body's ability to regulate heat, further increasing
11 the risk of heat-related complications.

12 And research demonstrates that preexisting
13 conditions significantly increase the likelihood of
14 exertional heat stroke and other heat-related
15 illnesses, potentially resulting in severe outcomes.

16 We recommend that OSHA encourage employers to
17 offer medical screenings to identify heat-related
18 vulnerabilities. Such screenings modeled after OSHA's
19 respiratory protection standard would enable employers
20 to tailor accommodations and protections to individual
21 health needs without placing undue burden on the
22 workforce. And by proactively addressing workers'

1 health risks, employers can reduce the incidence of
2 heat-related illnesses and improve workplace safety.
3 Employers also are exempt from the standard due to
4 their indoor operations, rarely exceeding the initial
5 heat index threshold of 80 degrees Fahrenheit, or
6 because they provide an air-conditioned environment,
7 should also be required to maintain their HVAC systems
8 and to provide documentation of regular maintenance.
9 Exemptions based on access to air-conditioning should
10 also include time limits for temperature deviations
11 exceeding 80 degrees.

12 This is particularly critical for indoor workers,
13 including those classified as sedentary under the
14 proposed standard, who often work in older buildings
15 with inadequately maintained HVAC systems.

16 I appreciate your time today, and I'm happy to
17 take any questions.

18 JUDGE BOUCHER: Because you're a panel, I think
19 we'll -- if the other witnesses want to testify first,
20 then we'll take questions for all three of you. So
21 whoever's next.

22 MS. ELIA: Thank you. Yes. Yes. Hi, I'm happy

1 to take over for my colleague. My name is Milagros
2 Elia. I am the Program Manager for Climate and Clean
3 Energy Advocacy at the Alliance of Nurses for Healthy
4 Environments. I'd like to start by saying that the
5 summer of 2025 has commenced with experiencing, yet
6 again, a record-breaking heat wave.

7 Heat-related deaths have increased with warmer
8 temperatures associated with increased risks of
9 hospitalization for things like heart disease,
10 respiratory complications, kidney damage, preterm
11 births, and mental health impacts. Nurses are on the
12 front lines treating patients with exposure to extreme
13 heat with elevated health risks for outdoor workers,
14 children, and other older adults, and those who
15 experience barriers in accessing cooling or healthcare,
16 such as those living in low-resourced communities.

17 Just as we find with many health inequities here
18 in the United States, our communities of color are
19 bearing a disproportionate burden of the impact of
20 extreme heat. Those employed in the agricultural,
21 fishing, forestry, and hunting sectors account for
22 about 20 percent of heat-related deaths and about 10

1 percent of heat-related illnesses reported to the
2 Occupational Safety and Health Administration. Around
3 17 percent of the Latino population work as natural
4 resource laborers, meaning those that I just quantified
5 as agriculture, forestry, fishing, and hunting,
6 compared to ten percent of whites.

7 High temperatures and heat waves will thus
8 disproportionately impact Latino laborers, with Latino
9 laborers being three times more likely to die from heat
10 on the job than non-Latinos. Workers in agriculture,
11 construction, utility, and manufacturing, who are also
12 disproportionately Latino, are more vulnerable to heat
13 waves and higher temperatures, leading to loss of
14 productivity, increased healthcare costs, and general
15 economic strain. Latinos are 43 percent more likely to
16 live in areas that are projected to have reduced
17 working hours due to extreme temperatures.

18 Latinos also have less access in these communities
19 to sick days and health insurance, which leaves them
20 less able to manage health conditions that are
21 exacerbated by heat. It is for this reason that we
22 advocate for a requirement of written heat illness and

1 regarding the injury -- and regarding injury prevention
2 plans for all employers.

3 The current OSHA proposal requires written heat
4 illness and injury prevention plans, but exempts
5 employers with fewer than ten workers. This exemption
6 leaves many vulnerable workers unprotected,
7 particularly in industries such as those I mentioned,
8 agriculture and construction, where smaller employers
9 often operate.

10 Research reveals that workers in these sectors
11 face significant risks of heat-related illness due to
12 outdoor work, high physical exertion, and limited
13 access to cooling areas. Without written heat injury
14 and illness prevention plans, smaller employers may not
15 implement adequate safeguards, exposing workers to
16 dangerous heat levels. Moreover, research on migrant
17 and temporary workers show they often have less access
18 to safety measures and training, which increases their
19 risk. We recommend that OSHA mandates written Heat
20 Injury and Illness Prevention Plans for all employers,
21 regardless of size, to ensure consistent and equitable
22 workplace protections.

1 Offering compliance assistance for smaller
2 businesses can help ease the implementation burden but
3 all workers deserve the same protection from heat-
4 related risks. Each day without a strong federal
5 standard is a missed opportunity to save lives. We
6 must ensure that prevention measures are enacted and
7 enforced across all industries, with active engagement
8 from workers and labor unions.

9 The scientific evidence is clear. Earlier
10 intervention, stronger heat illness prevention
11 strategies, and comprehensive workplace protections
12 will save lives and reduce health risks of extreme
13 heat. The Alliance of Nurses for Healthy Environments
14 supports OSHA in creating these safer workplaces and
15 urges the implementation of evidence-based heat safety
16 standards.

17 We thank your office for the work done so far and
18 strongly encourage finalizing and implementing this
19 standard. Protecting America's workforce is both a
20 public health imperative and a moral responsibility.
21 Thank you.

22 DR. SMITH: Hi everyone. I will wrap it up

1 quickly. I am Dr. Daniel Smith and I serve as the
2 board chair for the Alliance. I am also a nurse
3 practitioner with a PhD in Environmental and
4 Occupational Health Nursing, and I practice clinically
5 providing care for workers, those such as farmworkers,
6 construction workers, and restaurant workers who are
7 regularly exposed to extreme heat.

8 Over the years, I have treated patients with heat
9 exhaustion, syncope, rhabdomyolysis, and irreversible
10 kidney damage from heat stroke. One patient that comes
11 to mind is a 32-year-old roofer who collapsed after
12 hours of work when the heat index soared over 95
13 degrees Fahrenheit. Despite ICU care, this man now
14 lives with permanent renal impairment which strains
15 both his family and our healthcare system through the
16 cost and time burden of dialysis.

17 In another case, a young farmworker tried to keep
18 working through dizziness because breaks weren't paid
19 and ended up hospitalized for severe dehydration and
20 muscle breakdown. Thankfully, he recovered, but is
21 still at risk for long term cardiac and renal
22 impairments. In my research I have published peer-

1 reviewed studies that have documented over 50 percent
2 of surveyed agricultural workers in Southeast Georgia
3 reporting symptoms of heat strain, with most having
4 limited knowledge of first aid for heat-related
5 illness.

6 Our findings, based on community-engaged methods,
7 highlight how lack of training, power imbalances, and
8 structural barriers increase workers' risk for extreme
9 heat.

10 With this, I strongly encourage OSHA to adopt a
11 rule that would trigger protections at 80 degrees
12 Fahrenheit with enhanced safeguards above 90, require
13 access to water, rest, shade, implement hourly paid
14 rest breaks and acclimatization protocols, and train
15 both workers and supervisors on recognizing heat-
16 related illness. Thank you so much for prioritizing
17 worker health and safety. We will now take any
18 questions.

19 JUDGE BOUCHER: Thank you.

20 Questions from OSHA, Mr. Levinson?

21 MR. LEVINSON: Yes, Your Honor.

22 Zoe Petropoulos will be asking the first questions

1 for OSHA.

2 MS. PETROPOULOS: Hi. This is Zoe Petropoulos
3 with the Directorate of Standards and Guidance. I'm
4 not sure if you all were able to hear my questions for
5 Dr. Harrison, but I -- I have some similar ones for you
6 all. In your experiences as healthcare professionals,
7 are you aware of workers not reporting heat-related
8 injuries and illnesses that they experience to their
9 employer?

10 DR. SMITH: I will take this. In my clinical
11 practice, this happens all the time. Workers are
12 afraid of retaliation, they're afraid of losing work if
13 they report having heat-related illness, and so it
14 continues to go as something that workers are
15 experiencing daily at work but not reporting to both
16 their employers nor healthcare providers, leading to
17 the underreporting of heat-related illness in our data.

18 MS. PETROPOULOS: Thank you. And another topic
19 that we touched on in previous -- with previous
20 witnesses that I'm curious to get thoughts on. Are you
21 aware of issues with the coding of heat-related
22 injuries and illnesses among workers in administrative

1 and surveillance databases, either not being coded as
2 work-related or not being coded as heat-related? Are
3 you aware of any instances of that?

4 DR. SMITH: Yes, that happens all the time. I
5 would say most people are going to present to the ER
6 and most clinicians are going to code something just as
7 the cardiac event that caused the ultimate death or the
8 ultimate reason for seeking care. And then, also, a
9 lot of - we don't routinely collect occupational data
10 at the clinical level and so that is often going
11 underreported as well.

12 MS. PETROPOULOS: Thank you. And those were my
13 only questions but if you want to share any more
14 evidence, or examples, or stories in post-hearing
15 comments on these topics, we would welcome that.

16 MR. LEVINSON: Your Honor, the next questions come
17 from Tiffany DeFoe.

18 MS. DEFOE: Hi. This is Tiffany DeFoe, with the
19 Directorate of Standards and Guidance, OSHA. First
20 off, I just want to say thanks for your very clear and
21 comprehensive comments. It's much appreciated. And in
22 the comments that you provided about rest breaks, some

1 of the recommendations you made for the provisions of
2 the proposed standard, you recommended ensuring
3 frequent rest -- frequent rest breaks at the initial
4 trigger of 80 degrees Fahrenheit, where the proposed
5 standard provided for as-needed rest breaks.

6 And you stated that relying on voluntary breaks
7 places undue responsibility on workers to recognize
8 their risks and advocate for breaks, and you went
9 through a variety of reasons why it can be difficult,
10 in your experience, for workers to advocate for those
11 breaks.

12 Now, recognizing both your recommendation that the
13 mandatory breaks be extended to 80 degrees and OSHA's
14 intention in the proposal that employees should be able
15 to use as-needed rest breaks, regardless of whether
16 they're working in conditions that also require
17 mandatory breaks, I'd like to ask if you would give
18 your thoughts now, or in post-hearing comments, on what
19 kind of strategies could be included in the final rule
20 or what kinds of information could be provided in
21 guidance developed to explain and support the rules
22 requirements that could help to address the issues that

1 you've identified with workers being able to use
2 voluntary as-needed breaks?

3 MS. BUCIC: Thank you for that question. We're
4 happy to provide additional information in the post-
5 hearing comments.

6 MS. DEFOE: Thank you. That should -- and I also
7 want to note that throughout this hearing, we've
8 received a variety of comments and concern that the
9 mandatory scheduled breaks proposed in the proposed
10 rule may not be feasible or safe in all work processes
11 and all jobs.

12 And the recommendations that we've gotten related
13 to those concerns are generally either that OSHA should
14 remove the mandatory scheduled rest breaks from any
15 final standard, or should add some form of flexibility
16 to those requirements for mandatory scheduled breaks,
17 in terms of how they're scheduled and implemented. And
18 so I'd like to ask if your organization could provide
19 your thoughts on - on these recommendations, either now
20 or in post-hearing comments?

21 DR. SMITH: Yeah. So I can -- I can take this.
22 We've done some work in Nicaragua that has worked with

1 a sugarcane mill in order to schedule rest breaks every
2 hour. And it's been quite interesting, kind of,
3 learning from them that we gave them the mandate that
4 these rest breaks need to happen. And then, we gave
5 the flexibility of how you want to implement them,
6 every hour, is up to you.

7 And I think finding that balance is something that
8 I would like to see in the final -- the final
9 regulation of not just getting rid of the mandatory
10 rest breaks, but recognizing that they're there, and
11 that the implementation of them can be industry-
12 specific because you're -- you're correct. Depending
13 on the industry at hand, how a rest break is
14 implemented, and it's particularly in water, rest,
15 shade, right? Whenever you're doing a -- a thorough
16 rest break, it's going to look very different in the
17 restaurant industry than in the agricultural industry.

18 MS. DEFOE: Thank you for that. If it's possible,
19 when you are providing your post-hearing comments, to
20 provide some of the documentation of the -- of the work
21 that you did, and also, any further detail that you can
22 supply about, you know - you summarized it right now as

1 we recommend -- I -- I think I understood you to be
2 saying, we recommend hourly rest breaks, but how you
3 actually implement this recommendation is up to you?
4 If you could expand upon that answer, and just to -- to
5 make sure that I'm understanding correctly what you're
6 recommending should be -- how that would look in a --
7 in an OSHA federal standard.

8 DR. SMITH: For sure. We can do that in the --
9 the post-hearing comments.

10 MS. DEFOE: Great. Thank you.

11 That's all I have.

12 MR. LEVINSON: Your Honor, the last questions from
13 OSHA come from Rachel Carse.

14 MS. CARSE: Hi. This is Rachel Carse from OSHA
15 DSG. I'm gonna ask about your recommendation that
16 workplaces are exempt -- the workplaces that are exempt
17 because they -- the indoor temperature rarely exceeds
18 80 degrees would be required to maintain their systems
19 regularly, and are subject to time limit of
20 temperatures that exceed the threshold. So we were
21 interested in what your organization would consider a
22 reasonable time limit above the threshold for these

1 types of facilities?

2 MS. BUCIC: Thanks so much for that question. We
3 will absolutely respond to that in the post-hearing
4 comments.

5 MS. CARSE: That's fine. And along that same
6 subject, are you aware of any employers with policies
7 in place that have a time limit that employees may
8 continue to work if the AC breaks down? And finally,
9 yeah, if you have any data or information that would
10 support the effectiveness of expanding this
11 requirement, we would appreciate that. Thank you.

12 MS. BUCIC: Absolutely. We'll address those in
13 our comments.

14 MR. LEVINSON: Your Honor, that concludes OSHA's
15 questions.

16 JUDGE BOUCHER: Thank you.

17 Ms. Wiles, anything from the Solicitor's Office?

18 MS. WILES: Yes, Your Honor.

19 Linda Wiles from the Solicitor's Office. I heard
20 in your testimony today, I think it was Ms. Sarah
21 Bucic, and I apologize if I'm mispronouncing your last
22 name. You had mentioned support for medical screening

1 to aid in providing employees necessary protections,
2 particularly where they may be vulnerable. I wondered
3 if you had suggestions for balancing the need for such
4 information with employee privacy rights?

5 MS. BUCIC: Absolutely. That -- obviously, yeah,
6 privacy is of utmost concern and we can definitely
7 address that in our comments. That's something that
8 is -- has been discussed, so absolutely.

9 MS. WILES: That's all for me.

10 Thank you, Your Honor.

11 And thank you for your testimony today.

12 MS. BUCIC: Thank you.

13 JUDGE BOUCHER: Thank you.

14 Mr. Roberts, do we have any online participants
15 with questions?

16 MR. ROBERTS: No online participant questions,
17 Your Honor.

18 JUDGE BOUCHER: Okay.

19 Then, thank you to all of you, Ms. Bucic, Ms.
20 Elia, and Mr. Smith. We appreciate your testimony and
21 your time today.

22 And Mr. Roberts, we can go to our next witness,

1 please.

2 MR. ROBERTS: Okay.

3 Our next witness is Miah Hornyak from the
4 Physicians of Social Responsibility. So Miah, please
5 state your name and affiliation.

6 MS. HORNYAK: Hello. My name is Miah Hornyak, and
7 I'm testifying on behalf of Physicians for Social
8 Responsibility. Physicians for Social Responsibility,
9 or PSR, is a nonprofit that represents over 22,000
10 physicians and other health professionals across the
11 country that work to protect human life from the
12 greatest threats to health and survival.

13 PSR submitted written comments during the public
14 comment period for the proposal in question, alongside
15 86 other health organizations, some of which are also
16 testifying today. Those comments still stand, but to
17 reinforce our desire to see this proposal both
18 strengthened and finalized, I'd like to share the
19 perspective and experiences of our health professional
20 members who are regularly treating patients for heat
21 injuries and illness, especially as climate change
22 continues to raise temperatures across the United

1 States and to cause more frequent extreme heat
2 emergencies.

3 Much of the treatment of heat injuries and illness
4 is done by first responders and healthcare providers in
5 the emergency department. Heat exhaustion and heat
6 stroke are urgent concerns that can sometimes go
7 undetected if workers have not received proper
8 education and training on how to both avoid heat stress
9 and what symptoms to look for in themselves or in their
10 coworkers.

11 A healthy workplace culture where all employees
12 are treated with dignity and feel that they can speak
13 up without fear of retaliation is also necessary in
14 this circumstance. The longer heat exhaustion goes
15 undetected, the more emergent the situation becomes.
16 Ideally, as soon as the symptoms are recognized is when
17 our healthcare workers get involved.

18 Our providers have seen cases of children who
19 spent a summer day outside without drinking enough
20 water, gardeners who was shaded for their few hours of
21 work but still became symptomatic, and construction
22 workers that have been in the sun and heat over a long

1 shift. Every person, whether covered under this
2 proposal or not, deserves to be protected from extreme
3 heat.

4 And of course, these life-threatening cases are on
5 the rise, and so are heat-related deaths, which are
6 currently massively undercounted due to a lack of
7 circumstantial information upon treatment, patient
8 comorbidities, and a flawed reporting system. Our
9 members note that the distribution of heat-related
10 cases are not felt equally. Hospitals and low income
11 areas are more likely to see these cases due to urban
12 heat island effects, and less access to cool spaces,
13 including shade.

14 This contributes to already staggering health
15 inequities that plague the most vulnerable people among
16 us. It's also not lost on health professionals that
17 much of the time and cost burden of workers being
18 exposed to extreme heat is placed on them rather than
19 an individual's employer. According to the Center for
20 American Progress, the economic cost of heat-related
21 healthcare totals \$1 billion every summer, and this
22 trend is expected to continue.

1 Many emergency departments are busier than ever,
2 so adding patients suffering from heat injury or
3 illness to this busyness makes for exhausted doctors
4 and nurses, potentially unsafe staffing ratios, and
5 longer waits for patients with emergent issues,
6 including those who have been exposed to heat.

7 Healthcare costs are at an all-time high in the
8 United States as well, so it's worth noting that people
9 seeking treatment for heat-related health concerns are
10 also responsible for both obtaining their own health
11 insurance, and then, paying whatever may not be covered
12 by their plan out of pocket. This model is
13 unsustainable for all parties involved.

14 Again, PSR urges OSHA to finalize its life-saving
15 proposal for the 36 million Americans working in both
16 indoor and outdoor settings that it would have an
17 impact on. This would be a step in the right direction
18 to protect our communities from climate change induced
19 natural disasters like extreme heat events. I just
20 want to thank you for your time and attentiveness
21 today, and for accommodating everyone who would like to
22 testify over the course of several weeks.

1 I'm happy to take questions at this time, and if
2 there's any questions about the medical aspects
3 mentioned, I can take those back to the health
4 professionals who lended their experiences to this
5 testimony, and provide follow-up written responses
6 since I myself am not a medical professional. Thank
7 you.

8 MR. LEVINSON: Your Honor, OSHA wanted to have all
9 of the people speaking on behalf of chapters of
10 Physicians for Social Responsibility testify, and then,
11 we can ask questions of the entire group, if that's
12 acceptable?

13 JUDGE BOUCHER: That sounds good to me.

14 So Mr. Roberts, bring up Mr. Gould, it looks like
15 is next?

16 MR. ROBERTS: Yes.

17 Mr. Gould, you should be here. Please state your
18 name and affiliation.

19 DR. GOULD: Can you hear me?

20 JUDGE BOUCHER: Now we can hear you, yes.

21 DR. GOULD: Okay. For some reason I can't get my
22 video on, but I'll -- I'll just speak this way.

1 Thank you for affording me the time to speak. My
2 name is Dr. Robert Gould. After working as a
3 pathologist at San Jose Kaiser for over 30 years, since
4 2012, I've been an adjunct assistant professor at UCSF
5 School of Medicine working with our program on
6 reproductive health and the environment. I've also
7 been a member of the Santa Clara County Medical
8 Association for 30 years, where he -- we have worked to
9 develop many policies for California Medical
10 Association, protective of public, environmental, and
11 occupational health.

12 Since 1989, I've also been president of San
13 Francisco Bay Physicians for Social Responsibility, on
14 behalf of whom I'm testifying today, representing many
15 hundreds of health professionals throughout our region.
16 We speak for the health of our patients and communities
17 who are increasingly harmed by rapidly advancing global
18 warming, including the expected increasing occurrence
19 and severity of dangerous heat waves of the sort that,
20 at this moment, are being experienced by millions
21 throughout our nation.

22 According to a 2024 review article published in

1 the New England Journal of Medicine, within the United
2 States, recent decades have witnessed an increase in
3 the frequency, duration, and intensity of heat waves
4 with the annual number of heat waves now being twice
5 that experienced in the 1980s, and with the heat wave
6 season lasting more than three times as long as
7 observed in the 1960s.

8 These findings are compatible with global trends
9 reported by the World Health Organization in 2024,
10 which reported that, quote, "The number of people
11 exposed to extreme heat is growing exponentially due to
12 climate change in all world regions". According to a
13 research later -- letter published in the Journal of
14 the American Medical Association last year, from 1999
15 to 2023 in the US, over 21,000 deaths were recorded as
16 heat-related, underlying, or contributing to the cause
17 of death, with the number of heat-related deaths
18 increasing from 1,069 in 1999 to 23 -- 2,325 in 2023,
19 representing a 117 percent increase in the number of
20 heat-related deaths.

21 Such heat-related deaths have classically been
22 associated with the acute manifestations of heat stress

1 or the more serious presentation of heat stroke
2 associated with lack of sweating, rapid pulse,
3 vomiting, seizures, and progressive loss of
4 consciousness.

5 In addition to these documented threats to worker
6 health, we also need to be attentive to preventing
7 morbidity and mortality among our indoor and outdoor
8 workforce due to heat associated exacerbation of their
9 pre-existent conditions such as cardiovascular disease,
10 respiratory diseases such as asthma and COPD, kidney
11 disease, diabetes, and various mental disorders.

12 In addition, we need to proactively address the
13 specific vulnerabilities of pregnant women to prevent
14 heat associated adverse birth outcomes exemplified by
15 pre-term birth, low-birth weight, stillbirth, and
16 congenital heart defects. In recognition of the
17 current and predicted increases in occupational
18 exposure to extreme heat, and the documented increasing
19 incidence of heat-related illnesses and deaths, we
20 strongly support OSHA's promulgation of a strong Heat
21 Injury and Illness Prevention in Outdoor and Indoor
22 Work Settings rule.

1 It is imperative that we establish a fundamental
2 baseline to protect workers in all occupations who are
3 subject to extreme heat conditions consistent with
4 OSHA's mission to ensure America's workers have safe
5 and health -- healthful working conditions free from
6 unlawful retaliation.

7 We need a strong federal standard, particularly
8 given the paucity of state-based standards protecting
9 our workers. As of 2023, only three states,
10 California, Oregon and Washington, require heat breaks
11 for outdoor workers. Two other states had only partial
12 protections, with Minnesota having a rule setting
13 standards for indoor workers, and with Colorado's heat
14 regulations only covering farmworkers.

15 And we need to be able to effectively counter the
16 ability of states to override local ordinances that
17 better protect heat exposed workers, as evinced by the
18 2023 Texas law enacted in the middle of a blistering
19 heat wave that nullified ordinances passed by Austin
20 and Dallas that mandated ten-minute rest and water
21 breaks for construction workers every four hours.

22 OSHA's current proposed rule takes a more

1 enlightened approach towards protecting our workers
2 than some of these examples, and critically, would help
3 protect all workers in the U.S. As such, we reiterate
4 our firm support for the proposed rule. In light of
5 the increasing threat that extreme heat poses to the
6 health of the U.S. workforce, we also recommend OSHA
7 make modifications that would better protect the health
8 of our workers.

9 For example, we at San Francisco Bay PSR recommend
10 lowering the high heat trigger to greater or above 80
11 degrees from the currently proposed greater or equal to
12 90 degrees, in recognition that heat-related illness
13 can manifest at this lower temperature. Finally, we
14 would encourage OSHA to require all employers to
15 develop and enact in written form, quote, "Heat Illness
16 and Injury Prevention Plans", unquote, and suggest that
17 OSHA should provide assistance to - to small businesses
18 that may lack the resources to draft their own jobsite-
19 specific plans.

20 Thank you for the opportunity to testify today on
21 this issue so fundamental to public health and so based
22 in the protecting of the most vulnerable among us, who

1 continue to serve all of us in increasing challenging
2 conditions. Thank you.

3 JUDGE BOUCHER: Thank you.

4 Mr. Roberts, let's move on to -- it looks like Ms.
5 Ringenberg?

6 MR. ROBERTS: Yes.

7 The next speaker will be Lynn Ringenberg, Florida
8 chapter of Physicians of Social Responsibility. Ms.
9 Ringenberg, please state your name and affiliation.

10 JUDGE BOUCHER: Ms. Ringenberg, if you're there,
11 you are on mute and we are not hearing you.

12 DR. RINGENBERG: I am here.

13 JUDGE BOUCHER: Okay.

14 DR. RINGENBERG: Can -- can you hear me now?

15 JUDGE BOUCHER: Yep.

16 DR. RINGENBERG: But I can't see me now. Can you
17 see me?

18 JUDGE BOUCHER: I can, yeah.

19 DR. RINGENBERG: Oh, you can? Okay. Oh, there I
20 am. Well, good afternoon, everybody, from hot humid
21 Tampa, Florida, and I am Dr. Lynn Ringenberg. I'm a
22 professor emeritus at the University of South Florida,

1 Morsani College of Medicine. I am also a retired
2 Colonel, United States Army, and past president of
3 Physicians for Social Responsibility in Washington, and
4 also, the local chapter here in Florida. And I'm
5 speaking on behalf of myself, and also, PSR Florida
6 board and members.

7 And Your Honor, and -- and OSHA staff, I thank you
8 so much for inviting me to this hearing today. And
9 I'm -- you just got -- you guys have an awesome
10 responsibility. And it's not every time -- every day
11 in life that you get an opportunity to -- to save
12 lives, and I -- I thank you for what you're doing
13 through this -- through this rule.

14 And we can go ahead and put that first slide up
15 just to give you a little thought on Florida's
16 temperatures here that -- that NOAA has put together.
17 Now, it's hard to see some of those little numbers but
18 that slide goes back to 1895. I wasn't quite here
19 then, but I am getting older, and I landed here in --
20 in as a kid in the late 40s and early 50s as a kid.

21 So -- and I have practiced pediatric medicine in
22 Florida for close to 50 years now. 25 of those years

1 in an academic position at the University of South
2 Florida. I -- I've had a parallel career, as I
3 mentioned, in -- in the military, in the Army, for 26
4 years. And I -- I -- I can tell you that caring for
5 soldiers and caring for the health and well-being of
6 infants and children has been the honor and privilege
7 of my life.

8 When -- when I commanded field hospitals and
9 combat support hospitals, we had a -- a motto that said
10 safety first, training always, and you know, we didn't
11 have high tech back then. I'm talking the 90s, so
12 early 90s, and so we just talked to the soldiers
13 about -- they all had buddies when they went out in the
14 field.

15 They all learned to look at their urine and --
16 and -- and know that it should be light. And if it
17 isn't, they're not hydrated enough. And we tasked our
18 leaders with making sure that our soldiers stayed safe
19 and you know, it worked. We never had a heat-related
20 injury that I know of --

21 DR. GOULD: Tell them (AUDIO INTERFERENCE).

22 DR. RINGENBERG: -- at that time, and -- and I

1 know a -- a recent report --

2 DR. GOULD: (AUDIO INTERFERENCE).

3 DR. RINGENBERG: -- in 2023 shows that they've had
4 over 700 heat-related injuries in the military. So the
5 world is getting hotter and we're much more
6 sophisticated about these things now. But as I was
7 practicing my parallel career of -- of pediatrics at
8 the same time, it -- it started to really alarm me that
9 I was seeing so many children with worsening health
10 conditions. You know, they didn't come in anymore just
11 for a well child or well --

12 JUDGE BOUCHER: Just one moment, Dr. Ringenberg.

13 DR. RINGENBERG: Yes, yes.

14 JUDGE BOUCHER: Was it just me that lost
15 connectivity there or? If so, we can just carry on as
16 long as the court reporter got all the testimony?

17 DR. RINGENBERG: Is that to me?

18 JUDGE BOUCHER: No.

19 THE COURT REPORTER: I just -- I -- does somebody
20 have a dog in the background?

21 JUDGE BOUCHER: Yeah. I'll -- I'll remind
22 everybody to please mute yourself if you are not

1 actively testifying or asking questions.

2 But Ms. Allen, if you think you got everything,
3 then, we'll just go forward.

4 DR. RINGENBERG: And if you missed something, I'm
5 happy to fill it in --

6 JUDGE BOUCHER: Yeah, or --

7 DR. RINGENBERG: -- however, I might.

8 JUDGE BOUCHER: -- or let us know where it dropped
9 off.

10 DR. RINGENBERG: Okay.

11 And -- and -- and just to also -- my -- my partner
12 that was going to talk today, while I think about it,
13 Dr. Todd Sack, I'm not sure he's going to be on because
14 he is in Africa, Tanzania, I believe, working in a
15 hospital and so he may not join me from there today.

16 MR. LEVINSON: Your Honor, this is Andy Levinson
17 from OSHA. Dr. Ringenberg did not drop out on my end.
18 I think it may just have --

19 JUDGE BOUCHER: Okay.

20 MR. LEVINSON: -- been for you.

21 JUDGE BOUCHER: It might just be me? Okay. Yeah.

22 All right. Let's go ahead and --

1 Carry on, Dr. Ringenberg.

2 DR. RINGENBERG: Okay.

3 JUDGE BOUCHER: I apologize for the interruption.

4 DR. RINGENBERG: No problem. Great, thanks.

5 I -- I think where I -- I sort of was, was that,
6 you know, I was seeing more and more kids with -- with
7 more illnesses, like, you know, chronic asthma, chronic
8 allergies, soft neurologic signs; developmental delays,
9 some severe, some mild, soft signs; some behavioral
10 issues, hearing loss, visual issues.

11 So I was just seeing a lot of -- more kids that
12 never really came in for a truly healthy kid physical.
13 They always had chronic conditions, and -- and that led
14 me to looking into environmental causes. The air, the
15 water, the heat, the -- and that led me to the
16 Physicians for Social Responsibility, which I cofounded
17 in Florida in 2008.

18 And again, as -- as Miah said, you know, this is
19 an opportunity to save so many lives, and -- and from -
20 - from both saving them from dying, but saving them
21 from injury and severe chronic conditions that will be
22 with them for the rest of their lives. But -- but the

1 one thing I want to focus on a little bit more today
2 that -- that I haven't heard much about that, that I
3 have spent a lot of my life doing --

4 And if we could have slide 2 --

5 -- is there's many more lives, and -- and I'm
6 sorry. This just didn't really show up as well as I
7 would have liked it to, but that's probably my lack of
8 talent at putting slides together. Every year in this
9 country, we have about three-and-a-half million live
10 births, give or take. In -- in 1920 -- or right?
11 yeah, 2023. It was 3 -- 3 million, 590-some thousand,
12 but it goes up and down a bit.

13 And these are the many more lives that will be
14 protected when one considers the number of workers --
15 I -- I couldn't see any statistics on that, but it
16 might be available -- workers who are in various stages
17 of pregnancy. And most women know that you really
18 don't know you're pregnant in the third, fourth, fifth
19 week, maybe, and that's the most vulnerable period of -
20 - of a human being's life, I think.

21 And -- and these workers are not just in the
22 fields, but they're in the hot kitchens, the hot

1 laundries, they're in construction jobs, they're in
2 their hot homes. They're perhaps not educated on these
3 issues. Perhaps they're not seeing a healthcare
4 provider yet, for whatever reason, and we could go into
5 that for a long time.

6 But this really -- this -- this is the -- the most
7 complex process, and I think, marvelous thing that we
8 have, probably, in life. When you take millions and
9 millions, and billions, and trillions of cells,
10 neurons, connections, enzymes, genetic material, DNA,
11 and you start over here with this little ball of
12 collection of cells.

13 And then, you go through the process of embryo,
14 fetus, infant, baby, newborn, is -- there are all types
15 of things that can affect those cells, enzymes,
16 connections. And the most critical ones are happening
17 here, in these solid bars. You have your spinal cord
18 developing, you have your brain developing, you have
19 your heart developing, you have your little eyeballs
20 developing.

21 And any little thing, i.e., heat, mercury, lead,
22 et cetera, et cetera can affect those developing

1 embryos and cause perhaps major defects. And -- and
2 you know, the -- the -- the thing about it is, this
3 little human -- these little humans, they have no
4 voice. Absolutely no voice. They have no cell phone
5 connection, they have no way to communicate their
6 distress to somebody.

7 They can't say, Mom, I've got an issue. They have
8 absolutely no voice, and that's why it's important that
9 we be their voice, and -- and I feel -- I -- I -- I'm
10 so passionate about this because I feel I've really
11 tried to do that for 50 years now. Now, I'm not an
12 obstetrician. I have friends -- many friends that are
13 that -- that are much smarter than me about this
14 process.

15 But I know a lot about little babies, and this
16 process that they go through, and the things that we're
17 seeing on the other end when they come out and have
18 issues, that follow them for most of their lives.
19 If -- if you all can just imagine being some place, no
20 communication, no cell phone, no social media, no
21 nothing for nine months.

22 And we know that these babies, that when they're

1 exposed, there is a fair amount of -- of good science
2 on when they're exposed to extreme heat causes
3 complications in pregnant women. Pregnant women tend
4 to be -- have a higher core temperature anyway, so
5 they're already at risk, as are certain people that are
6 on medications that I think Dr. Gould, and -- Bob, a
7 friend of mine --

8 Hi, Bob --

9 -- talked about. But when the woman is working in
10 these heated conditions, you know, she has a high risk
11 for dehydration. It reduces blood flow to the uterus
12 and it leads to premature labor, delivery. Premature
13 babies are not as healthy. It can lead to reduced
14 blood flow in the placenta, and that can lead to fetal
15 malnutrition, it can lead to low birth weight infants.

16 Low birth weight infants, those that are under
17 about five pounds, eight ounces, they're not as healthy
18 babies. And then, of course, sadly it can lead to
19 stillbirths. And so all -- all of these -- these
20 infants then are -- are exposed to more adverse medical
21 outcomes that are going to last them and their
22 families, often, a lifetime if they live, and that's

1 where OSHA, you play a big part.

2 Infants are especially vulnerable to the effects
3 of heat in the first week of life. There was a recent
4 study that found infant mortality increases by 25
5 percent on (AUDIO INTERFERENCE) --

6 MR. LEVINSON: And Your Honor?

7 JUDGE BOUCHER: Is it just me this time?

8 MR. LEVINSON: This time it's not just you.

9 JUDGE BOUCHER: Okay.

10 THE COURT REPORTER: It is not you.

11 JUDGE BOUCHER: Dr. Ringenberg, we -- we lost you
12 there for a minute. We can't -- we can't hear you
13 anymore. Did you accidentally go on mute or? I don't
14 know if you can hear me, but no --

15 MR. LEVINSON: I --

16 JUDGE BOUCHER: -- we cannot hear you. It looks
17 to me like you are on mute. I don't know --

18 Mr. Roberts, do you have the ability to unmute?

19 MR. ROBERTS: I can unmute Dr. Ringenberg, but
20 I -- I don't believe that is the issue.

21 JUDGE BOUCHER: Okay.

22 MR. ROBERTS: I think maybe the -- the microphone

1 that --

2 DR. RINGENBERG: (AUDIO INTERFERENCE).

3 MR. ROBERTS: -- Dr. -- Oh. There we go. Maybe
4 that is the issue.

5 DR. RINGENBERG: Can you hear me now?

6 JUDGE BOUCHER: I can. We can hear you now, yes.

7 DR. RINGENBERG: Okay. Okay. Thanks. I am not
8 sure what happened, but -- so let's see.

9 Where was I? Oh. That infants -- infants and
10 children, they suffer disproportionately, you know,
11 because they have different they -- they are -- they
12 don't have the same heat stressors, reactions to heat,
13 as adults do. Infants are not miniature adults. I
14 can't stress that enough. They're not miniature
15 adults. They have their own physical, their
16 physiologic, and their cognitive immaturity, and their
17 cognitive development, and physical, and physiologic.

18 And so there are so many things that are different
19 about infants that you can't say the same for adults.
20 And you know, there -- there's a lot of really, really
21 good research going on about women, and pregnancy, and
22 this complex process of embryo, to fetus, to baby, to

1 child. A third of our country now, a third, I guess,
2 over 130 million or so people are under heat advisories
3 and this would be an absolutely perfect time to
4 hopefully do some research on heat and pregnancy, and
5 how the developing embryo and fetus does.

6 So we can go to the next slide.

7 I think -- this was a -- an interesting study.
8 About one percent of births in the United States, about
9 one percent have congenital heart disease. And this
10 particular study looked at projected changes in
11 maternal heat exposure during early pregnancy. And
12 again, that early pregnancy, when the heart is really
13 developing is, like, it week three, four, five. Early
14 in pregnancy is when this -- this damage would take
15 place.

16 This -- and -- and so this is going to place a
17 larger burden on communities, families, the babies,
18 obviously, that will be born with congenital heart
19 defects. And I think as -- as -- hopefully, as time
20 goes on, I -- you know, I'm -- I'm not a -- a
21 researcher or a scientist in that sense, but -- but
22 hopefully we'll be able to have more projections like

1 this, and be able to educate people -- in this
2 particular case, mothers -- on -- on various risks to
3 heat, and heat exposure, and exposure to other things
4 that affects their baby.

5 So slide 4.

6 And I'll just kind of hurry through these. I
7 think -- I mean, there's already so much good data out
8 there. I mean, we've been using these CDC charts.
9 We've been going out to schools, high schools, talking
10 about heat exposure, heat exhaustion, heat stress, heat
11 stroke, things to do, all over our county here in
12 Central Florida and -- and Hillsborough County and
13 Pinellas County, and talking to coaches and -- and
14 trainers.

15 And the -- OSHA has, I mean, just some tremendous
16 material already. So I mean, there's a lot of things
17 out there that I think people might not even be aware
18 of.

19 And if I could have the next slide?

20 And then, you know, Florida recently passed the
21 Florida Zach Martin Act and that was in 2020.

22 Honestly, not many people even know about that --

1 that -- that I've talked to, at least. It may be more
2 in the schools that I haven't talked with, but -- but
3 this young man died of heat stroke. And because of his
4 death, and his -- his parents' action, and -- and --
5 and the leadership -- I mean, I think that safety for
6 athletes, especially football players, or folks that
7 have a lot of gear on, hot weather is -- is much, much
8 better and safer in Florida now.

9 And of course, there's the Pregnant Workers
10 Fairness Act. I -- I don't know how many people are
11 aware of that, honestly. And then, we have My Green
12 Doctor that my colleague, Todd Sack, has been involved
13 with for - for many years. And My Green Doctor --

14 And if we can go to the next slide and the last
15 slide, My Green Doctor is -- it -- it's a -- a
16 comprehensive environmental, sustainability practice
17 management program, and it's -- it's mainly for health
18 professionals, for hospitals, clinics. It could be for
19 dentists, it could be for others. I -- I think this
20 could be widely adapted for a lot of people, a -- a lot
21 of businesses, but it -- it gives mainly information
22 and ways that you can make your practice, your patients

1 safer, green your practice.

2 It's all science-based. It's -- it is not
3 political motivated. It's for -- mainly for outpatient
4 clinics, and will save money. And if I can -- I'll
5 stop now.

6 And if I could just go back to slide 2 for one
7 second while I say that as a -- as a healthcare
8 provider for many, many years, that one there, I --
9 I -- as physicians and healthcare providers, we know we
10 can't change the weather, but we can hopefully guide
11 and change the behavior of our patients to keep them
12 safe during these challenging times.

13 And I would hope that -- that OSHA, and all the
14 people working with you will keep this little row of
15 human beings in your mind as you're going through your
16 thought process on -- on this important, important
17 proposal. And it's -- it's been a privilege to be the
18 voice of these little -- these little human beings.
19 And -- and I hope that you will keep it in the front of
20 your mind when you're doing your work, and I want to
21 thank you again today. It's -- it's been a real
22 pleasure, and -- and thank you so much for what you're

1 doing. It's -- it's very meaningful in life --
2 meaningful. Thank you.

3 JUDGE BOUCHER: Thank you.

4 All right. I gather Mr. Sack is not with us,
5 correct, Mr. Roberts?

6 DR. RINGENBERG: I -- I -- I suspect --

7 MR. ROBERTS: I do not see him in the list.

8 DR. RINGENBERG: -- he's not.

9 JUDGE BOUCHER: Okay.

10 MR. ROBERTS: I -- I will just say if he is in the
11 attendee list, if he maybe wants to make himself known
12 he's in a -- an alternative name.

13 But it does sound like from what Dr. Ringenberg
14 said that he might be otherwise engaged.

15 JUDGE BOUCHER: All right.

16 DR. RINGENBERG: And -- and -- and I'm not sure
17 what time it is in Tanzania. I think that's where he
18 is. Thanks.

19 JUDGE BOUCHER: Nor am I.

20 Okay. Mr. Levinson, did -- I think there's one
21 more witness from a Physicians for Social
22 Responsibility group. Should we --

1 MR. LEVINSON: Yes, your Honor.

2 JUDGE BOUCHER: -- take his testimony?

3 MR. LEVINSON: There is.

4 JUDGE BOUCHER: Okay.

5 MR. ROBERTS: That -- so the -- the final speaker
6 is a -- Chris Covert-Bowlds. He also does not appear
7 to be in the list.

8 But again, I will say if Mr. Covert-Bowlds is with
9 us, under an alternative alias, then please turn his
10 name -- please make yourself known.

11 That does not look like he is here.

12 JUDGE BOUCHER: Okay.

13 Mr. Levinson, do you want to do questions now? Do
14 you want to take a ten-minute break? We've been going
15 for a while. It's up to you. I'm good either way.
16 You're on mute.

17 MR. LEVINSON: Sorry.

18 JUDGE BOUCHER: It's okay.

19 MR. LEVINSON: We're -- Your Honor, we're close to
20 the end of the day. If we could just wrap things up so
21 that we don't go long?

22 JUDGE BOUCHER: Sure.

1 MR. LEVINSON: That would be fine with us.

2 JUDGE BOUCHER: Okay.

3 MR. LEVINSON: Andrew Levinson for OSHA. Thank
4 you all from Physicians for Responsibility, both the
5 national organization and the chapters for your
6 testimony. My first question - and I guess, before I
7 get going, we're happy to hear anything that you all
8 have to say right now. We also have a post-hearing
9 written comment period. You may also want to save
10 responses for then or expand upon your thoughts in the
11 post-hearing comment period.

12 The -- the first question that I have for the
13 group relates to a statement that we've had many
14 stakeholders talk about their belief that OSHA's
15 standard is a one-size-fits-all approach, particularly
16 as it relates to the triggers for interventions and our
17 use of the heat index. They've requested that we have
18 more flexibility and allow people in different regions
19 of the country to assess temperature and humidity in
20 their locality, rather than relying upon one national
21 trigger for heat index, that it accounts for, again,
22 both temperature and humidity.

1 We're curious if you are aware of any medical
2 literature that's -- would support such a contention,
3 or any evidence that the body handles heat differently
4 in different regions? And related to that, we've got a
5 provision requiring acclimatization. Is that enough to
6 account for regional differences in temperature? And
7 we'd love your thoughts on that, either now or in post-
8 hearing comments.

9 MS. HORNYAK: I'm happy to jump in here. We do
10 have some studies that we can provide in post-hearing
11 comments. Regarding heat triggers, I think our stance
12 is that heat index is being used properly here since it
13 does account for humidity, even if it is viewed as one-
14 size-fits-all approach. In our previously written
15 comments, alongside the other health organizations that
16 I had mentioned earlier, we actually -- along with
17 Alliance of Nurses for Healthy Environments that spoke
18 earlier, we recommend a trigger of 80 degrees as well.

19 We do have a couple of studies that I can send
20 along. I believe the most recent is from 2018 that
21 showed that workers were impacted and some heat deaths
22 occurred even below 90 degrees because -- potentially

1 of the humidity. So we think that this is worth
2 reconsidering having it be at 80 degrees rather than
3 the 90 degrees that's currently proposed.

4 DR. RINGENBERG: Well, if I can just add one
5 thing. I think -- I -- I also -- I -- I am not sure
6 how to do it --

7 MR. LEVINSON: And can --

8 DR. RINGENBERG: -- and I'll -- I'll -- okay.

9 MR. LEVINSON: -- certainly.

10 DR. RINGENBERG: Oh, this is --

11 MR. LEVINSON: Dr. --

12 DR. RINGENBERG: I'm sorry. This is Dr.
13 Ringenberg. Can you hear me okay?

14 MR. LEVINSON: Yep.

15 DR. RINGENBERG: Oh, sorry.

16 MR. LEVINSON: No, no. I just wanted you to
17 identify yourself for the record.

18 DR. RINGENBERG: Sorry.

19 The -- I -- I -- I think somehow we have to figure
20 out a way to marry HIPAA, and HIPAA compliance, and --
21 and privacy with, you know, a worker's right for rest.
22 And I mean, because there's no doubt about it. I mean,

1 there's -- there are so many issues with -- with
2 medications and -- well, pregnancy, I just mentioned
3 that just to -- that's a limited number of workers, and
4 I don't know how many women, honestly, are in the
5 fields, but I imagine there is data on that.

6 But -- and how many are pregnant. And so I think
7 that there has to be some way to -- to -- to marry up
8 HIPAA and -- and the laws to keep everybody safe
9 because it does make a difference. It definitely makes
10 a difference in health and safety.

11 JUDGE BOUCHER: You're muted, Mr. Levinson.

12 MR. LEVINSON: Thank you.

13 My next question relates to the issue of signs and
14 symptoms. One of the things that OSHA's proposed
15 regulation requires is a buddy system for workers to
16 identify signs and symptoms of heat illness in
17 coworkers. Some of our stakeholders have said that
18 that's not possible because workers are not medical
19 professionals.

20 In your experience, is it possible, as medical
21 professionals, for non-medical professionals to be
22 taught these signs and symptoms of heat illness, and

1 how effective is that, in terms of training people, to
2 identify signs and symptoms?

3 DR. RINGENBERG: I -- I don't know if Bob is still
4 on -- Dr. Gould? He's probably had more experience
5 than me, but -- oh, I'm sorry. This is Dr. Ringenberg
6 again, in Tampa. And I -- I mean, I -- I think it's
7 poor -- you know, from my military experience, having a
8 buddy system is very important.

9 Having a buddy system, having the knowledge, and
10 we have so much more knowledge than we did back in the
11 90s. And I think most -- most people, I think, read
12 their bodies pretty good. Most people know their
13 bodies pretty good. Now, I agree with -- someone
14 mentioned before, but they're gonna plow through
15 because they want to make the money, they want to, you
16 know, et cetera, et cetera.

17 But I think when you have a buddy, they're, kind
18 of, hearing ya, hearing what's going on. Yes, I'm
19 feeling a little dizzy, I, kind of, have a headache,
20 you know, I kind of stopped sweating. I mean, these
21 little symptoms that -- that are going to lead to --
22 it -- well, a heat stroke, most likely, at some point,

1 especially if you stop sweating.

2 So I mean, I think having a buddy that are
3 knowledgeable -- and you know it doesn't -- some of
4 this doesn't have to be high-tech. It can be in an app
5 that has the stuff on it. I -- you know, we have so
6 many things now. Our watches tell us when it's too
7 loud, or too hot, or too whatever, so -- so I think
8 technology is there to help guide this. So personally,
9 I -- I don't know --

10 Miah, you may have other thoughts?

11 And we can certainly take it back to our -- all of
12 our many, many physicians.

13 MS. HORNYAK: Miah Hornyak, for the record.

14 Yeah, speaking on behalf of our health
15 professionals, I don't think that it -- you need to be
16 a medical professional in order to see that somebody is
17 experiencing heat stress. Especially when workers are
18 given the proper training, and the information, and
19 know the signs and symptoms to look for, which is --
20 should be a requirement for, we believe, all employers,
21 including small businesses.

22 This just makes the most sense because there are

1 some pretty clear signs and symptoms, if you stop
2 sweating, if you become pale, if you're breathing and
3 pulse are irregular. These are things that they can
4 recognize in one another, especially if they are
5 buddied up often and know how they would typically be
6 acting.

7 I think this is a cost-effective way for employees
8 to work with one another and be able to recognize it,
9 because of course, you're not going to be able to have
10 a health professional or first responder on every
11 single work site, or in every single restaurant, or any
12 of the other covered areas in order to diagnose.

13 MR. LEVINSON: Thank you.

14 Your Honor, the next questions for the witnesses
15 come from Zoe Petropoulos.

16 MS. PETROPOULOS: Hey. This is Zoe Petropoulos
17 with the Directorate of Standards and Guidance. If you
18 were on earlier in the session, you've probably already
19 heard similar questions like the ones I'm about to ask,
20 but I'm -- I'm interested in the experiences of your
21 members in -- in these topics. So in your experiences
22 of health -- as healthcare professionals, are you aware

1 of workers not reporting heat-related injuries and
2 illnesses they experience to their employers?

3 DR. RINGENBERG: This is Lynn. Yes.

4 MS. HORNYAK: And Miah. I have also heard that
5 from our members, that this is -- they won't always say
6 where they experienced the heat stress, and then, it
7 doesn't get marked properly or reported as -- as it
8 should be, which is why I think the numbers are much
9 lower than what they actually are for people that
10 experience heat stress, heat stroke, or heat-related
11 deaths.

12 MS. PETROPOULOS: Thanks. And a related question,
13 but you, kind of, touched on that. If your membership
14 is aware of any data or they have anecdotes among
15 themselves of cases of heat-related injuries and
16 illnesses among workers that are treated in a
17 healthcare setting but never get coded as such in
18 databases? So they don't get coded as work-related or
19 they don't get coded as heat-related, we're interested
20 in your membership's experience on that.

21 MS. HORNYAK: Yeah. I'm happy to follow up in
22 post-hearing comments on that with some anecdotes from

1 our doctors and nurses. This is, of course, something
2 that happens relatively often. I believe Alliance of
3 Nurses for Healthy Environments also had some anecdotes
4 earlier because they -- a lot of health professionals
5 are in a rush when they're treating, and are just
6 trying to help a patient, and the -- the booking comes
7 second to that, of course.

8 MS. PETROPOULOS: And that was it for my
9 questions, Andy.

10 MR. LEVINSON: Thank you.

11 The next question comes from Tiffany DeFoe.

12 MS. DEFOE: Hi. This is Tiffany DeFoe with the
13 Directorate of Standards and Guidance, OSHA. Now, if
14 you've been here throughout the panel -- the afternoon
15 panel, you may have heard me ask a version of this
16 before, about California's provision for as-needed rest
17 breaks, which states that employees shall be allowed
18 and encouraged to take a preventative cool-down rest in
19 the shade when they feel the need to do so to protect
20 themselves from overheating. And the way that OSHA has
21 proposed as-needed rest break requirement was phrased
22 as somewhat similar to that.

1 I wanted to ask, from a medical standpoint, if you
2 have any thoughts to offer on whether it is important
3 to - as California's rule does, provide for -- require
4 employers to provide as-needed rest -- rest breaks to
5 employees who feel they need them to prevent an
6 incident of overheating, as -- as contrasted, for
7 example, with perhaps a requirement that only kicks in
8 if they are actually experiencing early signs and
9 symptoms of heat illness.

10 DR. RINGENBERG: Well, I mean, I'll -- this is
11 Lynn in Tampa. I'll comment --and Miah, you probably
12 maybe have more information on it -- but -- but I
13 think, you know, again, most -- most people understand
14 their bodies. And -- and I --from my experience here,
15 I've -- I've done a lot of work with the farmworkers.
16 I had a mobile -- mobile medical van that we used to go
17 out and -- and care for the underserved, and uninsured,
18 and underinsured kids, and that -- and mainly in the --
19 in the agricultural areas south of Tampa.

20 And you know, most of these folks -- I mean, they
21 really want to work. They want to make a living. A
22 lot of them are single moms or single, you know -- and

1 they're providing for kids and families. And so I -- I
2 don't think they'll neglect it. I mean, I really -- I
3 don't know that it's been studied, but I think that
4 they'll -- if they feel the need because again, we
5 don't know if they're on, you know -- a mental health
6 illness, a mental health medication, a -- a medicine
7 for hypertension, they're not thermoregulating right.

8 That happens during pregnancy. It happens during
9 different -- different things. And so you know, if --
10 if they feel that need, I -- I mean, to me the -- there
11 needs to be some flexibility, some common sense --
12 which unfortunately, I don't see a lot of today it
13 seems -- but there should be some common sense in life.
14 But anyway -- but we can -- we -- we can survey our
15 docs and -- and get more information for ya.

16 MS. DEFOE: Thank you. I did. That's my only
17 question.

18 MR. LEVINSON: And Your Honor, the last question
19 from OSHA comes from Rachel Carse.

20 MS. CARSE: Okay. Hi. I spoke -- I just wanted
21 to follow up a little bit on the buddy system and using
22 that as a cost-effective way to monitor employees for

1 signs and symptoms. If you have any information on how
2 much observation is required by the employees? Like,
3 what time does this take? Is this something that's
4 already being done somewhat through general
5 interactions at - as they work or is this going to
6 require extra time to stop and say, hey, how are you
7 feeling?

8 And how much time do you think that would be
9 appropriate to estimate for that type of interaction?
10 Any thoughts on that? I'm just trying to gauge how
11 long the buddies are interacting, and not working, and
12 what the costs associated with that is.

13 MS. HORNYAK: This is Miah Hornyak again, for the
14 record.

15 I think that it would be relatively minimal. I'm
16 not positive that this is something that's happening
17 yet, based on the state policies that have already been
18 implemented. I'm happy to look into it, or to speak
19 with our doctors and nurses about it, how long they
20 think something like that would take, even if it's just
21 outlined survey questions to ask one another. If that
22 would be five minutes or if it could take longer

1 depending on if they're already experiencing symptoms.

2 MS. CARSE: Okay. Thanks.

3 MR. LEVINSON: Your Honor, I just wanted to -- but
4 before OSHA concludes its questioning, it appeared Ms.
5 Hornyak might have wanted to respond to Ms. DeFoe's
6 question earlier and I may have cut her off.

7 I wanted to just see if that was the case?

8 MS. HORNYAK: That's totally fine. I think Dr.
9 Ringenberg got everything that I was going to say.

10 MR. LEVINSON: Okay.

11 Then, Your Honor, that concludes OSHA's questions.

12 JUDGE BOUCHER: Thank you.

13 Ms. Wiles, anything from the Solicitor's Office?

14 MS. WILES: Yes, Your Honor.

15 I -- this is Linda Wiles from the Solicitor's
16 Office. I just wanted to mark as Exhibit No. 13, the
17 Florida chapter of Physicians for Social Responsibility
18 PowerPoint that Dr. Ringenberg presented, and enter
19 that into the record.

20 JUDGE BOUCHER: Okay. Thank you.

21 DR. RINGENBERG: Thank you.

22 JUDGE BOUCHER: I assume there are no objections?

1 So that PowerPoint is admitted as Exhibit 13, is
2 that what you said, 13?

3 MS. WILES: Yes, Your Honor.

4 JUDGE BOUCHER: Thank you.

5 MS. WILES: And I have no questions. And I thank
6 all the folks from Physicians for Social Responsibility
7 for their time and testimony today.

8 JUDGE BOUCHER: Thank you. Mr. Roberts, are there
9 any questions from the other online participants?

10 MR. ROBERTS: There are no questions from the
11 online attendees, Your Honor.

12 JUDGE BOUCHER: Okay. Ms. Hornyak and Dr.
13 Ringenberg and Dr. Gould, if you're still there, thank
14 you very much for your time and for sharing your
15 testimony with us today. It's helpful.

16 DR. RINGENBERG: Thank you. Thank you. Be well.

17 MS. HORNYAK: Thank you.

18 JUDGE BOUCHER: All right. I think we have one
19 more witness.

20 MR. ROBERTS: Yes, the last witness today is Lori
21 Byron from Montana Health Professionals for a Healthy
22 Climate. Ms. Byron, please state your name and

1 affiliation.

2 DR. BYRON: Thanks. Can you hear me?

3 JUDGE BOUCHER: Yes.

4 DR. BYRON: Okay. Great. I'm Dr. Lori Byron.

5 I'm a pediatrician and the head of the Montana Health
6 Professionals for a Healthy Climate. I also spent -- I
7 also have a master's degree in energy policy. I spent
8 my career in Indian Health Service, so I did a lot of
9 public health. And I also volunteered in migrant
10 clinics. So I have a little larger scope than a lot of
11 people that just did general pediatrics.

12 So thank you for this opportunity to testify and
13 for all of your work to look at the science and the
14 practicality in this rulemaking. I will say that you
15 all on this panel have listened and considered
16 testimony far more thoughtfully than any hearing I have
17 ever attended. And especially after surviving two
18 weeks of testimony. I feel like this proposed rule has
19 been super long in coming and is desperately needed in
20 a warming world.

21 So I've knocked out everything from my testimony
22 that was already said, so it's going to be really

1 short. I would like to say that just setting these
2 standards and drawing attention to the issue is going
3 to save lives, so thank you for what you're doing. I
4 can attest to the underreporting on death certificates
5 in the emergency room and in the hospital. As other
6 people have noted, the doctors are super busy and they
7 rarely note that a death or an illness was caused or
8 worsened by certain problems, like by heat. There are
9 T codes for the effects of heat. I don't think I've
10 ever seen them used by another ER doc. And the
11 modifying codes and the risk factors are also not well
12 documented, both for the diagnosis in the ER and the
13 hospital and on death certificates.

14 The high school sports association has really
15 strong standards on the issues with heat and young
16 athletes, and they require acclimatization now. And
17 these -- these standards are required across the United
18 States. And I care for kids, so that really makes me
19 happy because I think it's saving lives. But you know,
20 my kids grow up. And I still care about them even when
21 they become an adult. So I think this rulemaking to
22 look at workers and heat standards is really important.

1 You all have heard that kidney damage and disease
2 really help -- hurts our farmworkers and it just seems
3 like decreased water and increased heat seems to be
4 causative that our kidneys get damaged by prolonged
5 exposure to heat with poor hydration. There's another
6 group that I don't think has been mentioned today and
7 that is people with pre-existing illnesses are -- and
8 they're still able to work. They don't want to be
9 disabled. And they are a lot more vulnerable also.

10 And then we have the issue with medicines and so
11 we have a number of prescription drugs that make the
12 patient more vulnerable to the negative effects of
13 heat. So a class of drugs called ACE inhibitors, which
14 treat blood pressure. They're very, very common and a
15 lot of people have high blood pressure. So these
16 people become more vulnerable. And then psychotropic
17 drugs, a lot of them affect our ability to tolerate
18 heat and to recognize problems with heat. And at least
19 one out of five adults suffer from depression or
20 anxiety and that's just two groups of people requiring
21 psychotropic medications, according to the CDC.

22 And then anticholinergics are the third class that

1 really affect our ability to tolerate heat. And people
2 with asthma, people with nausea and vomiting problems
3 use them. So they're pretty common, too. Dr.
4 Ringenberg covered the pregnant moms and their babies
5 in the oven, no pun intended, fantastically so I won't
6 talk about them.

7 So I would just like to recommend today that we --
8 that you all consider changing the rules which are
9 already created, which are great, but looking at the
10 heat signs and symptoms should start at the heat index
11 over 80, which a number of people have noted. And then
12 requiring that all employees, not just large employers,
13 have heat plans, regardless of their size and that
14 they're translated into other languages as appropriate.

15 That's all I have to say. Thank you.

16 JUDGE BOUCHER: Thank you. Any questions from
17 OSHA?

18 MR. LEVINSON: Yes, Your Honor. Dr. Byron, thank
19 you very much for your testimony. We're happy to have
20 comments either now and/or in a post-hearing written
21 comment period if you'd like to expand upon any of your
22 thoughts. I want to repeat a question that I asked

1 some other medical professionals earlier this
2 afternoon. We've had a number of stakeholders assert
3 that OSHA's approach is one-size-fits-all, and that the
4 heat index triggers that OSHA has proposed may not be
5 appropriate in every region, and that there is regional
6 variability. And we're looking for any body of
7 literature that you might be aware of about, does the
8 human body respond differently to heat in different
9 regions or are the heat triggers appropriate in all
10 parts of the country? And again, the heat index
11 accounts for both temperature and humidity. Any
12 thoughts you may have are welcome.

13 DR. BYRON: Yeah. Well, you all are probably more
14 expert in this than I am. So I'll defer back to you
15 somewhat. But there are definitely regional
16 differences. I mean, people in Montana are not as used
17 to heat as people in Florida are. So we're actually
18 probably more sensitive. And after being an author on
19 the Climate Change and Human Health report in Montana,
20 you know, this is one of the things that we looked at.
21 But I still think having a national standard and
22 having -- having something to start out with is needed.

1 MR. LEVINSON: So do you think a period of
2 acclimatization during heat waves or at the beginning
3 of heat season is enough or should the triggers be
4 different?

5 DR. BYRON: Again, I think having a national
6 standard is just far better than any other way of
7 piecemealing this.

8 MR. LEVINSON: Thank you. The next question
9 relates to signs and symptoms. And one of the things
10 that OSHA has talked about is a buddy system where
11 workers would be taught signs and symptoms to watch out
12 for in coworkers. And people have asserted that other
13 workers are not medical professionals and that they
14 couldn't accurately assess the signs and symptoms of
15 heat-related illness. Do you have any thoughts on
16 whether or not people could be trained, non-medical
17 professionals could be trained to recognize the signs
18 and symptoms?

19 DR. BYRON: I think they can be trained somewhat.
20 I'm not sure what -- I mean, buddies are great. You
21 know, when I hike I don't want to be attached by a
22 grizzly bear and be out there alone. So it's nice to

1 have a buddy. But buddies don't always recognize
2 everything. And you know, especially with these people
3 that are on medicines that affect their own ability to
4 regulate heat and to know that they're getting in
5 trouble, you know, I think -- you know, for people like
6 that or for people with other medical problems, their
7 buddy is not necessarily going to pick up everything.
8 So I'm not sure what they would replace. I think it's
9 a good suggestion, but.

10 MR. LEVINSON: Thank you. Your Honor, the next
11 question comes from Zoe Petropoulos.

12 MS. PETROPOULOS: Hi, this is Zoe Petropoulos with
13 the Directorate of Standards and Guidance. So I heard
14 you mentioned underreporting of heat as a cause of
15 death on death certificates in your testimony? And I'm
16 just wondering if you or your membership have any
17 additional data, research, or anecdotes on that topic?
18 We would welcome those in post-hearing comments or now.
19 And we're also interested, more generally, on your
20 membership's experience on coding of heat-related
21 causes on medical forms and also work-related boxes
22 that are checked or other indications of work-

1 relatedness, we're interested in anything your
2 membership can share on that topic.

3 DR. BYRON: Thank you.

4 MS. PETROPOULOS: And then I'll also just say, you
5 mentioned your own personal experience working, I
6 believe -- correct me if I'm wrong -- in a clinic with
7 migrant workers. If you have any experiences or
8 anecdotes about the reporting of heat-related symptoms
9 and heat-related illnesses among those workers, we
10 would welcome that now or in post-hearing comments.

11 DR. BYRON: Yes. And again, like everybody else
12 that I think has been asked that question, definitely,
13 definitely see, you know, people's reticence to
14 complain or to -- or to say they're having a problem or
15 to ask for rest when it's not something that's
16 standardly given.

17 MS. PETROPOULOS: Thank you so much. And that's
18 it for me.

19 MR. LEVINSON: Your Honor, that concludes the
20 questions from OSHA.

21 JUDGE BOUCHER: Thank you. Anything from the
22 Solicitor's Office?

1 MS. WILES: Yes, Your Honor. This is Linda Wiles
2 from the Solicitor's Office. I did have just one
3 question for Dr. Byron. Thank you for being here today
4 and for your testimony. You mentioned the potential
5 side effects of some prescription drugs, which could
6 aggravate heat stress symptoms for folks that are
7 taking those medicines. And I'm not sure if you heard
8 earlier today from the Alliance of Nurses for Healthy
9 Environments, one of their recommendations was medical
10 screening to aid in providing employees necessary
11 protections where these employees are more vulnerable
12 to heat stress. I wondered if you had thoughts about
13 whether medical screening should be utilized. And if
14 so, do you have suggestions for balancing the need for
15 such information with employee privacy rights?

16 DR. BYRON: I don't have opinions on the privacy
17 rights. I do think that the -- that a medical
18 screening is great, but I sort of think it's like the
19 buddy. It's not going to capture everything. And a
20 lot of people aren't going to tell the truth because
21 they don't want to lose their job or not get a job by
22 talking about their medical problems.

1 MS. WILES: Thank you so much. That's all for me,
2 Your Honor.

3 JUDGE BOUCHER: Thank you. Mr. Roberts, any other
4 online participants with questions?

5 MR. ROBERTS: Your Honor, there are no online
6 participants with questions.

7 JUDGE BOUCHER: Okay. Then Dr. Byron, I just want
8 to say thank you very much for your testimony today.
9 We appreciate your time.

10 DR. BYRON: Thank you.

11 JUDGE BOUCHER: Before I close things down, Mr.
12 Levinson, is there anything else from OSHA?

13 MR. LEVINSON: No, Your Honor. Thank you very
14 much for today. Nothing further from OSHA.

15 JUDGE BOUCHER: Anything -- anything from the
16 Solicitor's Office?

17 MS. WILES: I just wanted to make sure that the
18 individual from PSR that we missed isn't on the line?
19 If we could just do one last call to see?

20 MR. ROBERTS: Are you referring to Mr. --

21 JUDGE BOUCHER: Mr. Covert-Bowlds.

22 MS. WILES: Mr. Covert-Bowlds.

1 MR. ROBERTS: Covert-Bowlds, yes. Mr. Covert-
2 Bowlds, if you're here, if you could make yourself
3 known. Raise your hand.

4 JUDGE BOUCHER: Seems like he's not here.

5 MR. ROBERTS: Yeah. I do not see anything.

6 MS. WILES: Okay. That's all for me, Your Honor.

7 JUDGE BOUCHER: Thank you for checking. All
8 right. We are now at the end of all scheduled
9 witnesses for today. I would like to remind the
10 hearing participants that they may submit additional
11 evidence or statements relevant to the proceeding
12 within 90 days of the end of the hearing, which will be
13 September 30th, 2025. At that point, the record for
14 this rulemaking will close. On behalf of the
15 Department of Labor, I want to publicly thank all those
16 people who gave their time and testimony to contribute
17 to this hearing today. And to all participants, thank
18 you for your interest in this important matter. The
19 hearing is hereby adjourned for today. It will be
20 reconvened at 9:30 a.m. on Monday. Thank you everyone.

21 (Whereupon, at 4:14 p.m., the hearing was
22 adjourned.)

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