



Workplace Safety

Record Temperatures Turn Up the Heat on Workers—and Safety Pros

James Langford | Jul 06, 2023

It's getting hot, hot, hot. Literally as well as figuratively.

Not only are meteorologists predicting that 2023 will be one of the warmest years on record, regulators pressed by advocates and lawmakers are developing new heat-safety standards after a spike in related injuries and deaths and urging businesses to boost prevention efforts.

Along with the U.S. Occupational Safety and Health Administration's initial steps toward a heat-safety rule for workplaces, the agency has set up a **working group** on heat injury and illness under the National Advisory Committee on Occupational Safety and Health and started a national emphasis program to ensure employers are meeting their existing obligations.

"The three-year average of workplace deaths caused by heat has doubled since the early 1990s," then-U.S. Labor Secretary Marty Walsh said when the program was introduced in 2022.

The risks have also spurred debate in Congress. Bills were introduced in the House and Senate in recent years that would have established workplace heat-safety policies.

At least 815 workers died from heat stress from 1992 through 2017 and more than 70,000 were injured, according to the Bureau of Labor Statistics. Federal officials say both figures are likely significantly below the real numbers since such cases are underreported, partly because workers' symptoms aren't recognized or are misclassified.

"Extreme heat hazards aren't limited to outdoor occupations, the seasons or geography," Walsh added. They heighten risks for everyone from "farm workers in California to construction workers in Texas and warehouse workers in Pennsylvania."

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Former U.S. Labor Secretary

Under OSHA's heat-safety **initiative**, the agency will conduct inspections in high-risk indoor and outdoor

workplaces when the National Weather Service issues a heat warning or advisory in a particular area.

On days when the heat index—a measure that combines temperature and humidity to indicate how hot the weather feels—is 80 degrees Fahrenheit or higher, inspectors and compliance specialists will conduct outreach and offer technical assistance to keep workers safe on the job.

There's likely to be no shortage of triggers for either response this year. In addition to a heat dome over Texas in late June that baked the state and swaths of the Southeast with heat indexes above 105 degrees Fahrenheit, the ***National Climate Prediction Center*** expects above-normal temperatures in the West, Gulf Coast and East at least through September.

Workplace injuries rise by 1 percent for every 1.8-degree Fahrenheit (1-degree Celsius) increase in temperature, says Juley Fulcher, worker health and safety advocate with ***Public Citizen***, a nonprofit consumer and worker advocacy group that has urged both OSHA and Congress for years to set stricter heat-safety standards in the U.S.

Failure to adopt simple heat-safety precautions costs the U.S. economy almost \$100 billion a year, in part through worker absenteeism, overtime due to illness, reduced productivity and lawsuits, the organization estimates.

The lowest-paid 20 percent of workers suffer five times as many heat-related illnesses and injuries as the highest-paid 20 percent, the organization says, and comprehensive heat-safety rules could prevent tens of thousands of illnesses and injuries annually.

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OSHA has no specific rule governing heat safety at present, relying instead on the "general duty" clause of the Occupational Safety and Health Act of 1970. That provision requires employers to provide a workplace "free from recognized hazards that are causing or likely to cause death or serious harm" to workers.

A handful of states—California, Minnesota and Washington—have set their own more detailed policies, however, and the National Institute for Occupational Safety and Health has published ***suggested criteria*** for a federal heat safety policy since 1972.

The agency—which conducts research and makes recommendations on preventing workplace injuries—suggests employers ***take steps including the following*** to avoid heat-related health problems:

Controlling & Avoiding Heat-Related Illness

- Increase air velocity
- Use reflecting or heat-absorbing shields
- Reduce steam leaks, wet floors and humidity
- Limit time in the heat
- Increase recovery time in cool areas
- Reduce physically difficult demands of the job
- Use a buddy system to spot warning signs

Heat Training for Workers

- How to recognize the signs and symptoms of heat-related stress
- How to provide first aid for heat-related illnesses

- How to use heat-protective clothing and equipment correctly
- Procedures for contacting emergency services

Heat Training for Supervisors

- How to acclimatize employees to working in the heat
- Monitoring weather reports and responding to heat advisory notices
- Monitoring and encouraging adequate hydration

Acclimatizing Workers to Hot Conditions

- For new workers, the schedule for adapting to work in high heat should be:
 - No more than 20 percent of the usual duration of work in the heat on the first day
 - An increase of no more than 20 percent in duration on each following day
- For experienced workers:
 - No more than 50 percent of the usual duration of work in the heat on the first day
 - No more than 60 percent on the second day
 - No more than 80 percent on the third day
 - No more than 100 percent on the fourth day

Acclimatization—an increase in tolerance developed through gradual increases in duration or intensity of work in hot environments—is crucial to performing such labor safely, federal health officials say.

The most effective method of achieving it is to raise the workload incrementally over one to two weeks, they add. Acclimatization tends to fade after about a week away from the job.

“Most workers should be able to safely handle a full workload after four days of gradual increase, even though they will usually not be fully acclimatized yet,” the National Institute for Occupational Safety and Health says. “Most people will continue to see beneficial improvements in heat tolerance for up to two weeks after exposure starts.”

The agency warns, however, that abrupt shifts in work intensity or temperature spikes can increase the risks of heat exposure for even acclimatized workers.

It cites the case of a 41-year-old construction worker who collapsed in a parking lot after sawing boards in a temperature of 93 degrees Fahrenheit during his first day on the job.

He was found by another worker, and his body temperature was recorded at 108 degrees Fahrenheit when he arrived at a hospital, the agency says. He died the next day. His employer had no formal heat stress policy or acclimatization plan.

“Heat is the leading weather-related killer, and it is becoming more dangerous as 18 of the last 19 years were the hottest on record,” **OSHA said** when it began work on a heat-exposure policy in 2021. “Workers in agriculture and construction are at highest risk, but the problem affects all workers exposed to heat, including indoor workers without climate-controlled environments.”