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Heat Regulations and Standards Development in the Construction Industry

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In This Session . . .

- Impact of heat stress injuries and illnesses in construction
- NIOSH criteria document for a recommended standard: Occupational exposure to heat and hot environments
- OSHA advanced notice of proposed rulemaking on heat
- Advisory committees to OSHA
- OSHA national emphasis program on heat
- ANSI/ASSP A10.50 proposed heat standard
- Current state plans

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Impact of Heat-related Illnesses/Deaths in Construction

2019 CPWR Study

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CPWR KEY FINDINGS FROM RESEARCH

Heat-related deaths among construction workers

Heat-related deaths among construction workers in the United States

Xiuwen Sue Dong, Gavin H. West, Alfreda Holloway-Beth, Xuanwen Wang, and Rosemary K. Sokas. American Journal of Industrial Medicine, 2019.

Source: Fatal injury data were generated by the CPWR Data Center with restricted access to BLS CFOI micro data. The views expressed here do not necessarily reflect the views of the BLS. Employment data were from the Current Population Survey. Calculations by the authors.

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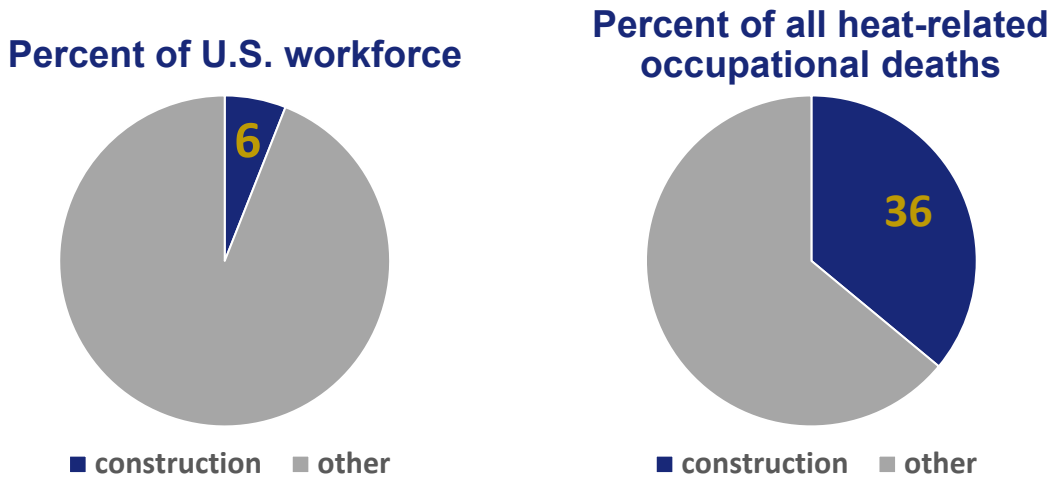
285 Construction Workers Suffered Heat-related Deaths from 1992 to 2016



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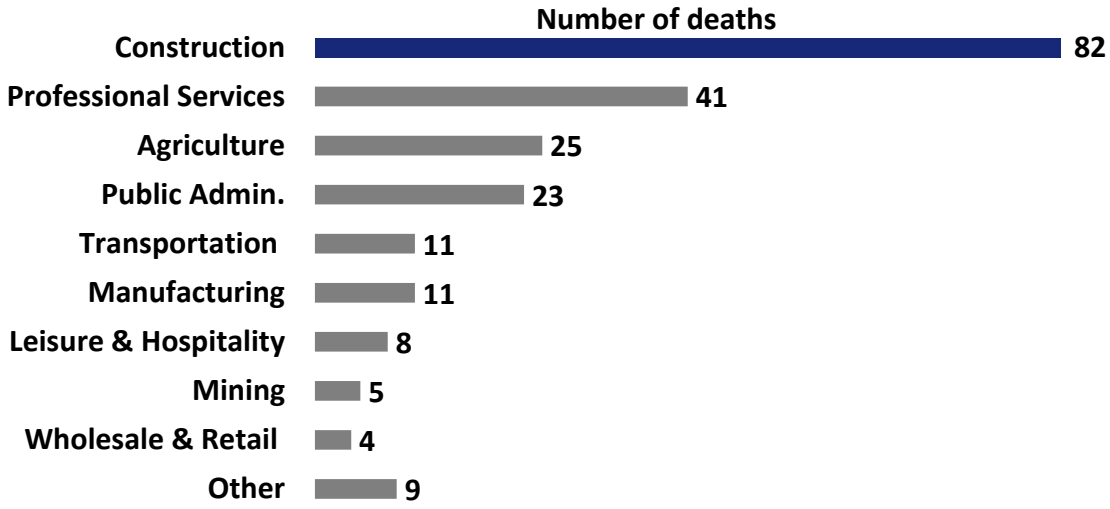
Heat-related Deaths from 2011-2016



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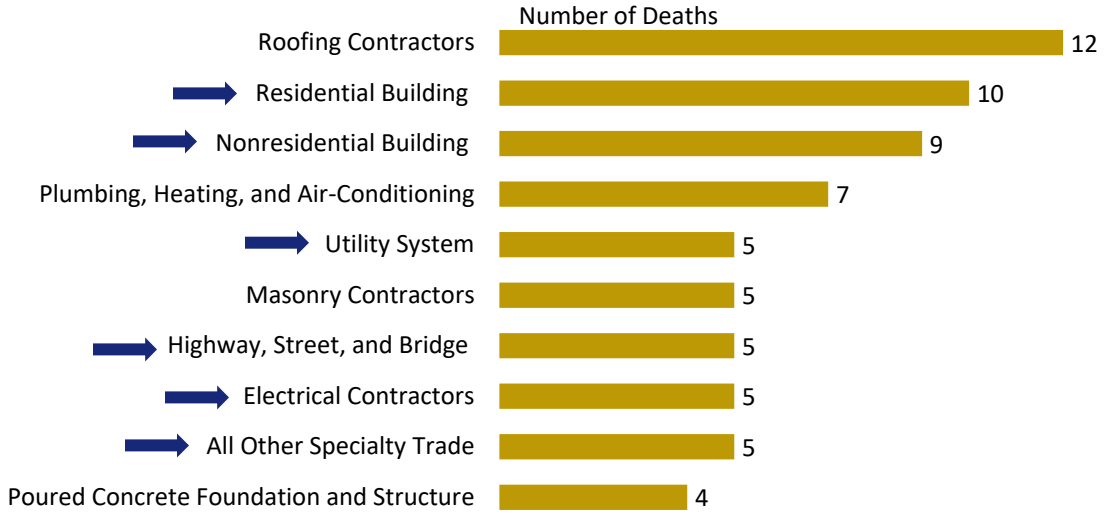
Deaths by Construction Subsectors in Which IBEW Members Might Work



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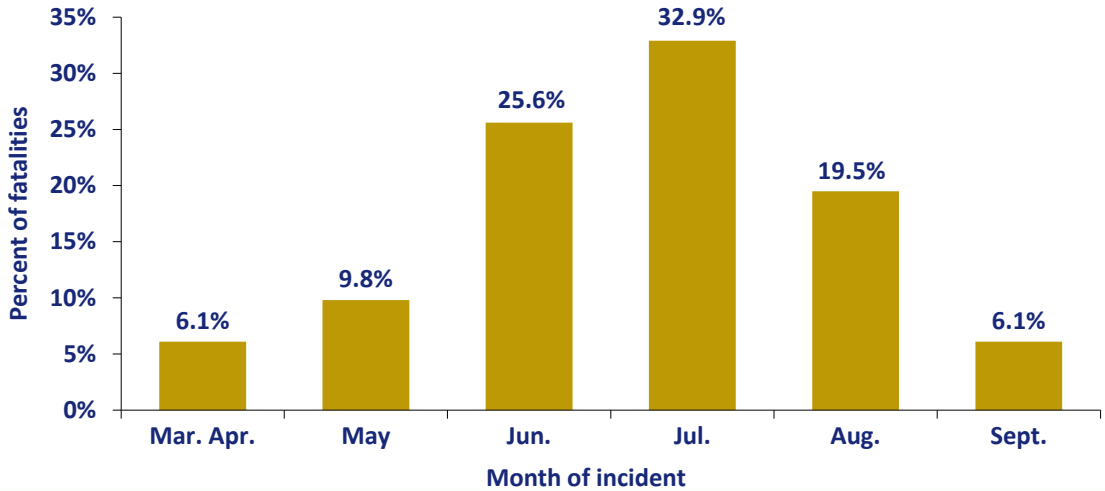
Most of the Deaths (2011-2016) Occurred During the Warmest Months of the Year



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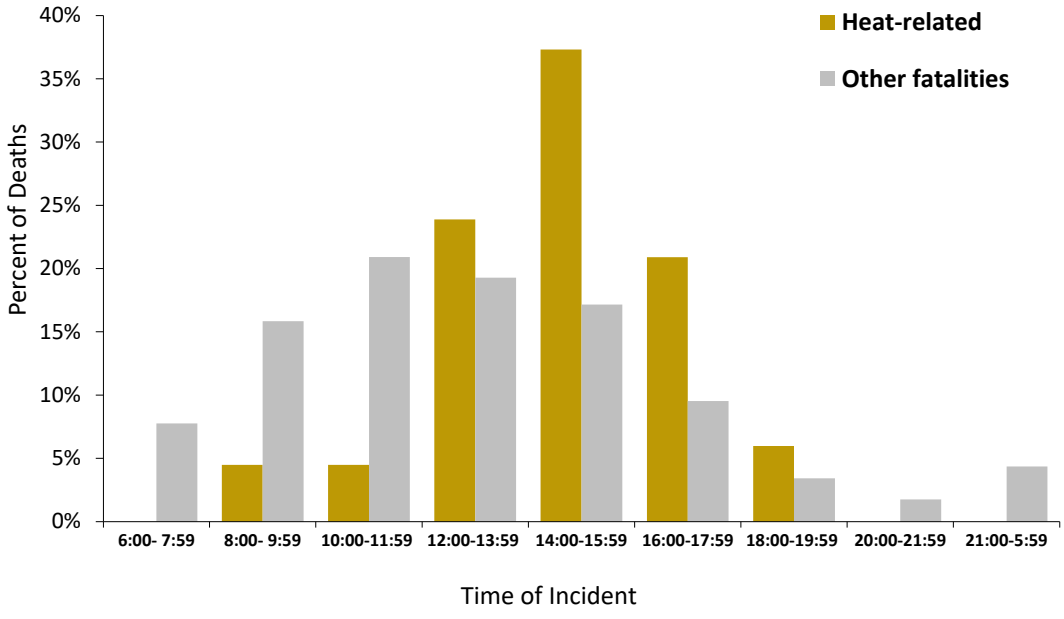

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The Biggest Differences in Risk Were Related to Occupation

	Number of Heat-related Deaths		Incidence Rate of Heat-related Deaths			
	2011-2016 total	%	2011-2016 average rate [a]	95% Confidence Interval		Risk index [b]
				Lower	Upper	
Occupation						
Laborer	24	29.3%	0.29	0.27	0.30	1.93*
Roofer	11	13.4%	1.04	0.90	1.23	6.93*
Carpenter	8	9.8%	0.13	0.12	0.13	0.87
Cement mason	5	6.1%	1.62	1.27	2.24	10.80*
Brick mason	4	4.9%	0.50	0.43	0.62	3.33*
Electrician	4	4.9%	0.13	0.12	0.14	0.87
Plumber	4	4.9%	0.15	0.14	0.17	1.00
Foreman	4	4.9%	0.11	0.10	0.12	0.73
Heating A/C mech	3	3.7%	0.18	0.16	0.20	1.20*
Helper	3	3.7%	1.03	0.79	1.48	6.87*
All construction	82	100.0%	0.15	0.14	0.15	1.00

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The Impact of Heat on Construction

- Study wasn't designed to tell us why risks exist
- Could risks be interrelated?
- The large differences by occupation suggest something about the work itself
- More studies are needed in the construction industry
- The lack of data could be related to cases not getting reported or being misclassified – this affects all industries

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NIOSH Criteria Document for a Recommended Heat Standard

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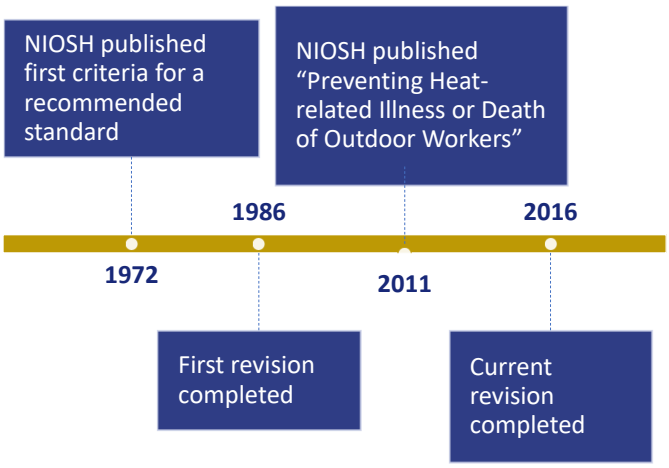
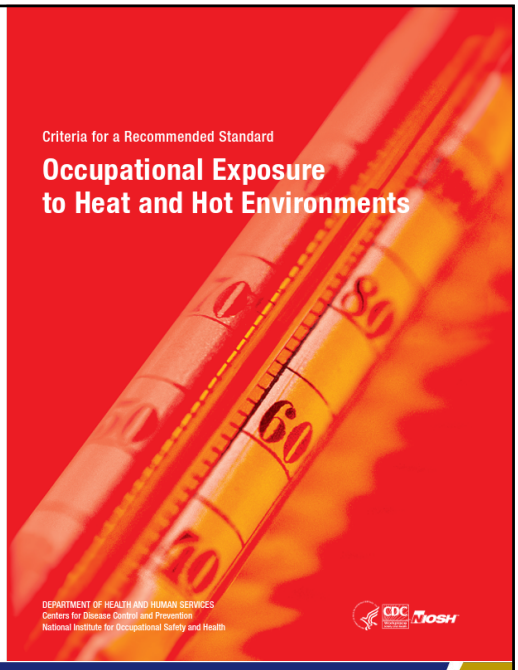
NIOSH Criteria for a Recommended Standard





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2016 NIOSH Criteria Document

- Executive Summary
- Recommendations for an Occupational Standard
- This revision includes:
  - Additional information about the physiological changes that result from heat stress;
  - Updated information from relevant studies, such as those on caffeine use;
  - Evidence to redefine heat stroke and associated symptoms;
  - And updated information on physiological monitoring and personal protective equipment and clothing that can be used to control heat stress.

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Differentiates Classic and Exertional Heat Stroke

Table 4-4. Comparison of classic and exertional heat stroke

Patient characteristics	Classic	Exertional
Age	Young children or elderly	Typically 15–45 years
Health	Chronic illness or debilitation	Usually healthy
Sweating	Usually absent	Often present
Acid–base disturbances	Respiratory alkalosis	Lactic acidosis
Acute renal failure	Fairly rare	Common
Rhabdomyolysis	Seldom severe	Common; may be severe
Hyperuricemia	Modest	Marked
Creatinine: blood urea nitrogen ratio	1:10	Elevated
Creatine kinase (CK), aldolase	Mildly elevated	Markedly elevated

"Re-education is needed in the workplace especially about symptoms. Many workers have incorrectly been taught that as long as they were still sweating, they were not in danger of heat stroke."

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OSHA Rulemaking Process on Proposed Heat Standard

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A Final Rule Will Not Happen Quickly

"… this action begins the process to consider a heat-specific workplace rule."

10/26/21 News Release
https://www.osha.gov/news/newsreleases/national/10262021

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ANPRM Announces OSHA's Intent to Develop a Rule to Protect Both Outdoor and Indoor Workers

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Final Step of Stage 1 Completed in December 2021

Advance Notice of Proposed Rulemaking (ANPRM)

- Identify health or safety hazard
- Conduct research and gather data to determine scope of problem; identify and obtain information needed for health effects analysis, risk assessment, technological feasibility analysis, and economic analysis
- Meet with internal and external stakeholders
- Identify regulatory and nonregulatory approaches
- Prepare timeline, identify resources needed including need for advisory committees
- Prepare decision papers to obtain executive approval to proceed
- List Regulatory Action on Unified Agenda/Regulatory Plan
- Establish public rulemaking docket
- Develop and publish RFI or ANPR if needed

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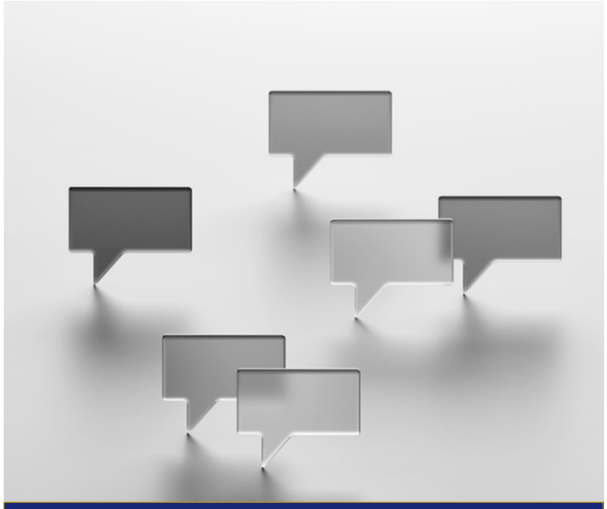
The ANPRM was a critical opportunity for public comments early in the process



114 questions in the ANPRM
~ 1,000 public comments

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OSHA is in Stage 2 of 7 of the Rulemaking Process

Stage 1 ✓

Making the Decision: Conducting Preliminary Rulemaking Activities

12 to 36 months

→

Stage 2

Developing the Proposed Rule

12 to 36 months

More info on the 7 stages:
https://www.osha.gov/sites/default/files/OSHA_FlowChart.pdf

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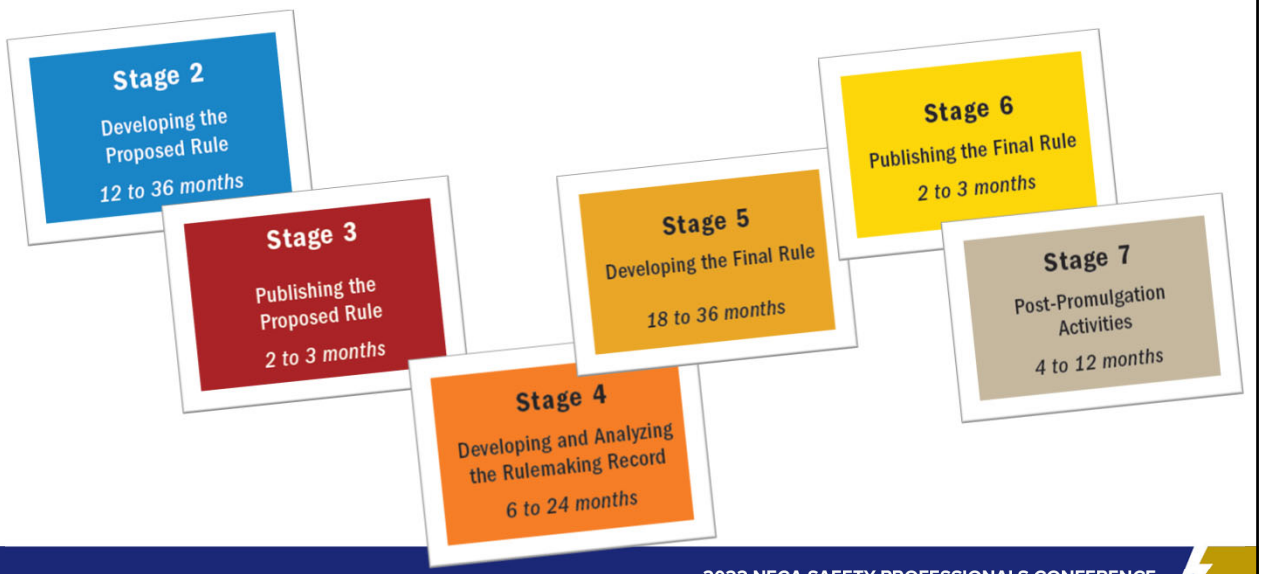
Rulemaking Process is Currently at Stage 2



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OSHA will Continue to Seek Input from the Public and Advisory Groups

Stage 2

Developing the Proposed Rule

12 to 36 months

- Continue stakeholder discussions
- Consult ACCSH, NACOSH
- SBREFA review process

Stage 4

Developing and Analyzing the Rulemaking Record

6 to 24 months

- Public comments
- Public hearings
- Review and analyze all written comments, exhibits, testimony

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The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 Provided New Avenues for Small Businesses to Participate in the Federal Regulatory Arena

Small Business Advocacy Review (SBAR) panel

Convened by OSHA prior to proposing a rule that would have a significant economic impact on a substantial number of small entities

Meets with small entity reps

Seeks advice and recommendations to minimize burden on small entities

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Advisory Committees to OSHA

ACCSH and NACOSH

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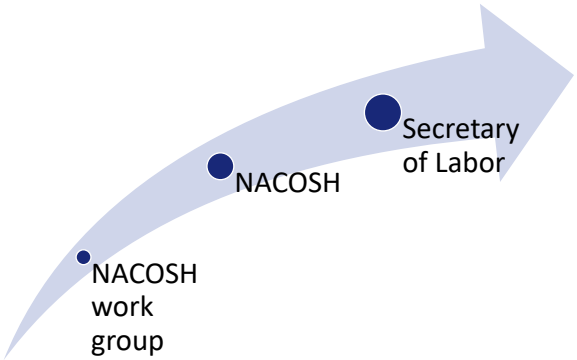
Heat Injury and Illness Prevention Work Group of the National Advisory Committee on Occupational Safety and Health (NACOSH)

- NACOSH representatives
- Management interests
- Labor interests
- State plan representative
- Technical public health expert

https://www.osha.gov/heat-exposure/heat-injury-and-illness-prevention-work-group/membership



https://www.osha.gov/heat-exposure/heat-injury-and-illness-prevention-work-group

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Tasks of the NACOSH Work Group

- Evaluate existing guidance materials
- Develop recommendations for guidance materials
- Evaluate stakeholder input
- Develop recommendations on potential elements of a proposed standard
- Present written findings and recommendations for consideration by the full NACOSH committee

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Advisory Committee on Construction Safety and Health (ACCSH)

- Continuing advisory body established by statute that provides advice and assistance in construction standards and policy matters to the Assistant Secretary
- There are 15 members of this advisory body
- The ACCSH meetings are open to the Public and are announced in the Federal Register
- OSHA must consult ACCSH on any new rulemaking affecting construction

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OSHA National Emphasis Program on Heat

CPL 03-00-024

Outdoor and Indoor Heat-Related Hazards

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Prioritizes Heat-related Interventions and Inspections on Days When the Heat Index Exceeds 80 ºF

Increase enforcement when heat index exceeds 80°F

Follow specific inspection procedures

Issue citations based on existing standards

(e.g., general duty clause, PPE, sanitation, training, first aid)

https://www.osha.gov/laws-regs/standardinterpretations/2021-09-01#ftn3

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OSHA's National Emphasis Program (NEP) Focused on Heat Hazards

- Effective Date – April 8, 2022
- OSHA will be conducting proactive inspections for heat-related hazards—in both outdoor *and* indoor work environments
- Outlines certain triggers for heat-related inspections:
  - OSHA can open a heat-related inspection during non-heat related investigations – any hazardous heat conditions observed or reported
  - Heat index expected to 80 ·F or higher = heat priority days
    - OSHA will inquire about heat hazard preventions
  - NWS issues heat warning or advisory
  - DOL Wage & Hour Division when conducting investigations is encouraged to refer information related to heat hazards to OSHA

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NEP Mandates OSHA Take Steps

Including but not limited to:

- Review injury and illness logs and incident reports for heat-related illness;
- Review records of heat-related emergency room visits and/or ambulance transport, even if hospitalization did not occur;
- Interview workers for heat illness symptoms like headache, dizziness, fainting, dehydration, etc.;
- Determine if the employer maintains a heat illness and injury prevention program, and consider whether the program addresses hydration, breaks, shade, acclimatization, training and other relevant policies; and
- Document relevant conditions, such as the heat index, any NWS heat alerts, type of heat source (e.g., direct sunlight, proximity to furnace), any injured employee's exertion level and duration of exposure to heat, and the like.

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Employers Should…

- Draft a prevention program to mitigate heat-related injuries and illnesses;
- Designate someone at each worksite to monitor worker health and conditions on days of extreme heat;
- Conduct a hazard analysis of job duties or positions that could involve exposure to extreme heat, including an analysis of outdoor and indoor workspaces; and
- Review your OSHA 300 logs from the past few years to quantify what injuries or illnesses, if any, are or could have been heat-related and implement plans to address those situations moving forward.

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State Rules on Hazardous Heat

CALIFORNIA, OREGON, MINNESOTA, WASHINGTON

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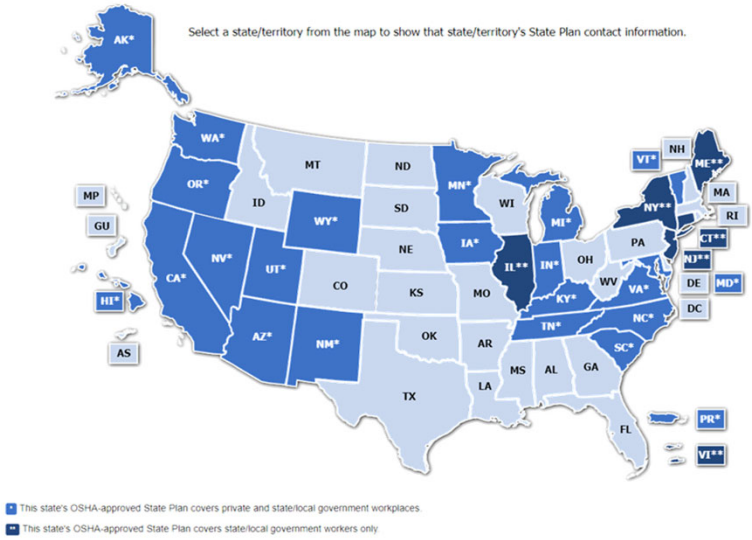
States with Occupational Heat Standards

California
Oregon
Washington
Minnesota



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Comparison of State Rules

Standard Requirements	California	Minnesota	Oregon	Washington
Worksite coverage	Outdoor, year-round	Indoor, year-round	Indoor/Outdoor, emergency rule	Outdoor, May 1 – Sept 30
Threshold Trigger	80°F (ambient)	77°F – 86°F Wet Bulb Globe Temp (WBGT)	80°F (NOAA NWS Heat Index)	89°F (ambient), Lower if wearing heavy clothing/PPE
Water/Hydration	1 Qt./Hr./Worker	No	1 Qt./Hr./Worker, Cool or cold	1 Qt./Hr./Worker, Suitably cool
Shade	Yes	N/A	Yes	Yes
Training	Yes	Yes	Yes	Yes
Breaks	Yes	Yes	Yes	Yes
Acclimatation Plan	Yes	No	Yes (at 90°F)	No

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ANSI A10.50 Heat Standard

Under Development

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ANSI/ASSP A10 Committee on Safety in Construction and Demolition Operations

- Comprised of 75 voting members from 4 categories
  - Employer
  - Employee
  - Technical
  - Consulting
- Meets twice a year
- Subgroups for each standard work during the year

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ANSI/ASSP A10 Committee Standards Development Process

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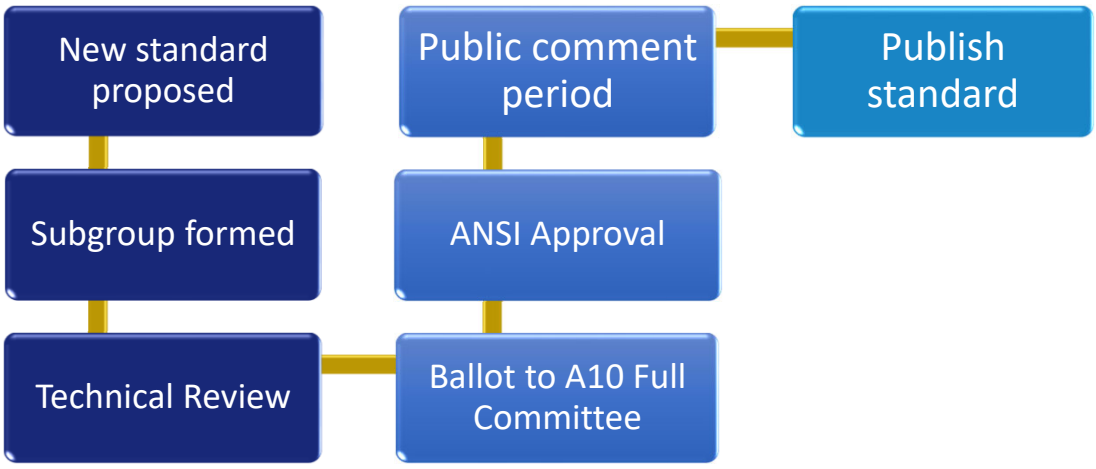
ANSI/ASSP A10 Committee Standards Development Process



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ANSI/ASSP A10.50

Proposed Standard for Heat Stress Management

Core elements of the latest draft include:
Heat stress management program
Acclimatization
Risk assessment and controls
Trigger levels for protective measures
Awareness of risk factors
First aid and emergency response
Training requirements

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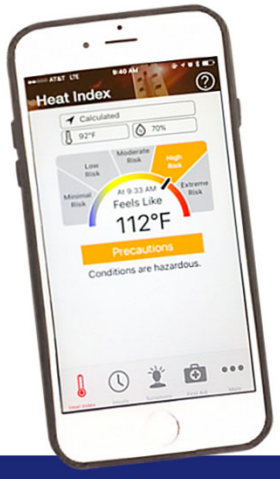
The OSHA-NIOSH Heat Safety Tool App Makes it Easy to Get Guidance Based on the Heat Index for Your Specific Location



The agencies encourage users to update the app regularly as they consider how to incorporate the latest science related to the heat index

https://www.cdc.gov/niosh/topics/heatstress/heatapp.html

Image © CDC

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Resources

- CPWR website
  - Working in Hot Weather
- CDC NIOSH
  - Heat Stress
- OSHA
  - Safety and Health Topics - Heat

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Questions?

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Complete the Online Evaluation

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