



City of Turlock
Heat Illness Prevention Procedures for Outdoor Work

In accordance with

8 C.C.R., Division 1, Chapter 4, Subchapter 7, Article 10; §3395. Heat Illness Prevention

Revised June 2018

ADMINISTRATION

Introduction

The City of Turlock Safety Committee created the *City of Turlock Heat Illness Prevention Procedures for Outdoor Work* in order to:

- Protect employees that work outdoors from the dangers of heat illness; and
- Comply with the Cal/OSHA Heat Illness Prevention Standard (Title 8 CCR Section 3395).

These procedures are designed to provide an overview of how the City of Turlock will comply with the requirements set forth by the Cal/OSHA Heat Illness Prevention Standard. Each department and/or division is responsible for developing internal policies and procedures that protect employees from heat illness and comply with this standard. These procedures will become part of the City of Turlock Injury and Illness Prevention Program.

Definitions

1. **Acclimatization** - temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

2. **Heat Illness** - a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

a. Heat Stroke – the most serious health problem for workers in hot environments. Heat stroke is caused by the failure of the body's internal mechanism to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include (1) mental confusion, delirium, loss of consciousness, convulsions or coma; (2) a body temperature of 106 degrees F or higher; and (3) hot dry skin which may be red, mottled, or bluish. Death may occur if victims of heat stroke are not treated immediately.

b. Heat Exhaustion – results from loss of fluid through sweating when a worker has failed to drink enough fluids or take in enough salt or both. The workers with heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. The skin is clammy and moist, the complexion pale or flushed, and the body temperature normal or slightly higher.

c. Heat Cramps – painful spasms of the specific muscles that are used for performing work. Heat cramps are caused when workers drink large quantities of water but fail to replace their bodies' salt losses.

d. Fainting (heat syncope) – usually associated with workers who are not acclimated to a hot environment and stand still for prolonged periods of time.

3. **Environmental risk factors for heat illness** - working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the

sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

4. **Personal risk factors for heat illness** - factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

5. **Preventative recovery period** - means a period of time to recover from the heat in order to prevent heat illness.

6. **Shade** - blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

EMPLOYEE ROLES AND RESPONSIBILITIES

Department Directors

- a. Ensure effective compliance with the Cal/OSHA Heat Illness Prevention Standard by following the written procedures found here and within the department's specific policies and procedures.
- b. Take corrective action if employees are not found adhering to the City and/or department procedures for Heat Illness Prevention.

Division Managers:

- a. Develop and implement site-specific policies and procedures that will ensure workers are protected from heat illness.
- b. Coordinate proper training for all employees who perform outdoor work.
- c. Provide necessary equipment, supplies and/or safety apparel for employees to protect from heat illness injury.

Supervisors:

- a. Ensure that workers who work outside follow the City of Turlock and site-specific policies and procedures.
- b. Observe employees for signs and symptoms of heat illness and implement emergency response procedures when necessary.

Employees:

- a. Follow the procedures set forth in the City of Turlock and site-specific heat illness prevention policies and procedures.
- b. Notify your supervisor(s) if you experience any symptoms of heat illness as described in the definitions.

COMPLIANCE

In order to meet the requirements of the Cal/OSHA Heat Illness Prevention Standard, the following measures must be implemented and enforced by management and employees who work in an outdoor environment:

a. PROVISION OF WATER

Employees shall have access to potable drinking water meeting the requirements that it be fresh, pure, suitably cool, and provided free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. The shift may begin with smaller quantities of water if effective procedures for replenishment during the shift are in place, as needed to allow employees to drink one quart or more per hour. The frequent drinking of water shall be encouraged.

b. ACCESS TO SHADE

- (1) Shade shall be present when the temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit, the City shall provide and maintain one or more areas with shade at all times while employees are present, that are either open to the air or provided with ventilation or cooling. The amount of shade present shall be at least enough to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other. The shade shall be located as close as practicable to the areas where employees are working. Subject to the same specifications, the amount of shade present during meal periods shall be at least enough to accommodate the number of employees on the meal period who remain onsite.
- (2) Where the employer can demonstrate that it is infeasible or unsafe to have a shade structure, or otherwise to have shade present on a continuous basis, the employer may utilize alternative procedures for providing access to shade if the alternative procedures provide equivalent protection.
- (3) When the outdoor temperature in the work area does not exceed 80 degrees Fahrenheit the City shall provide timely access to shade upon an employee's request.

- (4) Employees shall be allowed and encouraged to take a preventative cool-down rest in the shade when they feel the need to do so to protect them from overheating. Such access to shade shall be permitted at all times. An individual employee who takes a preventative cool-down rest:
 - a) Shall be monitored and asked if he or she is experiencing symptoms of heat illness;
 - b) Shall be encouraged to remain in the shade; and
 - c) Shall not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade.
- (5) If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the Supervisor shall provide appropriate first aid or emergency response procedures outlined in this document.

c. HIGH-HEAT PROCEDURES

The City shall implement high-heat procedures when the temperature equals or exceeds 95 degrees Fahrenheit. These procedures shall include the following to the extent practicable:

- (1) Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.
- (2) Observing employees for alertness and signs or symptoms of heat illness. The City shall ensure effective employee observation/monitoring by implementing one or more of the following:
 - a) Supervisor or designee observation of 20 or fewer employees, or
 - b) Mandatory buddy system, or
 - c) Regular communication with sole employee such as by radio or cellular phone, or
 - d) Other effective means of observation.
- (3) Designating one or more employees on each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
- (4) Reminding employees throughout the work shift to drink plenty of water.
- (5) Pre-shift meetings before the commencement of work to review the high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.

d. EMERGENCY RESPONSE PROCEDURES

The City shall implement effective emergency response procedures including:

- (1) Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor or emergency medical services when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable. If an electronic device will not furnish reliable communication in the work area, the City will ensure a means of summoning emergency medical services.
- (2) Responding to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided, such as:
 - a) If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the Supervisor shall take immediate action commensurate with the severity of the illness.
 - b) If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), the Supervisor or co-worker must implement emergency response procedures.
 - c) An employee exhibiting signs or symptoms of heat illness shall be monitored and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the City's procedures.
- (3) Contacting emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider.
- (4) Ensuring that, in the event of emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

e. ACCLIMATIZATION

- (1) All employees shall be closely observed by a supervisor or designee during a heat wave. For purposes of this section only, "heat wave" means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.
- (2) An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

f. TRAINING.

(1) Employee Training

Effective training in the following topics shall be provided to each supervisory and non-supervisory employee before the employee begins work that should reasonably be anticipated to result in exposure to the risk of heat illness:

- a) The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment.
- b) The City's procedures for complying with the requirements of this standard, including, but not limited to, the employer's responsibility to provide water, shade, cool-down rests, and access to first aid as well as the employees' right to exercise their rights under this standard without retaliation.
- c) The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties.
- d) The concept, importance, and methods of acclimatization.
- e) The different types of heat illness, and the common signs and symptoms of heat illness, and appropriate first aid and/or emergency responses to the different types of heat illness, and in addition, that heat illness may progress quickly from mild symptoms and signs to serious and life threatening illness.
- f) The importance to employees of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers.
- g) The City's procedures for responding to signs or symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.
- h) The City's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.
- i) The City's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders. These procedures include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

(2) Supervisor Training

Prior to supervising employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness effective training on the following topics shall be provided to the supervisor:

- a) The information required to be provided as outlined above in Section 6.

- b) The procedures the supervisor is to follow to implement the applicable provisions in this section.
- c) The procedures the supervisor is to follow when an employee exhibits signs or reports symptoms consistent with possible heat illness, including emergency response procedures.
- d) How to monitor weather reports and how to respond to hot weather advisories.

g. HEAT ILLNESS PREVENTION PLAN

The City shall establish, implement, and maintain, an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of the employees and shall be made available at the worksite to employees and to representatives of the Division upon request. The Heat Illness Prevention Plan shall, at a minimum, contain:

- (1) Procedures for the provision of water and access to shade.
- (2) High heat procedures.
- (3) Emergency Response Procedures.
- (4) Acclimatization methods and procedures.

PROCEDURES

1. Train the Employees

Before beginning work outdoors, all employees (supervisory and nonsupervisory) must be properly trained on heat illness prevention. At a minimum, utilize the City of Turlock training materials or visit the Cal/OSHA website for the most up-to-date information and training tools at <http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html>. The training must include at least, the following topics:

- a. Environmental and personal risk factors
- b. Drinking water frequently throughout the day
- c. Importance of acclimatization (refer to the definition list on page 2)
- d. Types of heat illness and the signs and symptoms
- e. Necessity of immediately reporting to a supervisor any signs or symptoms of heat illness
- f. Procedures for responding to symptoms
- g. Procedures for contacting emergency medical services (including alternative models of transportation)
- h. Procedures for emergency communications

A refresher training course must be conducted annually.

2. Check the Weather Report

Before beginning work, the supervisor should check the predicted temperature for the day. This information can be found from the local news, National Weather Service, or any weather app.

3. Provide the Appropriate Equipment

Before beginning a job outside, the supervisor is also responsible for ensuring that employees are provided with:

- a. Enough *fresh water* so that each employee can drink at least 1 quart per hour and encourage them to do so. (4 quarts = 1 gallon)
- b. Sufficient shade (as outlined in the definition). Employees shall have access to shade when they feel they need a preventative recovery period of no less than 5 minutes or when the outdoor temperature in the work area exceeds 80 degrees Fahrenheit.

4. Recognize Symptoms

Onsite supervisors should be alert for employees presenting with the following symptoms:

- a. Extreme fatigue
- b. Muscle cramps
- c. Clammy and moist skin
- d. Hot dry skin which may be red, mottled, or bluish
- e. Mental confusion
- f. Loss of consciousness

5. Respond to Symptoms

If and when an employee presents with any symptoms of heat illness, a co-worker should respond in the following manner:

- a. Get the person out of the sun and into a shady or air-conditioned location.
- b. Notify a supervisor if he/she is not on the job site.
- c. Lay the person down and elevate the legs and feet slightly.
- d. Loosen or remove the person's clothing.
- e. Have the person drink cool water, not iced, or a sports drink containing electrolytes (no soda drinks).
- f. Cool the person by spraying or sponging him or her with cool water and fanning.
- g. Monitor the person carefully. If fainting, confusion or seizures occur, **dial 911** and tell the operator that a City of Turlock employee is exhibiting symptoms of heat illness.

APPENDIX 1

OPTIONAL PROCEDURES

Shift Change

When temperatures are excessive, managers and/or supervisors should time shifts to coincide with cooler parts of the day. Consider starting and/or ending shifts early and alternate tasks when possible. For example, the summer schedule implemented by the Public Facilities Maintenance personnel.

APPENDIX 2

TRAINING MATERIAL

Handouts

The following handouts/training presentation can be utilized to provide training to any employee that is covered by the outdoor heat stress standard. Please feel free to copy any of this information for your department.

(Materials provided on following pages)

Heat Illness Prevention Guidance for Workers

Awareness of heat illness symptoms can save your life or the life of a co-worker;

- If you are coming back to work from an illness or an extended break or you are just starting a job working in the heat, it is important to be aware that you are more vulnerable to heat stress until your body has time to adjust. Let your employer know you are not used to the heat. It takes about 5 – 7 days for your body to adjust.
- Drinking plenty of water frequently is vital to workers exposed to the heat. An individual may produce as much as 2 to 3 gallons of sweat per day. In order to replenish that fluid the worker should drink 3 to 4 cups of water every hour starting at the beginning of your shift.
- Taking your breaks in a cool shaded area and allowing time for recovery from the heat during the day are effective ways to avoid heat illness.
- Avoid or limit the use of alcohol and caffeine during periods of extreme heat. Both dehydrate the body.
- If you or a co-worker start to feel symptoms such as nausea, dizziness, weakness or unusual fatigue, let your supervisor know and move to a cool shaded area for rest. If symptoms persist or worsen, seek immediate medical attention.
- Whenever possible, wear clothing that provides protection from the sun but allows airflow to the body. Protect your head and shade your eyes if working outdoors.
- When working in the heat be sure to pay extra attention to your co-workers and be sure you know how to call for medical attention.

