



Heat Illness Prevention for Indoor and Outdoor Workers - *What Employers Need to Know*

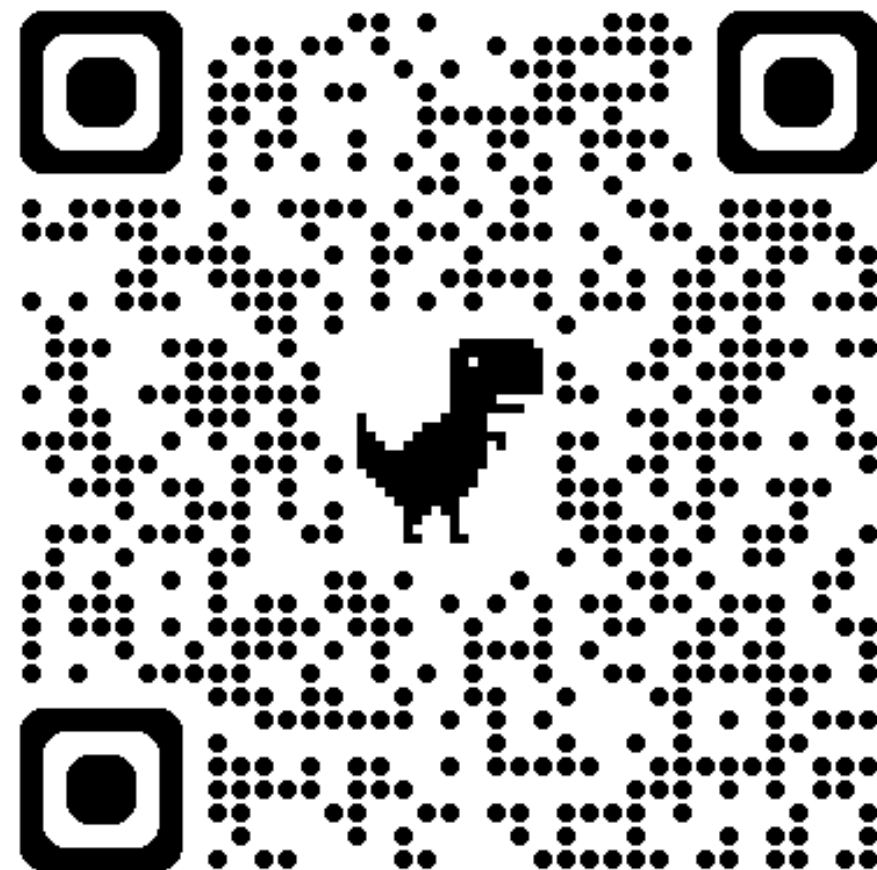
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Today's Topics

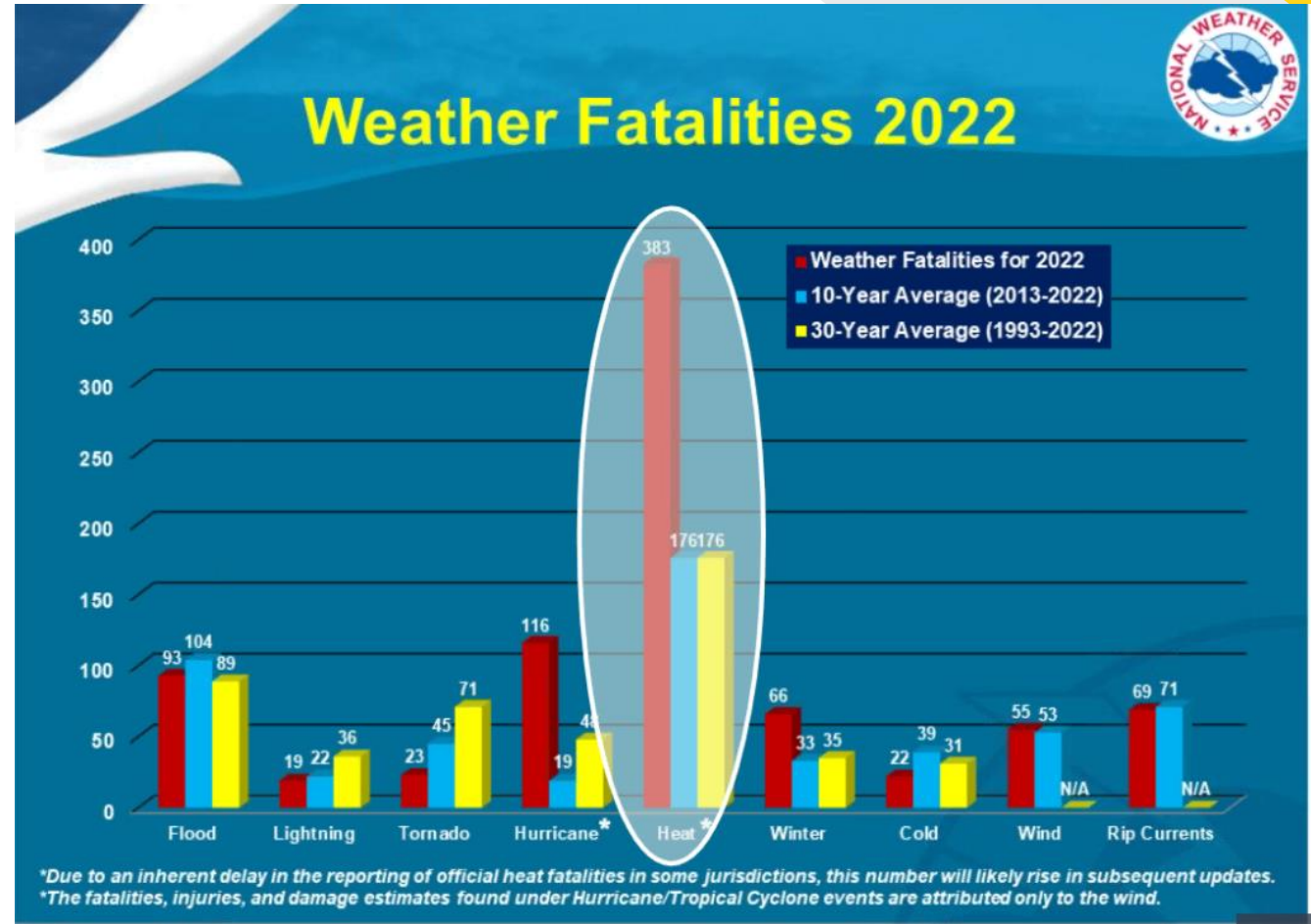
- Why Heat Matters?
- What is Heat Illness?
- Review the regulation for indoor heat and outdoor heat
- Review heat illness preventive measures
- Heat-related resources





Why heat matters?

- Heat is the leading climate-related killer
- Studies show heatwaves trending hotter, longer, and more frequent with less overnight relief
- Studies of worker's compensation data show there are over 1000 heat-related illnesses each year in California



What is Heat Illness?

- **Heat illness** is a serious medical condition resulting from the body's inability to cope with a heat load.
- Types of heat illness include:
 - heat cramps
 - heat exhaustion
 - heat stroke, which can lead to death



What is Heat Illness?

- Some symptoms of heat illness include:
 - Headache, fatigue, dizziness, confusion, muscle pain and spasms, elevated heart rate, heavy sweating, hot/dry skin, nausea/vomiting, and fainting/unconsciousness.
- The longer a person goes without assistance in excessive heat, the more likely they are to become seriously ill.

Risk Factors for Heat Illness?

- Age, weight, level of physical fitness
- Degree of acclimatization and metabolism
- Use of alcohol or drugs or medications
- Dehydration
- Medical Conditions (diabetes, hypertension)

Title 8 CCR Section 3395 – Outdoor Heat Illness Prevention

- Regulation has remained unchanged since 2015.
- Some requirements of the standard:
 - Access to Water (c)
 - Access to Shade (d)
 - High Heat Procedures (e)
 - Acclimatization (g)
 - Employee and Supervisory Training (h)
 - Written Procedures Including Emergency Response (i)/(f)

Title 8 CCR Section 3396 – Indoor Heat Illness Prevention

- Applies to most workplaces where the indoor temperature reaches 82°F.
- Effective on July 23, 2024

Title 8 CCR Section 3396 – Indoor Heat Illness Prevention

- Some requirements of the standard:
 - Access to Water (c)
 - Access to Cool-Down Areas (d)
 - Implement control measure under certain conditions (e)
 - Acclimatization (g)
 - Employee and Supervisory Training (h)
 - Written Procedures Including Emergency Response (i)/(f)



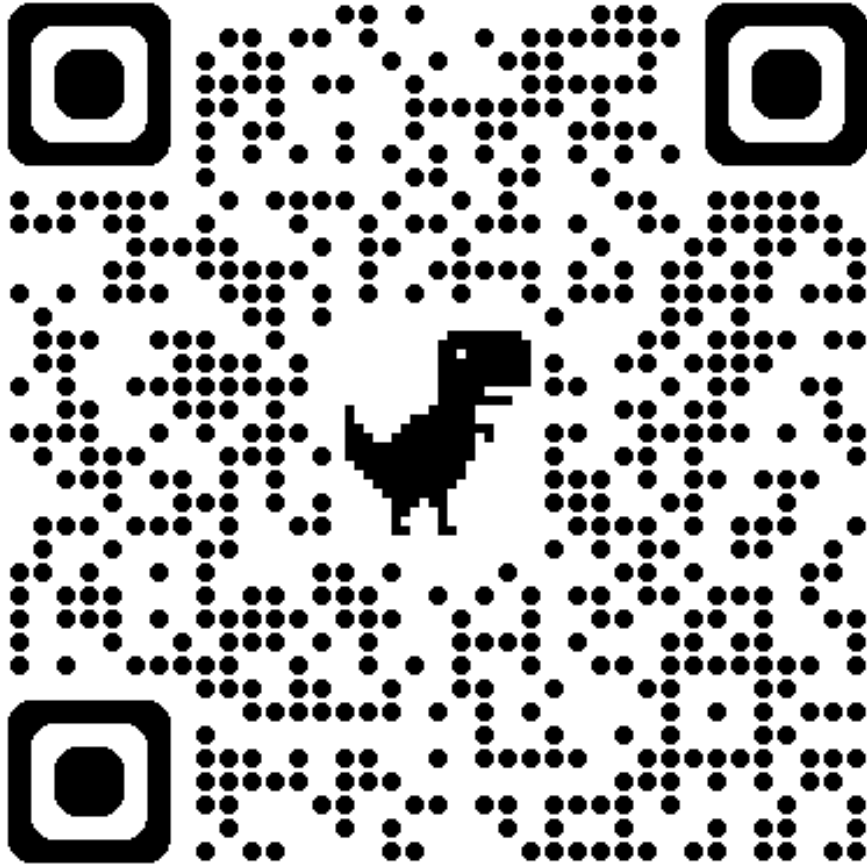
Final Indoor Heat Proposal

3395 Outdoor Heat (<i>Maria Isabel Vasquez Jimenez</i> Heat Illness Standard)	3396 Indoor Heat
(a) Scope	(a) Scope
(b) Definitions	(b) Definitions
(c) Provision of Water	(c) Provision of Water
(d) Access to shade	(d) Access to Cool-Down Areas
(e) High-heat procedures	(e) Assessment and Control Measures
(f) Emergency Response Procedures	(f) Emergency Response Procedures
(g) Acclimatization	(g) Acclimatization
(h) Training	(h) Training
(i) Heat Illness Prevention Plan	(i) Heat Illness Prevention Plan

Comparison Table

Requirement	Outdoor Heat (T8CCR 3395)	Indoor Heat (T8CCR 3396)
Scope and Application	• Applies to outdoor workplaces	• Applies to indoor workplaces when the indoor temperature is greater than 82°F
Provide Clean Drinking Water	• Provide access to potable water that is fresh, suitably cool, and free of charge • Located as close as possible to work areas	• Provide access to potable water that is fresh, suitably cool, and free of charge • Located as close as possible to work areas and cool-down areas
Access to Shade and Cool-Down Areas	• For outdoor workplaces, shade must be present when temperatures are greater than 80°F. When temperatures are less than 80°F, shade must be available upon request • For indoor workplaces, provide access to at least one cool-down area which must be kept at a temperature below 82°F • Shade and cool-down areas must be: • Blocked from direct sunlight • Large enough to accommodate the number of workers on rest breaks so they can sit comfortably without touching each other	

Cal/OSHA Heat Illness Prevention Guidance and Resources



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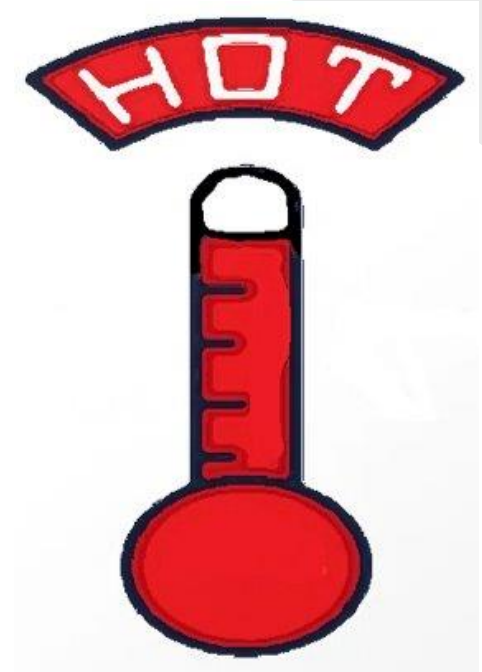
(a) Scope

(a)(1) $\geq 82^{\circ}\text{F}$: Entire regulation **except** subsection (e)
“Assessment and Control Measures”

(a)(2) Entire regulation **including** subsection (e)
 $\geq 87^{\circ}\text{F}$ or $\geq 87^{\circ}\text{F}$ heat index
 $\geq 82^{\circ}\text{F}$ for:

(a)(2)(C) Clothing restricts heat removal

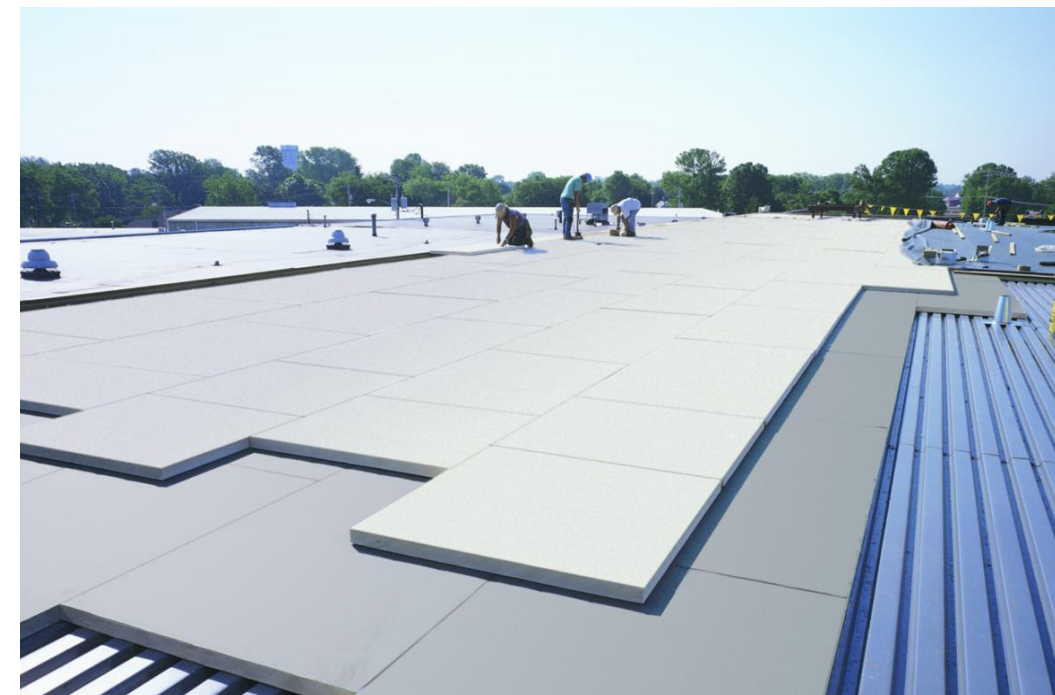
(a)(2)(D) High radiant heat areas



(b) Key definitions

“ENGINEERING CONTROL” means

Control or device that removes or reduces hazardous conditions or creates a barrier between the employee and hazard.



(b) Key definitions

Examples of **ENGINEERING CONTROLS**:

- Isolation of hot processes
- Isolation of employees from sources of heat
- air conditioning
- Cooling fans, cooling mist fans, evaporative coolers
- Natural ventilation (when cooler outdoors)
- Local exhaust ventilation
- Shielding from a radiant heat source
- Insulation



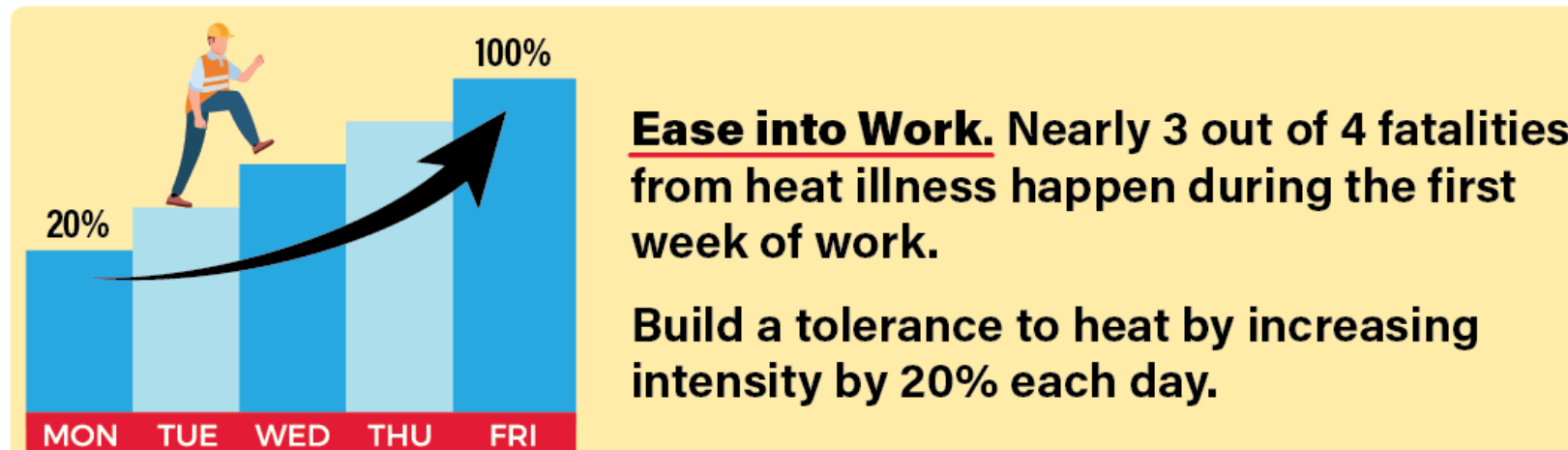
(b) Key definitions

“ADMINISTRATIVE CONTROL” means

Method to limit exposure to a hazard by adjustment of work procedures, practices, or schedules.



Prevent Heat Illness at Work



(b) Key definitions

Examples of **ADMINISTRATIVE CONTROLS**:

- acclimatizing employees
- rotating employees
- scheduling work earlier or later in the day
- using work/rest schedules
- reducing work intensity or speed
- reducing work hours
- changing required work clothing
- using relief workers

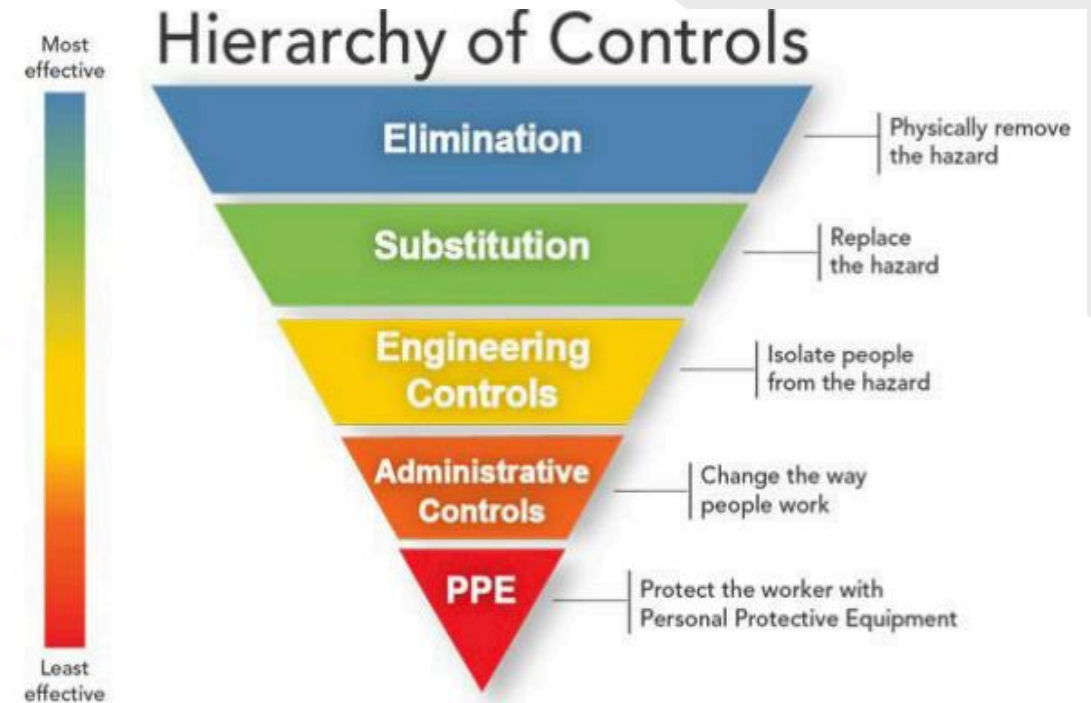
What must employers do?

Heat Illness Preventative Measures

Control measures

Employers must start with feasible engineering controls, then add administrative controls if those are not enough to reduce the temperature and heat index to below 87°F (or temperature to below 82°F for employees working in clothing that restricts heat removal or high radiant heat areas).

- Engineering Controls
- Administrative Controls
- PPE



Source: NIOSH.

(b) Key definitions

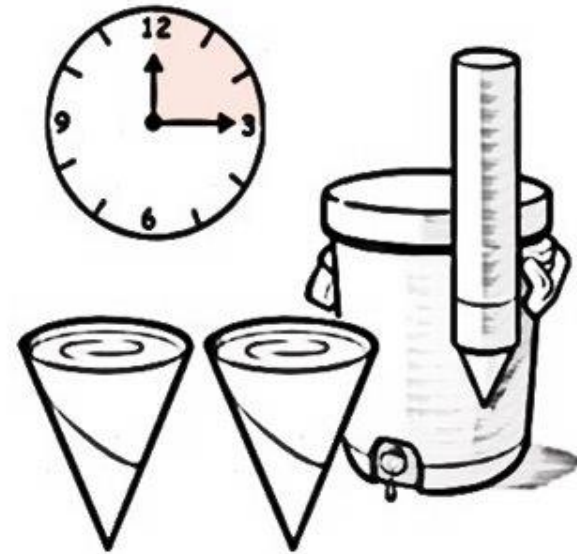
“INDOOR”

- Space that is under a ceiling or overhead covering that restricts airflow and is enclosed along its entire perimeter by walls, doors, windows, dividers, or other physical barriers that restrict airflow, whether open or closed.
- All work areas that are not indoor are considered outdoor and covered by section 3395, Heat Illness Prevention in Outdoor Places of Employment.

(c) Provision of Water

- Drinking water also required in cool-down areas

Drink water even if you aren't thirsty every 15 minutes.



(d) Access to Cool-Down Areas

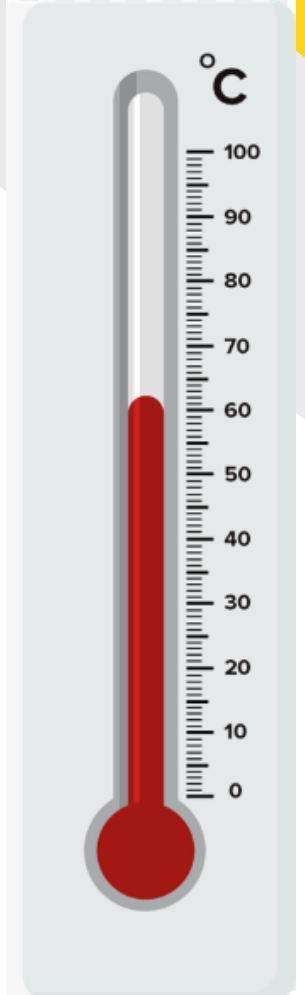
- Indoor cool-down area must be less the 82°F unless not feasible



(e) Assessment and Control Measures

(e)(1)

- Measure temperature & heat index; record whichever is greater
- Identify & evaluate other heat illness environmental risk factors
- Effective procedures for active involvement of employees & union representatives in:
 - Planning, conducting, and recording measurements
 - Identifying & evaluating other heat illness environmental risk factors



(e) Assessment and Control Measures

EXCEPTION (A) to (e)(1):

- Employer may assume a work area is subject to one or more of the conditions listed in subsection (a)(2).
- Comply with subsection (e)(2).

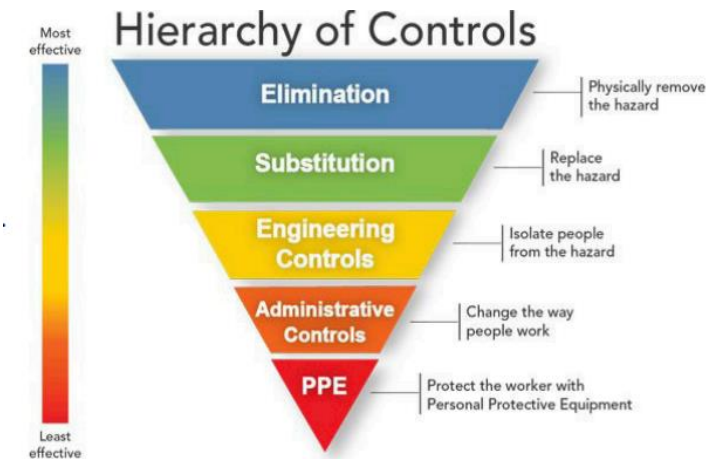
EXCEPTION (B) to (e)(1):

- Vehicles with effective and functioning air conditioning

(e) Assessment and Control Measures

(e)(2) Use control measures to minimize risk of heat illness

- (e)(2)(A) Engineering Controls
 - 1. Reduce temp/heat index to below levels listed in subsection (a)(2) or lowest feasible level.
 - Exception: controls which are infeasible
 - 2. Use engineering controls to minimize risk of heat illness
 - Exception: controls which are infeasible
- (e)(2)(B) Administrative Controls
 - Minimize risk of heat illness to extent feasible
- (e)(3)(C) Personal heat-protective equipment.
 - Minimize risk of heat illness to extent feasible



Source: NIOSH.

Feasibility

- Not defined in proposal because:
 - Complexity
 - Determination varies depending on:
 - Individual circumstances of work environment
 - Conditions where engineering or administrative controls will be implemented
- Guidance documents can describe scenarios & examples
 - Infeasible engineering control examples:
 - Unoccupied locations with short term/intermittent exposures
 - Administrative controls feasible – limit time in spaces when temp is over threshold
 - Controls would contradict other legal requirements
 - Burn units where high temperatures needed for patient safety

(f) Emergency Response Procedures

Some Requirements:

- Provide first aid or emergency response to any workers showing heat illness signs or symptoms, including contacting emergency medical services.
- Designate one or more employees to call for emergency services
- Supervisor to take immediate, appropriate action
- If indicators of serious heat illness, implement emergency response procedures
- Employees exhibiting or reporting signs or symptoms of heat illness shall be monitored and not left alone.
Onsite first aid or appropriate emergency medical services shall be offered
- Contact emergency medical



(g) Acclimatization

- Closely observe employees during a heat wave when no effective engineering controls are in use to lower temperature
- Closely observe for 14 days employees newly assigned to work:
 - $\geq 87^{\circ}\text{F}$ or $\geq 87^{\circ}\text{F}$ heat index
 - $\geq 82^{\circ}\text{F}$ or $\geq 82^{\circ}\text{F}$ heat index for clothing restricts heat removal
 - $\geq 82^{\circ}\text{F}$ (a)(2)(D) High radiant heat areas



**Watch out for
each other**

(h) Training

- Added note to subsection (h)
 - Where employees are covered by section 3395 and this section, the training program for this section can be integrated into section 3395 training.



(i) Heat Illness Prevention Plan

- Written indoor heat illness prevention plan that includes how heat illness prevention procedures will be implemented

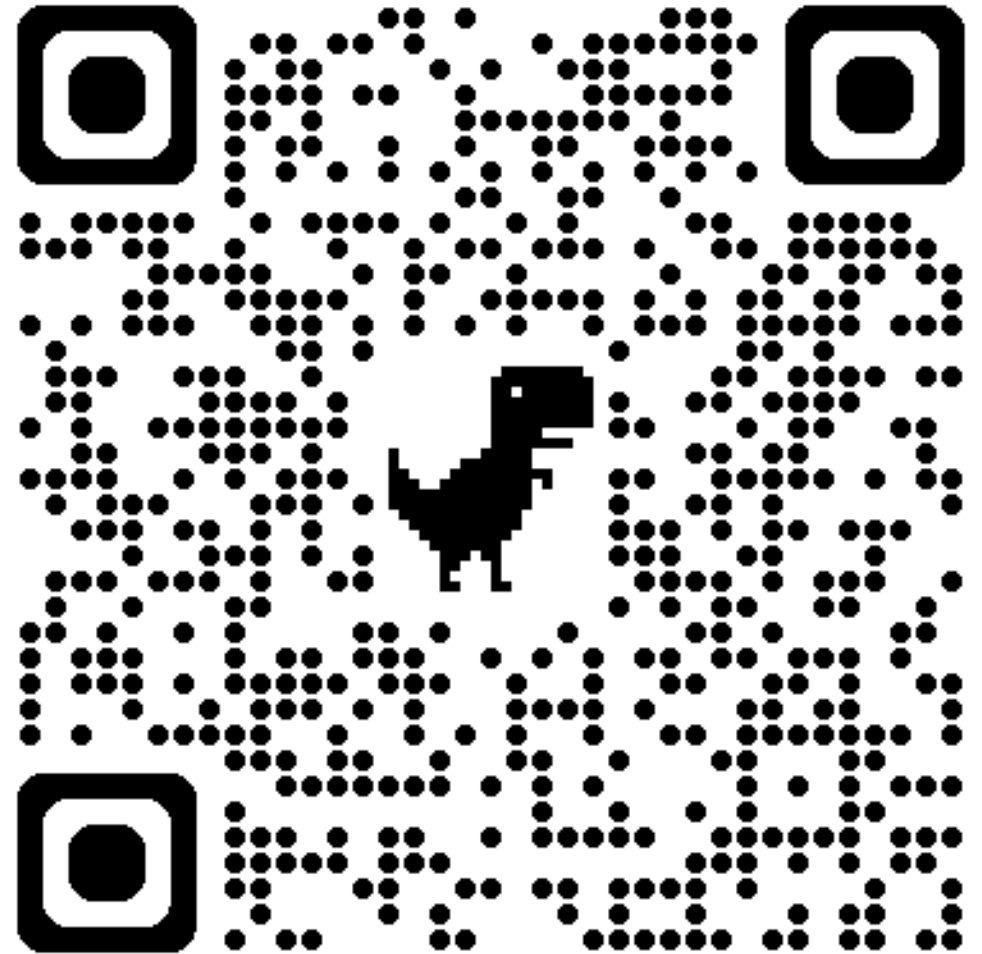


For Additional Information

Visit the Cal/OSHA Heat Illness
Webpage:

<http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html>

- Fact sheets, guidance documents, FAQs
- Updated Heat Illness Prevention Model Plan
 - Include combined indoor & outdoor plan
- eTools



Contact us by email:

heat@dir.ca.gov

Cal/OSHA Consultation Service



Cal/OSHA Consultation Services Branch

Cal/OSHA provides consultative assistance to employers and employees through a variety of services including:

- [On-site Visits](#)
- [Educational Outreach](#)
- [Offsite Consultation](#) (Telephone Support)
- [Partnership Programs](#)
- Educational Materials:
 - [Publications](#)
 - [eTools](#)
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General Industry

- [Ergonomics](#)
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Construction Industry

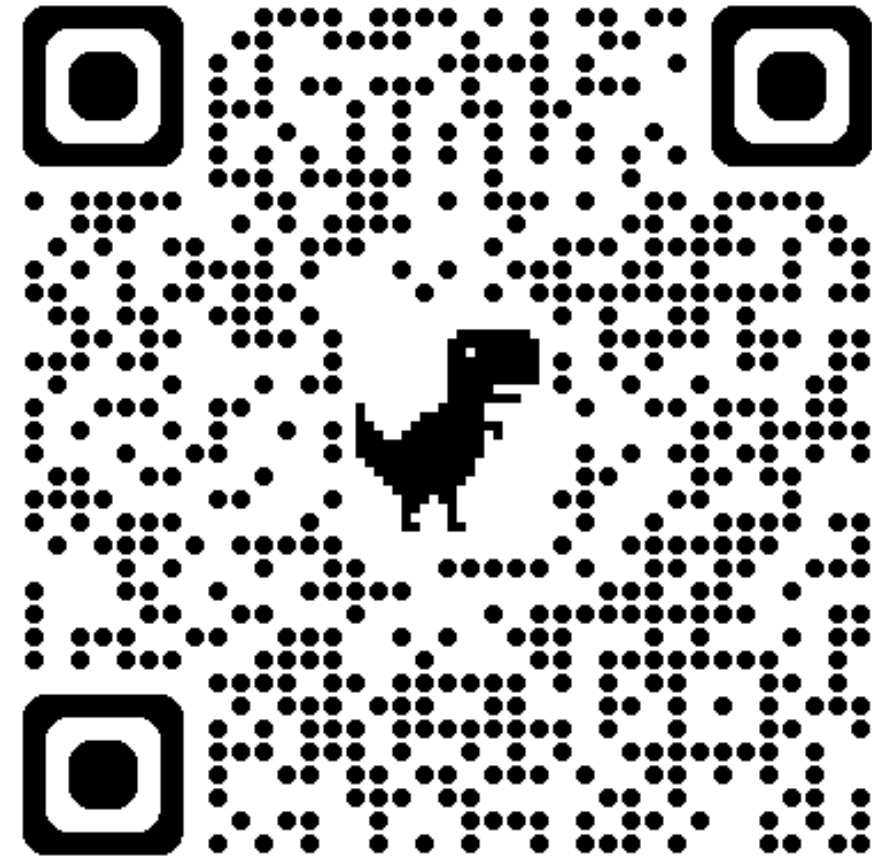
- [Construction Guide](#)
- [Ladder Safety](#)
- [Effective IIPP](#)
- [Youth in Construction](#)
- [FAQs](#)

Agricultural Industry

- [Heat Illness Prevention](#)
- [Effective IIPP](#)
- [FAQs](#)

Partnership Programs

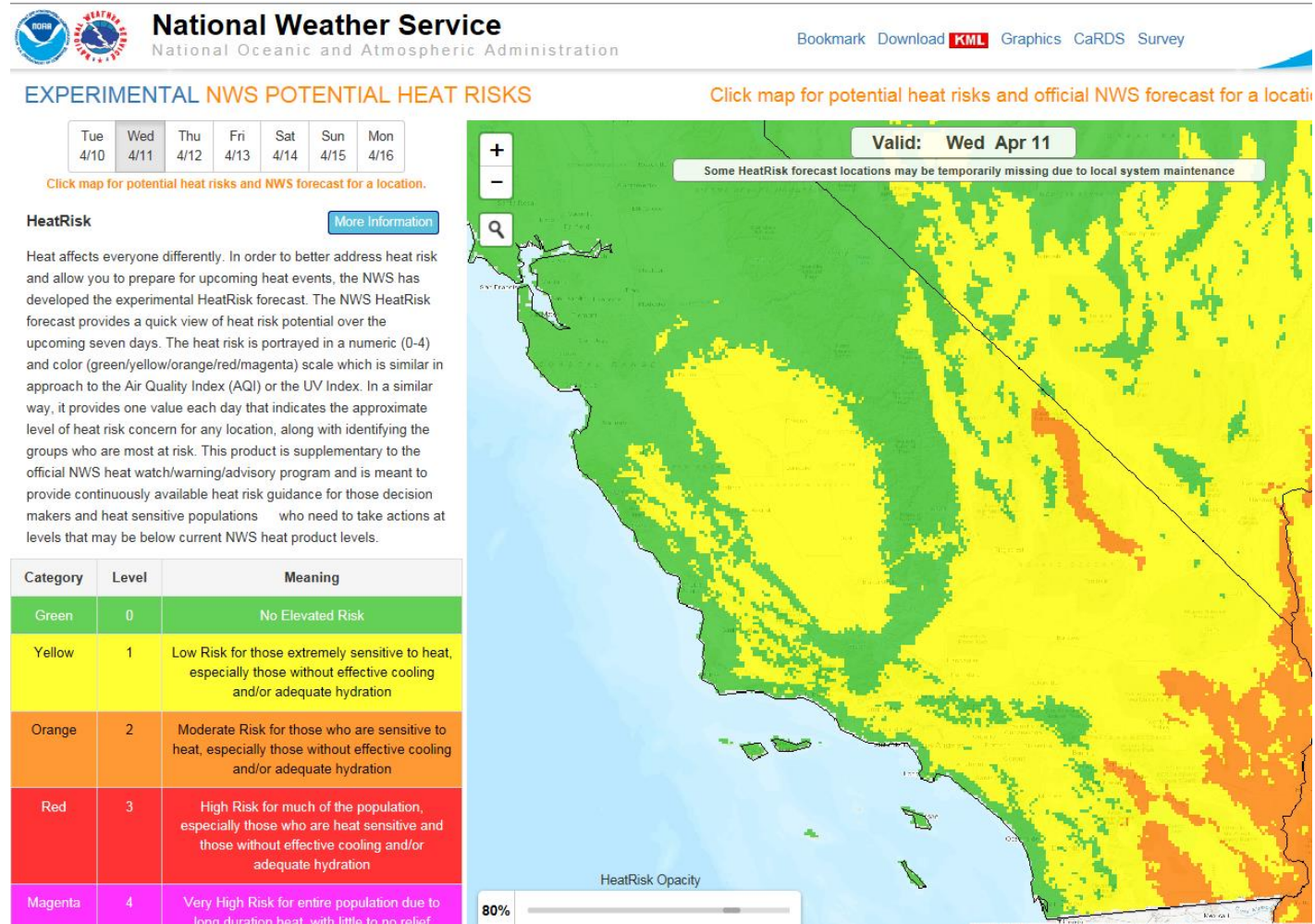
- [Cal/VPP Star](#)
- [Cal/VPP Construction](#)
- [SHARP](#)
- [Golden Gate](#)



www.dir.ca.gov/dosh/consultation.html

NWS HeatRisk

- <https://www.wrh.noaa.gov/wrh/heatrisk/>



Heat Illness Prevention Resources

- Multilingual educational materials can be downloaded free from the www.99calor.org website
- Email heat@dir.ca.gov to get free materials mailed to you



Heat Illness Prevention

Water. Rest. Shade.

For questions about indoor heat hazards at work, talk to a Cal/OSHA representative during business hours. Call 833-579-0927.

Resources

Materials that promote heat illness prevention are available in multiple languages for print order and download.

Materials available for order:
Email heat@dir.ca.gov to order copies of these materials at no cost.

Pocket Guide (double-sided, English/Spanish, 3" X 4")
[English/Spanish](#)

Illustrated Fact Sheets (4 pages, 8.5" X 11")
[English](#) | [Spanish](#) | [Hmong](#) | [Punjabi](#)

Illustrated Poster (double-sided, 13" X 20")

Agriculture:
[English](#) | [Spanish](#) | [Hmong](#) | [Punjabi](#)

Construction:
[English](#) | [Spanish](#)

Community Training Guide (11" X 17")





Thank you!

Any questions?

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