OSHA REGIONAL INSTRUCTION

U.S. DEPARTMENT OF LABOR — Occupational Safety and Health Administration

DIRECTIVE NUMBER: CPL 2 02-00-027A	**EFFECTIVE DATE:** October 1, 2019
SUBJECT: Regional Emphasis Program for Heat Illnesses	
REGIONAL IDENTIFIER: Region VI	

ABSTRACT

Purpose: This Instruction renews a Regional Emphasis Program (REP) for outdoor heat-related health hazards.

Scope: This Instruction applies to all worksites in Arkansas, Louisiana, Oklahoma, and Texas, and those worksites in New Mexico that are under Federal OSHA jurisdiction.

References:
OSHA Instruction CPL 02-00-025
OSHA Instruction CPL 02-00-051
OSHA Instruction CPL 02-00-163
OSHA Instruction CPL 04-00-002
OSHA Instruction TED 01-00-015

Cancellations: Region VI Regional Notice CPL 2 02-00-027 dated October 1, 2018, Regional Emphasis Program for Heat Illnesses.

State Impact: Region VI 21(d) Consultation Project Offices in Arkansas, Louisiana, Oklahoma, New Mexico and Texas will provide outreach, consultation services, and training to affected employers as requested.

Action Offices:
Region VI Area Offices
Region VI Consultation Project Offices
Dallas Regional Office

Information Office: New Mexico Occupational Health and Safety Bureau

Originating Office: Dallas Regional Office

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By and Under the Authority of

ERIC S. HARBIN
Acting Regional Administrator

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I. **Purpose.** This Instruction renews a regional emphasis program (REP) for the purpose of conducting heat illness inspections of work activities on days when the high temperature is forecast to be above 80°F. This instruction supports OSHA's Campaign to Prevent Heat Illness.

II. **Scope.** This Instruction applies to all Area Offices in Region VI and those worksites in New Mexico that are under Federal Jurisdiction.

III. **References.**

A. OSHA Instruction CPL 04-00-002, Procedures for Approval of Local Emphasis Programs ("LEPs"), November 13, 2018, or current update.

B. OSHA Instruction CPL 02-00-16, Field Operations Manual (FOM), September 13, 2019, or current update.

C. OSHA Instruction CPL 02-00-025, Scheduling System for Programmed Inspections, January 4, 1995, or current update.

D. OSHA Instruction CPL 02-00-051, Enforcement Exemptions and Limitations under the Appropriations Act, May 28, 2005, or current update.

E. Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments, DHHS (NIOSH) Publication Number 2016-106, February 2016.

F. OSHA Directive TED 01-00-015, OSHA Technical Manual – Section III, Chapter 4 – Heat Stress, (September 15, 2017).

G. OSHA Safety and Health Topic Page "Occupational Heat Exposure" https://www.osha.gov/SLTC/heatstress/index.html

H. OSHA's Heat Illness Prevention Campaign https://www.osha.gov/heat/

I. OSHA-NIOSH Heat Safety Tool – Smartphone Application

IV. **Expiration.** This Instruction expires on September 30, 2024, but may be renewed as necessary.

V. **Background.**

According to BLS data from the Injuries, Illnesses, and Fatalities program, high temperatures can be dangerous to people at work and can lead to injuries, illnesses, and death. Exposure to environmental heat led to 37 work-related deaths and 2,830 nonfatal occupational injuries and illnesses involving days away from work in 2015. Thirty-three of the 37 fatal work injuries caused by exposure to environmental heat occurred in the summer months of June through September.

Texas and California had the highest number of non-fatal injuries and illnesses with days away from work in 2015.

CDC has found that heat stress, an environmental and occupational hazard is associated with heat related illnesses such as heat stroke which can lead to death. NIOSH has published recommended occupational exposure limits for heat stress. These limits are consistent with American Conference of Governmental Industrial Hygienists. NIOSH studies heat-related fatalities of workers in the United States during 1992 through 2006 [CDC, MMWR, June 8, 2008]. During this 15-year period, a total of 423 worker deaths from exposure to environment heat were reported. During 2012 through 2013, a total of 20 cases were reported to the U.S. Department of Labor - OSHA of which thirteen cases attributed to heat exposure. [CDC, MMWR, August 8, 2014]
https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6331a1.htm

The National Weather Service (NWS) asserts (1) heat is the number one weather-related killer in the United States, resulting in hundreds of fatalities each year and (2) on average, excessive heat claims more lives each year than floods, lightning, tornadoes and hurricanes combined. NWS offices issue heat advisories for the public on days when the heat index value is expected to reach 100 to 104 degrees within the next 12 to 24 hours. A Heat Advisory may be issued for as low as 95 degrees if it is early in the season or during a multi-day heat wave.

OSHA and others have explored the relationship between environmental exposure and heat-related illness. Workers can die of heat stroke when temperatures are in the 80s (°F) or even below. Much of the occupational heat stress risk derives from the metabolic heat from work (physical activity). This is the reason why workers can suffer heat-related illnesses on days when the temperature does not appear to be excessively hot. OSHA's website reflects this long-standing recognition.

The National Institute of Occupational Safety and Health (NIOSH) Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments. DHHS (NIOSH) Publication Number 2016-106, February 2016, https://www.cdc.gov/niosh/docs/2016-106/default.html, recommends environmental limits for physical work at which engineering controls, preventative work and hygienic practices, and administrative or other control procedures should be implemented in order to reduce the risk of heat illnesses. NIOSH and OSHA recommend that employers use wet bulb globe temperature (WBGT) meters to assess workplace environmental heat. The NIOSH Criteria document provides guidance about how to interpret WBGT measurements.

An alternative, when WBGT is unavailable, is to measure Heat Index. Heat Index was developed by NWS to combine temperature and humidity into a single number that represents "how hot it really feels." Heat Index is reported in units of temperature (°F). Heat Index measurements and forecasts are readily available from NWS and local meteorologists via print media, radio, television, websites, and smartphone apps.

During FY 2019 Region VI conducted 78 inspections under this REP with eight heat related fatalities and 13 employer-reported referrals. These inspections resulted in the issuance of 89 violations including 59 categorized as serious, willful or repeat.

VI. Objectives.

A. The purpose of this REP is to prevent hot environmental temperatures from adversely affecting employees working outdoors. This REP is targeted to keep employees from developing heat cramps, heat exhaustion, and heat stroke. Evidence from the Department of Labor, Centers for Disease Control, American Red Cross and NIOSH shows that hot environmental temperatures cause hundreds of employees working outdoors to experience heat-related illnesses and deaths annually.

Since 2015, employers have been required to report all work-related hospitalizations and fatalities to OSHA. Between January 1, 2016, and September 30, 2019, Region VI investigated 345 serious heat-related illnesses. Weather data was available for nearly all incidents that resulted in hospitalization. Data demonstrates that heat-related illness can happen at almost any ambient temperature, especially when workers perform strenuous physical activity or wear heavy protective gear. When Heat Index exceeds 80°F, occupational heat-related illnesses become more frequent. Workers suffer serious illnesses even when the Heat Index is not enough to trigger NWS heat advisories. Seventy-five percent of the serious heat-related illnesses in Region VI occurred when the Heat Index was less than 105°F. The data from Region VI is consistent with other nationwide studies.

Excessive heat occurs from a combination of high temperatures (significantly above normal) and high humidity. At certain levels, the human body cannot maintain proper internal temperatures and may experience heat stroke.

To prevent these heat related illnesses, OSHA will utilize weather forecasts to identify days with hazardous heat conditions. This REP will be triggered when the Heat Index is forecasted to be above 80°F. On those days, OSHA will ensure employers take appropriate precautions to address the associated hazard.

These heat illness precautions include: (1) training employees on the hazards of hot environmental temperatures, (2) making appropriate first aid available, (3) having drinking water available, (4) having shade or a climate-controlled (i.e. air conditioning area for rest breaks, (5) having a protocol to protect new workers and those who have just returned from an extended absence, because these workers are particularly vulnerable, and (6) having made provisions for prompt medical attention if a heat related illness occurs.

This instruction is provided to address the unsafe working conditions created by hot environmental temperatures and inappropriate safety precautions.

VII. Action.

The Area Director will ensure that all compliance staff are familiar with the contents of this instruction and that the inspection guidelines and procedures are followed.

VIII. Inspection Process.

A. Procedures: Since weather conditions can differ from one Area office to another, OSHA must utilize the NWS website www.weather.gov to determine if the Heat Index is forecast to be above 80°F within an Area office's jurisdiction.

On days where the Heat Index is forecast to be about 80°F in an Area office's jurisdiction, Area Directors will instruct CSHOs to be alert during their travels throughout the Area Office's jurisdiction for job sites where employees may be working outdoors for extended periods of time (e.g., construction workers, lawn care and maintenance workers, etc.). Upon finding such a work place the CSHO will communicate with the Area Director or Supervisor to determine: (1) whether the identified job site or contractor has been inspected within the last 30 days and (2) whether the employer has been inspected three (3) or more times under this REP within the last 90 days. If the jobsite or contractor has been inspected within the above time frames, the Area Director or Supervisor will direct the CSHO not to conduct an inspection.

Otherwise, the CSHO will conduct a limited scope inspection of the outdoor activity and ensure: (1) employees have been trained on the hazards of a hot environment, (2) the company has a formal program or "acclimatization plan" to offer extra heat stress protection to new workers and workers who return after an extended absence, (3) drinking water and first aid supplies are available, (4) shade or climate-controlled areas are available for rest breaks, and (5) there are provisions for receiving prompt medical attention. If other "plain view" hazards are observed on the job site, the CSHO will include them in the limited scope inspection.

Note: The CSHO will document in the case file that on the day of the inspection, the Heat Index was forecast to be above 80°F in the geographical area of the inspection site.

B. Exemptions and Limitations: Before initiating enforcement activities, the CSHO will determine if an inspection is limited through OSHA Instruction CPL 02-00-051, "Enforcement Exemptions and Limitations under the Appropriations Act".

C. Interface with other inspection activity: Follow-ups, referrals, complaints, fatalities and catastrophes will still be inspected under procedures outlined in the FOM.

D. Basis of Inspection: Whenever an inspection is begun under this REP, the CSHO will include in the case file narrative a description of the circumstances which resulted in discovery of the work activity that was the basis of the inspection.

E. Size of Employer: Establishments with ten or fewer employees will be included in this program because of the insidious nature of high environmental temperatures. Safety violations discovered under this program will be addressed in accordance with CPL 02-00-051 (CPL 2-0.51J) "Enforcement Exemptions and Limitations under the Appropriations Act."

F. VPP and Partnership Sites: If an employer and/or contractor are a Voluntary Protection Program (VPP) employer or have passed an annual OSHA verification inspection, the

terms of the VPP and/or partnership agreement will be followed. A list of current partnership sites within the area office jurisdiction will be maintained and made available for CSHO review.

G. Scope of REP Inspections: Inspections under this emphasis program will focus on all outdoor job activities that occur on days where the Heat Index is forecast to be above 80°F in the geographical area. Other apparent health and safety hazards observed by the CSHO will be evaluated; if necessary, a referral will be made. If the CSHO's evaluation indicates a more comprehensive inspection should be completed at the worksite, they will request authority to expand the inspection from the Area Director or the Assistant Area Director. In determining whether to approve the expansion, the Area Director or Assistant Area Director will follow the FOM and current agency policy. The CSHO will evaluate all on-site employers through inspection and observation, which may include photographs, video footage, measurements, and interviews of management and employees.

H. Citations: Citations for violations will be issued in accordance with the FOM, Chapters V, VI, and VII. In particular, a citation for failure to provide an adequate heat illness prevention program will be addressed under the General Duty Clause.

I. Inspection Resources: All OSHA personnel participating in this REP must be familiar with the policies and procedures described in this instruction.

J. CSHO Personal Protective Equipment (PPE): CSHOs shall use personal protective equipment suitable for general industry or construction inspections.

IX. Recording in OIS.

A. Enforcement Inspections: Enforcement inspections completed under this initiative will be coded:

In OIS in the Inspection Type sub-tab:

1. Initiating Type will be coded "Programmed Planned" with the following exception. Any inspections conducted as a result of a complaint, referral, or fatality/catastrophe will be coded as the appropriate "unprogrammed" activity.

2. Local Emphasis Program will be coded **HOTDAYS** for all programmed and unprogrammed inspections.

3. Additional Codes, will be coded to indicate the industry type as follows:

Type	ID	Value	
N	02	HEATCON	(construction)
N	02	HEATGI	(general industry)
N	02	HEATMI	(maritime)
N	02	HEATAG	(agriculture)

B. Enforcement Interventions: Enforcement Interventions completed under this initiative, including partnerships, alliances, Voluntary Protection Programs, and other interventions, will be coded:

In OIS in the Task sub tab, Task Details, Emphasis Areas as follows:

1. Local Emphasis Programs will be coded **HOTDAYS**.

2. Other Emphasis Areas will include any applicable additional codes and the codes specific to the construction, general industry, maritime or agriculture activity covered by the inspection per IX.A.4.

C. Consultation Visits: Consultation Visits completed under this initiative will be coded:

1. In OIS on the Request Form CONS-20:

   a. Local Emphasis will be coded **HOTDAYS**.
   b. Field 18 will include any applicable additional codes and the codes specific to the construction, general industry, maritime or agriculture activity covered by the inspection per IX.A.4.

2. In OIS on the Visit Form CONS-30:

   a. Local Emphasis will be code d **HOTDAYS**.

   b. Field 22 will include any applicable additional codes and the codes specific to the construction, general industry, maritime or agriculture activity covered by the inspection per IX.A.4.

D. Consultation Interventions: Consultation Interventions completed under this initiative will be coded:

In OIS on the Consultation Intervention Form CONS-66:

1. Local Emphasis will be coded **HOTDAYS**.

2. Field 15 will include any applicable additional codes and the codes specific to the construction, general industry, maritime or agriculture activity covered by the inspection per IX.A.4.

E. Area Offices, Consultation Projects, and the Regional Office shall periodically check their OIS databases to verify accuracy of the data for the initiative.

X. Outreach.

All REPS must contain an outreach component that must be ongoing throughout the effective period of the program. These outreach efforts should be coordinated with or include the consultation program for that area. The method of outreach is at the Area Director's discretion and can consist of one or more of the following components.

1. Broadcast mail-outs or program information.
2. Stakeholder meetings.
3. Targeted training sessions.
4. Presentations to the affected group(s).

XI. Partnerships and Alliances.

In the event outreach efforts result in interest in developing an alliance or partnership, the Area Director will insure that these efforts conform to current National and Regional Policy.

XII. Evaluation.

The Regional office will evaluate the impact of the REP at the midpoint of the program as well as at the expiration. Information and data from OIS along with input from the Area Directors will be used in the program reports. Elements to be considered in the evaluation are contained in OSHA Instruction CPL 04-00-002.

Appendix A - First Aid for Heat Stress

The NIOSH website provided the reference information below.

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms of heat rash include:

- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

Workers experiencing heat rash should:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms of heat cramps include:

Muscle pain or spasms usually in the abdomen, arms, or legs.

Workers with heat cramps should:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
    - The worker has heart problems.
    - The worker is on a low-sodium diet.
    - The cramps do not subside within one hour.

Heat Syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms of heat syncope include:

- Light-headedness
- Dizziness
- Fainting

Workers with heat syncope should:

- Sit or lie down in a cool place when they begin to feel symptoms.
  Slowly drink water, clear juice, or a sports beverage.

Heat Exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms of heat exhaustion include:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness or lightheadedness
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

Treat a worker suffering from heat exhaustion with the following:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature rises to 104°F or higher. Heat stroke victims have brain dysfunction that causes mental changes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Symptoms of heat stroke include:

- Confusion
- Slurred speech
- Unconsciousness
- Hallucinations
- Seizures
- Hot, dry skin (no sweating) or heavy sweating
- Chills
- Throbbing headache
- High body temperature

Take the following steps to treat a worker with heat stroke:

- Call 911 and notify their supervisor.

- Move the sick worker to a cool shaded area.
- Cool the worker aggressively using methods such as:
    I. Immersing them in water
    II. Removing their clothes and covering them with towels soaked with water.
    III. Spraying, sponging, or showering them with water.
    IV. Fanning their body.

Appendix B - Additional Resources

For Additional Information – OSHA and NIOSH

For more information on heat stress and educational products for safety and health professionals, employers, and workers, visit

- OSHA-NIOSH Heat Safety Tool Smartphone App: Heat Safety Tool Application
- OSHA Educational Resources: Fact Sheets/ Posters (en Espanol)
- OSHA Webpages: *Heat Illness Prevention*, *Occupational Heat Exposure*
- OSHA-NIOSH InfoSheet: *Protecting Workers from Heat Illness*
- NIOSH Topic Page on Heat Stress. https://www.cdc.gov/niosh/topics/heatstress/