


Outdoor and Indoor Heat-Related Hazards in Construction: A Q&A Session on OSHA's National Emphasis Program

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Today's webinar is being recorded and will be posted along with slides at cpwr.com/webinars.

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CPWR Resources to Prevent Heat-Related Illness

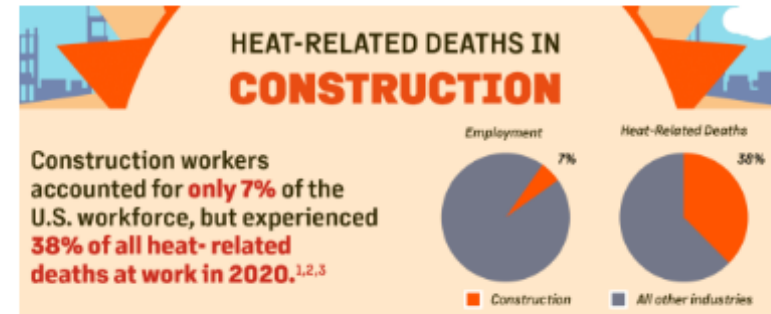
cpwr.com/heat

Heat Hazards

Construction workers, who often work outdoors in direct sunlight or in hot, enclosed spaces, are at risk for heat-related illnesses and, in severe cases, death. Rising global temperatures in recent decades increase that risk. However, **these illnesses and deaths are preventable.**

The resources below are organized by topic and contain information about heat hazards in construction and ways to prevent related illnesses. The sections correspond to the following new checklists from the CPWR-OSHA Alliance:

- [Overall Heat-Illness Prevention Program Checklist for Construction](#)
- [Daily Heat-Illness Prevention Checklist for Construction](#)



CLICK ON A TOPIC BELOW TO EXPAND FOR LINKS TO RESOURCES & MORE INFO

Heat Illness Prevention Planning



Employee Training



Acclimatization



CPWR-OSHA Alliance Checklists

Overall Heat-Illness Prevention Program Checklist for Construction

June 2023


HEAT ILLNESS PREVENTION PROGRAM CHECKLIST

According to OSHA, employers are responsible for providing workplaces free of known safety and health hazards, including heat-related hazards. Use this checklist to make sure your Heat Illness Prevention (HIP) program is up to date and follows best practices, aligning with heat abatement recommendations made by OSHA and promoted through their 2022 [National Emphasis Program on Outdoor and Indoor Heat-Related Hazards](#). To help execute the measures identified in this list on the job, see [CPWR's Daily HIP Checklist](#).


Place a check next to each measure you plan to implement as part of your HIP program on **this** specific jobsite:

<input type="checkbox"/>	Identification of a competent person to ensure a HIP program is in place and operational.
<input type="checkbox"/>	Procedures for pre-task heat stress hazard analyses for tasks that could cause heat-related illness
<input type="checkbox"/>	A site-specific, written HIP plan, shared with all employees, that incorporates methods to reduce exposure, including unlimited access to water, scheduled rest breaks, access to shade and cooling solutions, scheduling adjustments (e.g., earlier start), buddy systems, and other best practices
<input type="checkbox"/>	An acclimatization plan included in the written HIP program to closely supervise and adjust work schedules and work practices for workers newly exposed to heat, temporary or contract workers, pregnant workers, those new to the region or returning from extended leave, and during periods of significantly higher heat conditions. The plan should include specific monitoring of workers who are acclimatizing. Special attention should be given to regional heat waves, physical demands of the work, and changing PPE that may increase heat effects.
<input type="checkbox"/>	Established trigger conditions for implementation of HIP plan (e.g., local or national heat index alerts)
<input type="checkbox"/>	Employee training on risk factors, protection against heat-related illness, the importance of hydration, recognizing and reporting signs and symptoms, administering first aid, and contacting emergency personnel
<input type="checkbox"/>	A method to monitor temperature and relative humidity whenever workers are exposed to heat, both outdoors and indoors, as well as a method to monitor and factor in levels of work exertion
<input type="checkbox"/>	A response and rescue plan in the event of heat-related illness


If you left boxes unchecked or think there may be room to improve on a checked box, visit CPWR's Working in Hot Weather webpage for additional information and guidance or consult OSHA's generic template for a Model Heat Illness Prevention Plan at <https://bit.ly/3ZIX10G>.




CPWR: Working in Hot Weather
www.cpwrt.com/hot



OSHA National Emphasis Program: Outdoor & Indoor Heat-Related Hazards
<https://bit.ly/3Hm1WPt>



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Daily Heat-Illness Prevention Checklist for Construction

June 2023

DAILY HEAT ILLNESS PREVENTION CHECKLIST

Before beginning work, ask yourself whether your crew will be exposed to heat or hot weather. Are you working outside in the heat or direct sunlight? Are you working indoors in a hot environment or in a space with heat-generating machinery? If you and your crew might be at risk for heat-related illness or death, make sure you have a heat-illness prevention (HIP) program in place. A HIP program should include plans for training workers, monitoring heat conditions, ensuring controls and solutions are available when needed, acclimatizing workers, and more. The plan should be updated for each job site with clear guidance on when and how it will be implemented at the worksite for (new and experienced) workers. Use [CPWR's Heat Illness Prevention Program Checklist](#) before continuing to the checklist below if you do not have an established program in place.

Once you have a HIP plan set up, use the following checklist to identify daily risks and preventive and protective measures that will be implemented accordingly. If you have questions about the items on the checklist visit cpwr.com/heat for more information

Date: _____


Jobsite: _____

Heat Illness Prevention (HIP) Competent Person: _____


1. Are any of these risk factors for heat exposure present on your job site today? (check all that apply)

<input type="checkbox"/>	Outdoor work in warm/hot weather or direct sun	<input type="checkbox"/>	Contractors, subcontractors, or other workers must only return to work after being assessed and cleared by a competent person.
<input type="checkbox"/>	Radiant heat sources such as hot asphalt, power tools, machinery, furnaces, boilers, steam piping, or other radiant heat sources	<input type="checkbox"/>	Assessment of workers for heat-related illness.
<input type="checkbox"/>	Low wind speed and/or physical elements of the construction site that block wind	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	Work in confined spaces - for example, attics, crawl spaces, and/or the interior of tanks	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	Moderate to strenuous physical activity performed in warm/hot indoor or outdoor environments	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	Heavy or non-breathable work clothes and/or personal protective equipment worn in warm/hot indoor or outdoor environments	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	High relative humidity combined with a warm/hot indoor or outdoor environment (heat index)	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	Mobile worksites with the potential for variable levels of heat exposure	<input type="checkbox"/>	Work plan for heat-related illness.
<input type="checkbox"/>	Workers that have not yet been trained on heat exposure and heat-related illness	<input type="checkbox"/>	Work plan for heat-related illness.

Continued →



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Toolbox Talks, Posters & Worker Handouts

August 2022

JOB-RELATED FACTORS THAT INCREASE RISK OF HEAT-RELATED ILLNESS AND DEATH

Machinery, power tools, and hot/molten materials can radiate additional heat

Working in direct sunlight can increase heat exposure (and the risk of skin cancer!)

Physical exertion and heavy workloads generate heat in the body and cause fluids and electrolytes to be lost more quickly through sweat

Clothing and PPE can trap heat and reduce air flow, making it harder for the body to cool itself

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CPWR | CHARLA INFORMATIVA

Cáncer de Piel

Wearing heavy protective clothing or personal protective equipment may increase your risk — you may need more frequent breaks for rest and water.

Do not wear clothing that is too tight or made of non-breathable materials.

Do not drink alcohol and avoid caffeine.

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CPWR | TOOLBOX TALK

Hot Environments

Call 911 if a co-worker is in the shade, help them cool down.

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August 2022

PREVENTING HEAT-RELATED DEATHS IN CONSTRUCTION: THE IMPORTANCE OF ACCLIMATIZATION

Acclimatization is how the body gets used to working in the heat through repeated exposure to a hot environment. During acclimatization, workers sweat more and sweat sooner, so it is important to drink more water while becoming acclimatized. Slowly increasing workload and duration builds physical capability and reduces the risk of heat-related illness.

Failure to acclimatize workers is the number one factor associated with heat-related deaths.¹ Over 70% of heat-related deaths occur during a worker's first week.²

Acclimatize workers that are new to the job, temporary, pregnant, or new to the region. Re-acclimatize workers returning after one week or more, and when working outdoors.

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HAZARD ALERT

WORKING IN HOT WEATHER

Am I in danger?

You are at risk if you:

- Work in hot and humid conditions;
- Do heavy physical labor; and
- Don't drink enough water.

This risk is greater for workers who are not used to the heat.

But you can protect yourself and feel better as you work by dressing for hot conditions and taking frequent breaks for water and shade.

What to look for...

Signs of Heat Exhaustion:

- Weakness and wet skin
- Headache, dizziness or fainting
- Nausea or vomiting

Signs of Heat Stroke:

- Confusion or fainting
- May stop sweating — dry, hot skin
- Convulsions or seizures

Get help if you or a co-worker has these signs. HEAT STROKE IS A MEDICAL EMERGENCY. IT CAN BE DEADLY. If a co-worker shows signs of heat stroke, call 911.

If you think you are in danger, call 911.

Learn more about heat-related illnesses and how to prevent them at <http://CPWR.org/Heat>

Find out more about construction hazards. CPWR is the research and training arm of NABTU. Production of this document was supported by cooperative agreement OH 009762 from the National Institute for Occupational Safety and Health (NIOSH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.

HEAT-RELATED DEATHS IN CONSTRUCTION

Construction workers accounted for only 7% of the U.S. workforce, but experienced 38% of all heat-related deaths at work in 2020.^{1,2,3}

78% of heat-related deaths occurred between June and August⁴

Most heat-related deaths occurred between 2 P.M. & 4 P.M.⁵

Over 100 construction workers died from heat-related illness between 2011-2018²

professional and business services 63
other 41
natural resources 38
agriculture 30
public admin. 25

PROTECT YOURSELF AND YOUR CREW! learn how at: www.cprw.com/heat

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ADVERTENCIA DE PELIGRO

Relámpago

¿Estoy en peligro?

Si oyes un trueno o ves un edificio cerrado, entonces la respuesta es SI.

Los relámpagos hacen o matan cientos de personas en los EE. UU. cada año. Los trabajadores de la construcción que trabajan en espacios abiertos, en techos u otros lugares altos corren el riesgo de ser alcanzados por un rayo.

Los relámpagos pueden paralizar la construcción y matar. También pueden causar quemaduras, daños al sistema nervioso y otros problemas de salud que quitan no solo la vida sino meses después de ser alcanzado por un rayo.

Si estás afuera y no tienes dónde ir...

- Póngase de cuclillas con los pies juntos. Solo deja que tus pies toquen el suelo. No te sientas ni te acuestes sobre el piso. Debido a que el rayo viaja a través del suelo, cuanto más contacto tengas con el suelo, mayor será tu riesgo de lesiones o de muerte.
- Cubre los oídos con tus manos para protegerte del ruido.

Use esta posición para reducir el riesgo de ser alcanzado por un rayo.

Si alguien es herido por un rayo...

- Llame 911.
- Una víctima no permanece electrificada. Puedes tocarlo de inmediato.
- Si la víctima no tiene pulso, realice RCP (resucitación cardiopulmonar).
- Si hay un desfibrilador portátil, siga las instrucciones.
- Evite permanecer a la intemperie durante una tormenta para cuidar a la víctima. Mueva a la víctima a un área protegida.

Para obtener más información, visite:

- Regístrate en CPWR.org/Heat
- Contáctanos en CPWR.org/Heat
- CPWR Charlas Informativas: Protección de los Trabajadores
- CPWR Charlas Informativas: Protección de los Trabajadores

Si crees que estás en peligro, llama al 1-800-321-OSHA

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acally achieved by gradually of time spent working in a period of 7 to 14 days.¹

MAKE A PLAN FOR ACCLIMATIZATION!

Learn more at: www.cprw.com/heat

alliance CPWR | RESEARCH AND TRAINING

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Previous Webinars

Seminario web: Enfermedades y muertes relacionadas con el calor en la construcción (OSHA-NIOSH-CPWR)

16 de junio de 2022. [Ver video.](#) [Descargar presentación.](#) [Otros recursos](#)

Heat related Illness & Death in Construction Webinar

June 30, 2021. [Play Recording.](#) [Download Presentation](#)

An Overview of Health Hazards Associated with the Aftermath of Hurricanes Webinar

Thursday, September 27th, 2019. [Play Recording.](#) [Download Presentation](#)

CPWR
July 12, 2023

OSHA's HEAT National Emphasis Program (NEP)

Gary Orr

Directorate of Enforcement Programs
Office of Health Enforcement



OSHA's Heat Enforcement *Background*

- **1974** – OSHA standards advisory committee provides heat recommendations
- **2011** - OSHA started the Heat Illness Prevention Campaign, [osha.gov/heat](https://www.osha.gov/heat)
- **Consumer and Legislative Interest**
 - Senate and House Bills
 - “Public Citizen” petition for an ETS on Heat – Aug 2021
 - Letter from 13 Senators and 24 Representatives urging OSHA to issue an ETS –Aug 2021
 - Oct 2021 - Proposed Heat Rule appears for first time on Regulatory Agenda
Prerule Stage - [Heat Illness Prevention in Outdoor and Indoor Work Settings](#)

OSHA's Heat Enforcement

Background Cont.

- **White House Priorities and Federal Initiatives**
 - On January 27, 2021, President Joseph R. Biden issued **Executive Order (EO) 14008**, “Tackling the Climate Crisis at Home and Abroad,”
 - **U.S. Department of Labor** developed the [Climate Action Plan](#), Sept 2021
 - Charting definitive public policy that will reduce the federal government’s carbon footprint, increase our climate resilience, and boldly lead by example in protecting our environment.
 - Priority Adaptation Action (PAA#1) Ensuring Worker Safety -OSHA is lead agency (page 6-7)
 - **White House Statement-** [Fact Sheet, Sept 20, 2021](#)
- Jan 2022 – **Extreme Heat IWG** (Interagency Working Group) , see [heat.gov](https://www.heat.gov)

OSHA's Heat Enforcement

Responses on Heat

■ OSHA Wide:

- **Feb 2022** - Formed a Heat Injury and Illness Prevention [Work Group](#) under the National Advisory Committee on Occ. Safety and Health (NACOSH)
- **May 2022** - [Heat Forum](#) Public Stakeholder Meeting, May 3, 2022
- **Jun 2022** - Heat is a topic for [Susan Harwood Training Grants](#)
- **April 2023** – Beat the Heat Contest

■ Office of Health Enforcement :

- **Sept 2021** - OSHA Heat Enforcement Initiative ([Memo](#), 9/1/2021 – 4/8/2022)(Now archived)
- **April 2022** - OSHA Heat NEP [CPL 03-00-024](#), effective date 4/8/2022, operative for 3 years (supersedes Heat Initiative Memo)

Heat NEP: Goals

- To reduce or eliminate worker exposures to heat hazards.
- To target industries and worksites where employees are exposed to heat-related hazards and are not provided with cool water, rest, cool shaded areas, training, and acclimatization.
- To be more proactive



OSHA's Heat Enforcement: NEP

Purpose

- The NEP is designed to protect employees in high-hazard industries from both **indoor** and **outdoor** heat-related hazards.
- The NEP adds an **enforcement component** to its long-running **compliance assistance campaign** to target high-heat-hazard industries.
- The NEP focuses on vulnerable workers by coordinating with the Department of Labor **Wage and Hour Division** (WHD).
 - WHD and OSHA [MOU, dated August 4, 2021](#)

OSHA's Heat Enforcement: NEP

Inspection and Assistance Triggers

- On **heat priority days** (when the heat index is expected to be **80 degrees F or higher**):
 - During any programmed or unprogrammed inspections, CSHOs should inquire about heat-related hazard prevention programs
 - The NEP prioritizes **on-site** (in person) response for complaints and for all employer-reported hospitalizations and fatalities (i.e., severe injury reports) related to heat hazards.
 - **Provide compliance assistance** where needed
- On any day that the National Weather Service (**NWS**) has announced a heat **advisory or warning**, for the local area: <https://www.weather.gov/safety/heat-ww>
 - **Conduct programmed inspections** at worksites in targeted industries
 - May expand inspection scope if heat hazards are present

Heat NEP: Inspection Procedures

- Observations: heat sources, exertional heat, PPE, duration
- Records Review: OSHA 300 & 301, emergency records
- Interviews: symptoms, previous incidents
- Weather Conditions
- Heat Illness Prevention Program

OSHA's Heat Enforcement

Heat Illness Prevention Program

- Is there a written program?
 - Are you monitoring ambient temperature(s) and levels of work exertion at your worksite?
 - Acclimatization procedures
- Is there unlimited cool water that is easily accessible to employees?
- Do you provide additional water breaks with warmer temperatures?
- Provide cool shaded areas for rest
- Controls - Engineering, Administrative, Work Practices, PPE
- Provide training
 - Train workers on symptoms and reporting
 - Train supervisors on what to observe and emergency response procedures

ENFORCEMENT DATA

Heat NEP by the Numbers (Total Inspections by Federal OSHA)

- As of 6/20/23, 1,827 total Heat NEP Federal inspections since 4/8/22
- 47% construction, 15% manufacturing, 1% maritime, and 37% other NAICS
 - Other NAICS include agriculture, transportation, warehousing, food services, waste management, remediation services, etc.
- 1,001 unprogrammed and 826 programmed (not all programmed were primary for Heat NEP)
- 567 are complaints and 58 are FAT/CAT inspections (not all fatalities were heat-related)
- For Fiscal Year 2023, 20 5(a)(1)'s and 85 HALs.

HEAT Illness Prevention Resources

- Heat Illness Prevention Campaign, www.osha.gov/heat
 - Heat Illness General Education
 - Employers Responsibility
 - Worker Information
- Safety and Health Topics Webpage on Heat Exposure, www.osha.gov/heat-exposure
 - Prevention
 - Heat-Related Illnesses & First Aid
 - Standards
- Alliance products CPWR, NAPA, ARTBA, www.osha.gov/alliances/products
- OSHA Technical Manual (OTM), www.osha.gov/otm/section-3-health-hazards/chapter-4
- NIOSH/OSHA Heat App, www.osha.gov/heat/heat-app
- Federal Agency Heat Resources, www.heat.gov

Questions?

