# Workplace Heat Safety



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1. How does heat impact us at work?

2. OSHA's Notice of Proposed Rulemaking

- a. Scope
- b. Heat Injury and Illness Prevention Plan (HIIPP)
- c. Heat Hazards and Triggers
- d. Heat Controls
- 3. Participate in the Rulemaking Process







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### Weather Fatalities 2023



\*Due to an inherent delay in the reporting of official heat fatalities in some jurisdictions, this number will likely rise in subsequent updates. \*The fatalities, injuries, and damage estimates found under Hurricane/Tropical Cyclone events are attributed only to the wind.



## Heat-Related Workplace Deaths in the United States, 1992–2022

- A total of 986 workers across all industry sectors in the US died from exposure to heat in 1992-2022, which is ~34 deaths per year on average.
- However, heat-related deaths, especially among workers, are extremely underreported, so these are likely vast underestimates.



Year



## Workers can also face heat illness and injury

- There were an estimated 33,890 work- related heat injuries and illnesses involving days away from work from 2011–2020, an average of 3,389 injuries and illnesses per year.
- Hotter temperatures at work • were associated with 20,000 additional workplace injuries/year, across both outdoor and indoor settings, for multiple injury types.



Panel A: Outdoor Industries



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# Scope

- 1.All employers conducting outdoor and indoor work in all general industry, construction, maritime, and agriculture sectors where OSHA jurisdiction
- 2. Proposed exclusions:
  - a. Short duration employee exposures to heat
  - b. Emergency response activities
  - c. Work at indoor sites kept below 80°F
  - d. Telework
  - e. Indoor sedentary work activities

## has

New York operates an **OSHA-approved State Plan** covering only state and local government workers.

Private sector employers and their workers are covered by federal OSHA.



This state's OSHA-approved State Plan covers private and state/local government workplaces.

This state's OSHA-approved State Plan covers state/local government workers only.

This state (with no asterisk \*) is a federal OSHA state.

New York operates an **OSHA-approved State Plan** covering only state and local government workers.

Private sector employers and their workers are covered by federal OSHA.

If in the public sector, always check NYS guidance and requirements



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**Employers must develop and implement a** Heat Injury and Illness Prevention Plan (HIIPP)

- For each worksite
- Including different work activities
- Heat hazard assessment ullet
- Written and accessible to all workers ightarrow
- 1+ heat safety coordinators
- Includes worker feedback ightarrow
- Reevaluate annually and as needed •



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## How do we measure heat?

Temperature	Heat Index					
Amount of heat present	What the temperature feels like to the human body when relative humidity is combined with the air					
	temperature in the shade					
Measured with a	NWS Heat Index Temperature (°F)					
standard	80         82         84         86         88         90         92         94         96         98         100         102         104         106         108         110           40         80         81         83         85         88         91         94         97         101         105         109         114         119         124         130         136           45         80         82         84         87         89         93         96         100         104         109         114         119         124         130         136					
thermometer	45       60       62       64       67       63       63       60       104       103       114       113       124       130       137         S       50       81       83       85       88       91       95       99       103       108       113       118       124       131       137         S       55       81       84       86       89       93       97       101       106       112       117       124       130       137					
°F 🙁 °C	initial       initia       initial       initial					
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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	<b>2 85 65 90 86 910 86 911 113 126 135 90 86 910 86 911 113 122 131 95 86 931 100 177 127 132</b>					
-20 -30	Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity Caution Extreme Caution Danger Extreme Danger Figure 1. Heat index chart.					

### Wet-Bulb Globe Temperature (WBGT)

Measure of the heat stress in direct sunlight, which takes into account: temperature, humidity, wind speed, sun angle and cloud cover (solar radiation)



## **Employers must identify heat hazards in both** outdoor and indoor work sites.



# Employers must identify heat hazards in both outdoor and indoor work sites.

Include heat hazard assessment of any vaporimpermeable clothing



# There are different ways in which you can assess heat exposure in the proposed rule.

## **PICK ONE**

	Heat Index	WBGT	
Initial Heat Trigger	80°F	NIOSH Recommended Alert Limit	Req area
High Heat Trigger	90°F	NIOSH Recommended Exposure Limit WBGT	Req wo warni

Requirements

uires provisions for water, cool break s, acclimatization protocols, paid rest breaks, communication

uires additional controls: rest breaks, orker observation, hazard alerts, and ng signs for excessively high heat areas

## NIOSH Recommended heat stress alert limits (RALs) for unacclimatized workers



https://www.cdc.gov/niosh/docs/2016-106/pdfs/2016-106.pdf?id=10.26616/NIOSHPUB2016106

Metabolic heat

## NIOSH Recommended heat stress exposure limits (RELs) for acclimatized workers



https://www.cdc.gov/niosh/docs/2016-106/pdfs/2016-106.pdf?id=10.26616/NIOSHPUB2016106

### Metabolic heat

15 min./h. 30 min./h. 45 min./h. 60 min./h.

0	kcal/h.
0	Btu/h.
0	Watts

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## **Controls** Heat illness and emergency response procedures

### Watch for any other signs of heat illness and act quickly. When in doubt, call 911.

### If a worker experiences:

Headache or nausea Weakness or dizziness Heavy sweating or hot, dry skin Elevated body temperature Thirst

Decreased urine output



### **Take these actions:**

- >> Give water to drink
- >> Remove unnecessary clothing
- $\gg$  Move to a cooler area
- >> Cool with water, ice, or a fan
- >> Seek medical care if needed

# Controls

## Heat illness and emergency response procedures

## **First Aid for Heat Illness**

### The following are signs of a medical emergency!



- Abnormal thinking or behavior
- Slurred speech
- Seizures
- Loss of consciousness
- > CALL 911 IMMEDIATELY
- COOL THE WORKER RIGHT AWAY WITH WATER OR ICE
- STAY WITH THE WORKER UNTIL HELP ARRIVES



# onse procedures

# **Controls**

## Training for employees and supervisors

Provide initial and annual refresher training for supervisors, heat safety coordinators, and employees, as well as supplemental training after changes in exposure to heat hazards, policies and procedures, or the occurrence of a heat injury or illness.

## Recordkeeping

Have and maintain, for a minimum of six months, written or electronic records of indoor monitoring data.

# **Controls:** Initial Heat Trigger



Drinking water



Acclimatization



Outdoor break area



Rest breaks



Indoor work

area



Communication

	Heat Index	WBGT
Initial Heat Trigger	80°F	NIOSH Recommended Alert Limit



### Drinking water

- In addition to existing OSHA sanitation standards
- Access to potable water in locations accessible to workers
- No common drinking cups, shared utensils, vessels from which • water must be dipped or poured
- Water should be suitably cooled
- Provide at least 1 quart of water per hour per worker
- Provide information to employees on benefits of drinking water
- Recommended: provision of electrolyte supplements or drinks



Outdoor break area



Indoor work

area

- Areas where employees can hydrate, remove PPE, cool down Accommodate all employees on break Area is readily accessible to the work area ullet

- Area has shade or air conditioning

- Areas where employees can hydrate, remove PPE, cool down Accommodate all employees on break
- • Area is readily accessible to the work area • Area has increased ventilation, de-humidification, or air
- conditioning



### Acclimatization

Ease into Work. Nearly 3 out of 4 fatalities from heat illness happen during the first week of work.



New and returning workers need to build tolerance to heat (acclimatize) and take frequent breaks. **Follow the 20% Rule**. On the first day, work no more than 20% of the shift's duration at full intensity in the heat. Increase the duration of time at full intensity by no more than 20% a day until workers are used to working in the heat.

- Two options: must implement one for new employees during 1<sup>st</sup> week on the job
  - Option A: Provide high-heat trigger controls starting at initial heat trigger
  - Option B: Restrict employee heat exposure to no more than 20% of normal work shift on first day, increase by 20% of work shift on days 2-4 (NIOSH Rule of 20%)
  - Cannot relieve employees from duty or use paid leave for acclimatization protocols
  - Similar options for returning employees who have been away from the job for >14 days



Rest breaks



Includes unscheduled rest breaks that are heat-related



Communication

- Channels for effective, regular, two-way communication
- Employer: education, notification of heat hazards, precautions
- Worker: signs and symptoms of heat-related illness or injury, response measures needed

### breaks in break areas hat are heat-related

way communication
 f heat hazards, precautions
 at-related illness or injury,

# **Controls: High Heat Trigger**



Rest breaks



Buddy system



Hazard alert



Signs and symptoms

	Heat Index	WBGT
High Heat Trigger	90°F	NIOSH Recommended Exposure Limit WBGT



- 15-minute paid rest breaks required every 2 hours at minimum
- Can increase frequency and duration of breaks beyond this ullet

Rest breaks



Hazard alert

- Employers issue a hazard alert to employees when in a high ightarrowheat trigger exposure
- Provide information about prevention measures, workers'  $\bullet$ rights under these exposures



Buddy system



Signs and symptoms

- Must implement one of two methods for observing employees for signs and symptoms of heat stress:
  - Option 1: Mandatory buddy system coworkers in the same area use visual cues or verbal communication to observe each other for signs and symptoms of heat stress
  - Option 2: Supervisor or heat safety coordinator conduct observation of workers
    - No more than 20 workers / observer
    - Must be in close enough proximity
  - Training of employees on signs and symptoms of heatrelated illness, as well as heat emergencies

### Provision



Identifying heat hazards	
Heat illness and emergency response procedures	
Training for employees and supervisors	
Heat injury and illness prevention plan (HIIPP)	
Recordkeeping	
Drinking water	
Break area	
Indoor work area controls	
Acclimatization plan for new or returning workers	
Rest breaks (if needed)	
Effective communication means with employees	
Rest breaks (minimum 15 minutes every 2 hours)	
Supervisor or buddy system to observe for signs and symptoms	
Hazard alert	

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## Participate in the Rulemaking Process

- Submit comments to OSHA about this rule electronically at www.regulations.gov, Docket No. OSHA-2021-0009.
- When submitting comments or recommendations, commenters should explain their rationale and, if possible, provide data and information to support their comments or recommendations.
- The comment period is open until **December 30, 2024**.
- For more information on how to engage with this stage of the rulemaki. process, visit: https://www.osha.gov/laws-regs/ rulemakingprocess#v-







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