

LOS ANGELES COMMUNITY COLLEGE DISTRICT

LACCD EH&S

**HEAT ILLNESS
PREVENTION PLAN**

EC-08

LOS ANGELES COMMUNITY COLLEGE DISTRICT

HEAT ILLNESS PREVENTION PLAN

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LOS ANGELES COMMUNITY COLLEGE DISTRICT

HEAT ILLNESS PREVENTION PLAN

I. OBJECTIVES

- A. This procedure complies with Title 8, California Code of Regulations, Section 3395 (8 CCR §3395) for minimizing the risk of heat illness as applicable to:
 - 1. Outdoor landscaping and maintenance activities;
 - 2. Loading docks and certain powered industrial truck operations (e.g., tractors, forklifts, and aerial lifts, etc.) while unloading and distributing materials in outdoor areas and indoor areas that are not air-conditioned;
 - 3. Outdoor housekeeping, maintenance, and construction activities;
 - 4. Agricultural operations;
 - 5. Working in elevated locations;
 - 6. Confined space entries; and
 - 7. Other indoor areas in which high temperatures are foreseeable due to heating, ventilating, and air-conditioning (HVAC) system emergencies.
- B. This procedure complies with 8 CCR §1524, §3363, and § 3457 for specifying water supply requirements in construction, general industry, and agricultural operations.
- C. Each campus may develop and prescribe additional procedures and controls approved by the Vice President of Administration, or equivalent, to meet these objectives, as appropriate.

II. RESPONSIBILITIES

- A. *District Administrators, Directors, and Managers*
 - 1. District Administrators, Directors, and Managers, or designees, are responsible to consider the environmental risk factors for heat illness applicable to their facilities of operation and areas of responsibility.

II. RESPONSIBILITIES *(Continued)*

- A. 2. Environmental risk factors for heat illness include, but are not limited to:
- a) Temperature and relative humidity;
 - b) Radiant heat from the sun and other sources;
 - c) Conductive heat sources such as the ground or metal clad thermal system insulation systems that are exposed to direct sunlight;
 - d) Air movement;
 - e) Workload severity and duration;
 - f) Protective clothing;
 - g) Personal protective equipment worn by employees; and
 - h) Prior experience and/or lessons learned involving heat stress incidents.
3. District Administrators, Directors, and Managers, or designees, should identify and communicate environmental risk factors to all affected employees, as applicable to their operations and areas of responsibility.

B. *District Onsite Supervisors and Leads*

- 1. District Onsite Supervisors, Lead Technicians, and Trades Leads are responsible to be familiar with the environmental risk factors for heat illness to which their employees are exposed. Supervision is responsible to periodically brief employees on the personal risk factors that can increase the risk of heat illness.
- 2. Personal risk factors for heat illness include, but are not limited to:
 - a) Employee age and general health;
 - b) Water, alcohol, and caffeine consumption; and
 - c) Prescription medications that affect the body's water retention or other physiological responses to heat.

II. RESPONSIBILITIES *(Continued)*

- B. 3. District Onsite Supervisors, Lead Technicians, and Trades Leads are responsible to activate high-heat procedures when the temperature equals or exceeds 95°F.

C. *Employees*

1. Employees are responsible to attend pre-job briefings and to apply appropriate high-heat procedure safe work practices in order to minimize adverse effects of environmental and personal heat illness factors.
2. All employees should be mindful of one another's response to high-heat-related work activities during the course of work:
 - a) Know the warning signs of heat cramps, heat exhaustion, heat syncope and heat stroke;
 - b) Be familiar with the first aid actions for heat illness; and
 - c) Activate the emergency medical system whenever serious illness occurs.

III. HIGH-HEAT PROCEDURES

A. *Pre-job Briefings*

1. A pre-job briefing should be initiated by the responsible onsite supervisor when environmental factors exist that pose a foreseeable risk of heat illness.
2. The pre-job briefing should cover the applicable safe work practices specified in this section when the temperature equals or exceeds 95°F (Appendix A).

B. *Provision of Water*

1. Employees shall have access to potable drinking water meeting the requirements of Title 8 of the California Code of Regulations and Sections 1524, 3363, and 3457, as applicable (Appendix B).
2. 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 at least one quart (32-ounces) of water per employee per hour for the entire shift, or replenish the supply throughout the work day, accordingly.

III. HIGH-HEAT PROCEDURES (Continued)

- B. 3. Supervision shall encourage employees to consume water often and remind employees of the importance drinking water has in maintaining their health in high-heat environments (Appendix C).

C. *Access to Shade*

1. Employees must have access to shade whenever the temperature exceeds 85°F.
 - a) At least one area shall be provided while employees are present that is either open to the air or provided with ventilation or cooling.
 - b) The amount of shade present shall be at least enough to accommodate 25% of the employees on the shift at any time and of sufficient space for each employee to be fully shaded and individually spaced.
 - c) The shaded area shall be located as close as practicable to the areas in which employees are assigned to work.
2. When the outdoor temperature in the work area does not exceed 85°F, provide timely access to shade upon an employee's request.
3. Regardless of outdoor temperature factors, supervision shall permit and encourage employees to cool-down by resting in shade for no less than five minutes as needed to protect them against overheating. Cool-down shade shall be permitted at all times.
4. Where the work involves operating a powered industrial truck in a high-heat environment, consider engineering controls (authorized manufacturer's accessories) to provide the operator with continuous shade.

Exception: Where supervision can demonstrate that it is infeasible or unsafe to deploy a shade structure, or otherwise to have shade present continuously, alternative procedures may be utilized if providing equivalent worker protection.

III. HIGH-HEAT PROCEDURES (Continued)

D. *Employee Communications*

1. Effective communications with supervision shall be maintained by voice, observation, or electronic means; radios are recommended.
2. Reception shall be verified prior to reliance as a sole means of communicating with employees.
3. Supervision shall observe employees for alertness and signs or symptoms of heat illness.
4. Remind employees throughout the work shift to drink plenty of water.
5. Close supervision of a new employee shall be made for the first 14 days of employment, unless the employee has been performing similar outdoor work for at least 10 of the past 30 days for four hours or more per day.
6. Supervision may opt to post the Cal/OSHA Health Effects of Heat Notices to remind employees of the need to follow high-heat procedures and avoid heat illness to the extent feasible (Appendices D and E).

E. *Employee Training*

1. Employee training shall be provided to each supervisory and non-supervisory employee before assignment to high-heat related work. This training includes:
 - a) 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) This business plan;
 - c) Importance of frequent consumption of small quantities of water, up to four 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) Importance of acclimatization;
 - e) The different types of heat illness and the common signs and symptoms of heat illness;
 - f) The importance to employees of immediately reporting to supervision the symptoms or signs of heat illness in themselves or in coworkers;

III. HIGH-HEAT PROCEDURES (Continued)

- E. 1. g) Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;
 - h) 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; and
 - i) Procedures for ensuring that in the event of an emergency, clear and precise directions to the work site can and will be provided to emergency responders and that a designated person will be available to activate such emergency procedures.
2. In addition to the preceding procedures, supervisors shall be trained on how to:
 - a) Respond to an employee exhibiting symptoms of heat illness;
 - b) Emergency response procedures; and
 - c) Supervisors shall be trained on how to monitor weather reports and respond to weather advisories [Reference: <http://www.wrh.noaa.gov/lox/>].

CAUTION: General employee awareness training does not take the place of an effective pre-job briefing that is specific to seasonal tasks where multiple environmental and personal risk factors for heat illness exist.

3. Initial employee awareness training on the Heat Illness Prevention Plan may be incorporated into general site Injury and Illness Prevention Program (IIPP) training and periodic American Red Cross certified first aid program training, respectively.

F. *Written Procedures and Records*

1. Written procedures for demonstrating substantial compliance with this section shall be made available to employees and to representatives of the Division of Occupational Safety and Health (Cal/OSHA) upon request.
2. Records of employee training and pre-job briefings shall be retained pursuant to the District or College Injury and Illness Prevention Program (IIPP).

APPENDIX A

F A C S I M I L E

PRE-JOB BRIEF CHECKLIST

Page 1 of 2

PREVENTIVE MAINTENANCE REPAIR ROUTINE OPERATIONS DEFERRED MAINTENANCE

JOB NUMBER: _____

JOB DESCRIPTION: _____

SUPERVISOR (Print Name)		SUPERVISOR (Signature)		SUPERVISOR (Title)		INITIALS			
CAMPUS (or District)		LOCATION (or Facility)		DATE					
ACCESS AND JOB SITE REVIEW							YES	NO	N/A
SPECIAL KEYS REQUIRED?									
SPECIAL NOTIFICATION REQUIRED?									
ACCESS / EGRESS ROUTES SPECIFIED?									
CAN ANY PORTION OF THE WORK BE DONE IN A LESS HAZARDOUS AREA OR AWAY FROM THE PUBLIC?									
APPROPRIATE ACCIDENT PREVENTION SIGNS AND TAGS AVAILABLE TO ISOLATE THE WORK AREA?									
CATCH BAGS, TENTS, FME CONTROLS, OR OTHER CONTAINMENT DEVICES NEEDED?									
TRIP / FALL HAZARDS IDENTIFIED?									
ADMINISTRATIVE PERMISSION REQUIRED?									
JOB SITE MONITOR OR SAFETY MONITOR REQUIRED?									
ESCORT REQUIRED (Blind spots / Traffic Control)?									
WORK REVIEW							YES	NO	N/A
REVIEW JOB SCOPE AND EXPECTED OUTCOME									
ASSIGN NUMBER OF EMPLOYEES / CREATE INDIVIDUAL ASSIGNMENTS AND RESPONSIBILITIES									
ALL PARTS AVAILABLE?									
SPECIAL TOOLS NEEDED?									
SPECIAL EQUIPMENT NEEDED?									
SPECIAL QUALIFICATIONS / CERTIFICATIONS REQUIRED?									
RESPIRATORY PROTECTION EQUIPMENT REQUIRED?									
SPECIAL PERSONAL PROTECTIVE EQUIPMENT REQUIRED?									
WRITTEN PROCEDURE REQUIRED?									
WORK HISTORY REVIEWED/LESSONS LEARNED FROM PREVIOUS MISTAKES OR UNPLANNED CONDITIONS?									
HEAT STRESS CONSIDERATIONS?									
FALL PROTECTION REQUIRED?									
SPECIAL EMERGENCY RESPONSE PLAN NEEDED?									
FIRST AID READILY AVAILABLE?									
SPECIAL SERVICES / OPERATIONS							YES	NO	N/A
WELDING / HOTWORK (<i>fire protection needs</i>)?									
RADIOGRAPHY (<i>extreme boundaries - adjacent business establishments</i>)?									
CONFINED SPACE ENTRY (<i>oxygen monitoring required or explosive / toxic gases present or anticipated</i>)?									
WORK OR OPERATIONS IN PROGRESS IN RELATED OR ADJACENT AREAS?									
INSTRUCTIONAL ACTIVITIES IMPACTED - NOTIFICATIONS OR PERMISSION REQUIRED?									
OVERHEADS, SCAFFOLDS, OR WORK OVER WATER?									
HIGH VOLTAGE / LOW VOLTAGE SYSTEMS (<i>lockout / tagout procedures identified, buddy system established</i>)?									
EXCAVATION, TRENCHING, OTHER BELOW GROUND ACTIVITIES / HAZARDS?									
ASBESTOS / LEAD ABATEMENT, REGULATED CARCINOGENS, HAZARDOUS SUBSTANCES PRESENT?									
INDUSTRIAL HYGIENE SAMPLING - FREQUENCY / DURATION / TYPES?									
MANUAL OPERATOR STATION (<i>emergency shutoffs or critical plant equipment</i>)?									
STOP WORK OR HOLD POINTS IDENTIFIED?									

REFERENCE: LACCD EH&S ET-01

(Continued on Reverse)

LACCD EH&S ET-01-2 Rev. 2 10/03

F A C S I M I L E

APPENDIX B
POTABLE DRINKING WATER

Page 1 of 3

1. Construction Safety Order Requirements [Reference 8 CCR 1524]
 - a) An adequate supply of potable water shall be provided in all places of employment.
 - b) The employer shall take one or more of the following steps to ensure every employee have access to drinking water:
 - (i) Provide drinking fountains;
 - (ii) Supply single-service cups. Where single-service cups are supplied, a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.
 - (iii) Supply sealed one-time use water containers. Where sealed one-time use water containers are supplied, a receptacle for disposing of the used containers shall be provided.
 - (iv) Ensure reusable, closable containers are available for individual employee use. Where reusable containers for individual use are relied upon for compliance with this section, the employer shall ensure the containers are marked to identify the user and maintained in a sanitary condition.
 - c) Portable containers used to dispense drinking water to more than one person shall be equipped with a faucet or drinking fountain. Drinking water containers shall be capable of being tightly closed and shall be otherwise designed, constructed and serviced so that sanitary conditions are maintained. Water shall not be dipped from containers.
 - d) Any container used to store or dispense drinking water shall be clearly marked as to the nature of its contents and shall not be used for any other purpose.
 - e) Reusable containers for individual use and drinking cups shall not be shared or used in common, unless effectively cleaned and sanitized between uses by different users.
 - f) Non-potable water shall not be used for the purposes of drinking, washing, or food preparation.
 - g) Outlets for non-potable water, such as for industrial or firefighting purposes, shall be posted in a manner understandable to all employees to indicate that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.
 - h) Non-potable water systems or systems carrying any other non-potable substance shall be maintained so as to prevent backflow or siphon into a potable water system.

APPENDIX B
POTABLE DRINKING WATER

Page 2 of 3

2. General Industry Safety Orders Safe Practices and Personal Protection - Sanitation Requirements [Reference 8 CCR 3363]
 - a) Potable water in adequate supply shall be provided in all places of employment for drinking and washing and, where required by the employer of these orders, for bathing, cooking, washing of food, washing of cooking and eating utensils, washing of food preparation or processing premises, and personal service rooms.
 - b) All sources of drinking water shall be maintained in a clean and sanitary condition. Drinking fountains and portable drinking water dispensers shall not be located in toilet rooms.
 - c) Portable drinking water dispensers shall be equipped with a faucet or drinking fountain, shall be capable of being tightly closed and shall be otherwise designed, constructed and serviced so that sanitary conditions are maintained. Such dispensers shall be clearly marked as to their contents.
 - d) The dipping or pouring of drinking water from containers, such as from barrels, pails or tanks, is prohibited regardless of whether or not the containers are fitted with covers.
 - e) The common use of a cup, glass or other vessel for drinking purposes is prohibited.
 - f) Non-potable water shall not be used for drinking, washing, or bathing, washing of clothing, cooking, washing of food, washing of cooking or eating utensils, washing of food preparation or processing premises or other personal service rooms.
 - g) Outlets for non-potable water, such as water for industrial or fire-fighting purposes, shall be posted in a manner understandable to all employees to indicate that the water is unsafe and shall not be used for drinking, washing, cooking, or other personal service purposes.
 - h) Non-potable water systems or systems carrying any other non-potable substance shall be installed so as to prevent backflow or siphon into a potable water system.

APPENDIX B
POTABLE DRINKING WATER

Page 3 of 3

3. General Industry Safety Orders General Plant Equipment and Special Operations –
Agricultural Operations [Reference 8 CCR 3457]

- a) Potable water shall be provided during working hours and placed in locations readily accessible to all employees. Access to such drinking water shall be permitted at all times.
- b) The water shall be fresh and pure, suitably cool, and in sufficient amounts, taking into account the air temperature, humidity, and the nature of the work performed, to meet the needs of all employees.
- c) The water shall be dispensed in single-use drinking cups or by fountains. The use of common drinking cups or dippers is prohibited.

Note: For the purposes of this section, the term “common use”, when applied to a drinking receptacle, is defined as its use for drinking purposes by, or for, more than one person without its being thoroughly cleansed and sterilized between consecutive uses thereof by methods prescribed by or acceptable to the State Department for Health Services.

- d) Drinking water containers shall be constructed of materials that maintain water quality, and shall be provided with a faucet, fountain, or other suitable device for drawing the water.
- e) Drinking water containers shall be regularly cleaned, shall be refilled daily or more often as necessary, and shall be kept covered and protected to prevent persons from dipping the water by hand or otherwise contaminating it.
- f) Use the water and facilities provided for drinking and hand-washing.
- g) Drink water frequently, especially on hot days.

APPENDIX C
CAL/OSHA SUPERVISOR'S DAILY CHECKLIST FOR HEAT SAFETY
Page 1 of 1

Heat Safety Supervisor's Daily Checklist

WATER

- Is there plenty of fresh, cool drinking water located as close as possible to the workers?
- Is there a plan for refilling water coolers throughout the day?

SHADE AND REST

- Is a shade structure available at all times (regardless of the weather) for workers to rest and cool down?
- Is the shade structure up and ready when the weather forecast is 85°F or higher?
- Do you have a plan in place for checking the weather forecast?

TRAINING

- Have workers been trained to recognize and prevent heat illness BEFORE they start working outdoors?
- Can workers identify symptoms of heat illness?
- Is there a special plan in place to allow workers to get used to the heat?

EMERGENCY PLAN

- Does everyone know who to notify if there is an emergency?
- Can workers explain their location if they need to call an ambulance?
- Does everyone know who will provide first aid?

WORKER REMINDERS

Have workers been reminded to:

- Drink water frequently?
- Rest in the shade for at least 5 minutes as needed?
- Look out for one another and immediately report any symptoms?

The work can't get done without them.



APPENDIX D
CAL/OSHA HEALTH EFFECTS OF HEAT POSTER - AGRICULTURAL
Page 1 of 2



Health effects of heat

Two types of heat illness:

Heat Exhaustion



Heat Stroke



Watch out for early symptoms. You may need medical help.

People react differently — you may have just a few of these symptoms, or most of them.

1



Stay safe and healthy!

WATER. REST. SHADE. *The work can't get done without them.*

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

Rest in the shade.

Watch out for each other.

Wear hats and light-colored clothing.

"Easy does it" on your first days of work in the heat. You need to get used to it. Rest in the shade — at least 5 minutes as needed to cool down.

2

APPENDIX D

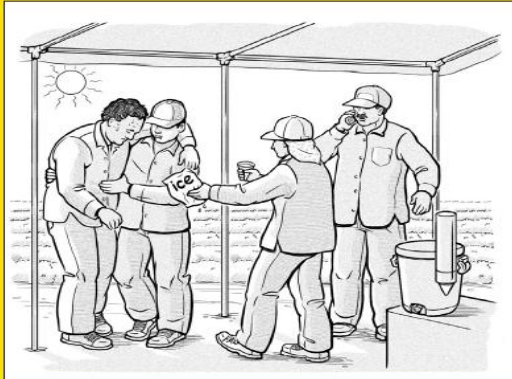
CAL/OSHA HEALTH EFFECTS OF HEAT POSTER - AGRICULTURAL

Page 2 of 2



Be prepared for an emergency

Heat kills -- get help right away!



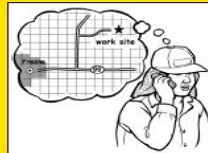
If someone in your crew has symptoms:

- 1) Tell the person who has a radio/phone and can call the supervisor -- you need medical help.
- 2) Start providing first aid while you wait for the ambulance to arrive.
- 3) Move the person to cool off in the shade.
- 4) Little by little, give him water (as long as he is not vomiting).
- 5) Loosen his clothing.
- 6) Help cool him: fan him, put ice packs in groin and underarms, or soak his clothing with cool water.

When you call for help, you need to:

- Be prepared to describe the symptoms.
- Give specific and clear directions to your work site.

3



Workers do not pay for ambulance or medical care.

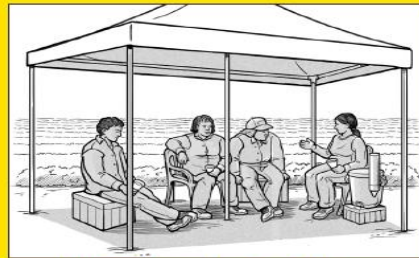


Heat illness can be prevented!

At our work site, we have:

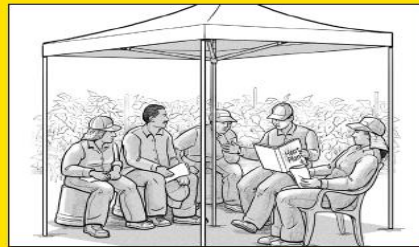


Water



Shade to rest and cool down

We are extra careful when there is a heat wave or temperature goes up. Then we may change our work hours, and we all need more water and rest.



Training and emergency plan

4



APPENDIX E
CAL/OSHA HEALTH EFFECTS OF HEAT POSTER - CONSTRUCTION
Page 1 of 2

Health effects of heat

Two types of heat illness:

Heat Exhaustion

Heat Stroke

1 Watch out for early symptoms. You may need medical help. People react differently — you may have just a few of these symptoms, or most of them.

Stay safe and healthy!

WATER. REST. SHADE. *The work can't get done without them.*

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

Rest in the shade.

Watch out for each other.

Wear hats and light-colored clothing.

2 "Easy does it" on your first days of work in the heat. You need to get used to it. Rest in the shade — at least 5 minutes as needed to cool down.

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APPENDIX E

CAL/OSHA HEALTH EFFECTS OF HEAT POSTER - CONSTRUCTION

Page 2 of 2



Be prepared for an emergency

Heat kills -- get help right away!



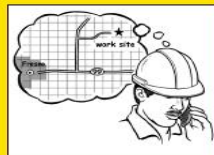
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- 1) Tell the person who has a radio/phone and can call the supervisor – you need medical help.
- 2) Start providing first aid while you wait for the ambulance to arrive.
- 3) Move the person to cool off in the shade.
- 4) Little by little, give him water (as long as he is not vomiting).
- 5) Loosen his clothing.
- 6) Help cool him: fan him, put ice packs in groin and underarms, or soak his clothing with cool water.

When you call for help, you need to:

- Be prepared to describe the symptoms.
- Give specific and clear directions to your work site.

3

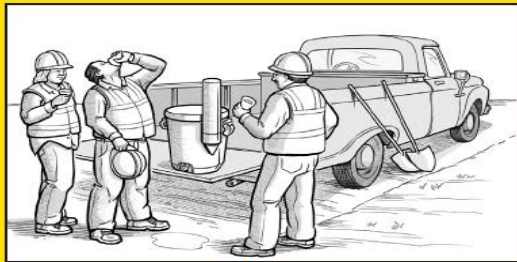


Workers do not pay for ambulance or medical care.

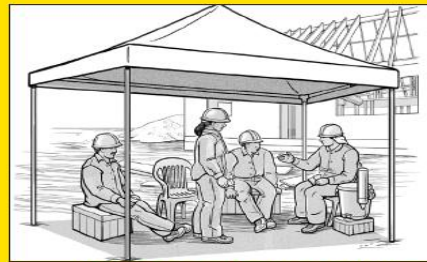


Heat illness can be prevented!

At our work site, we have:

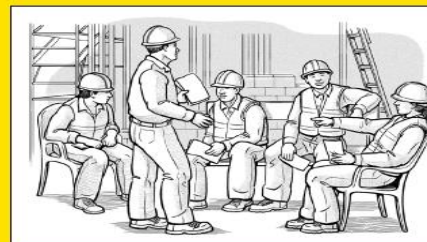


Water



Shade to rest and cool down

We are extra careful when there is a heat wave or temperature goes up. Then we may change our work hours, and we all need more water and rest.



Training and emergency plan

4

APPENDIX F

Page 1 of 2

HEAT ILLNESS INFORMATION & CONFINED SPACE GUIDELINES

Introduction

Heat stress is a physiological and psychological response that occurs when the body temperature rises above normal parameters as a result of physical activity in an unsuitable or abnormal work environment.

Physiological factors include, but are not limited to, ambient temperature and humidity in combination with the type of work activity (*physical exertion*), clothing worn, personal protective equipment needed, and employee physical conditioning.

Psychological factors include, but are not limited to, anxiety, fear, nervousness, anger, frustration, and other emotions that may adversely affect employee performance while working in a confined space or under other adverse conditions.

Evaluating the confined space jobsite for heat stress considerations is not an exact science however, supervisors should consider possible employee exposure to heat stress for work in confined spaces.

Safe Work Practices

Supervisors should consider the following safe work practices during the planning stages of work involving confined space entry and/or hot environments:

- Pre-job briefings to raise employee awareness;
- Buddy system for employees to look out for one another;
- Worker acclimatization;
- Work time limits in hot environments;
- Availability of cool drinking water;
- Body cooling devices, such as ice vests; and
- Additional ventilation or supplied air respirators for extended work;

Heat Stress Recognition

Heat stress conditions may result in any of the following employee illnesses:

- Heat Rash;
- Heat Exhaustion;
- Heat Cramps; and/or
- Heat Syncope or Heat Stroke.

Heat rash may be accompanied by a prickly heat sensation on the skin. The resulting skin rash may appear over the arms, shoulders, chest, or behind the knees.

Heat exhaustion is characterized by:

- Pale, moist face;
- Dizziness;
- Nausea;
- Headache;
- Fatigue;
- Weakness; and/or
- Unsteady gait.

If the warning signs are disregarded, the employee may suddenly collapse or faint (heat syncope).

Heat cramps are generally characterized by pain in the affected muscles, but are also accompanied by some heat exhaustion characteristics listed above.

Heat stroke is a serious medical condition. Early signs of heat stroke include:

- Erratic behavior;
- Hot, dry, flushed skin;
- Weakness;
- Unsteady gait; and
- Irritability.

If the warning signs are disregarded, the employee may fully develop heat stroke characterized by:

- Elevated body temperature (*105 °F*);
- Convulsions; and
- Loss of consciousness.

APPENDIX F

Page 2 of 2

HEAT ILLNESS INFORMATION - CONFINED SPACE GUIDELINES

First Aid

Heat rash. Shower after working in a hot environment. Dry the skin thoroughly. Change under garments. Spend some time in a cooler environment exiting the confined space. Avoid scratching a rash. Stay away from hot environments and direct sunlight.

Heat exhaustion. Call for medical help. Rest in a cool place. Open up the clothing to the extent feasible. Drink slightly salted fluids. In case of collapse, call an ambulance or paramedics. If oral temperature is normal or only slightly elevated, the victim should lie down flat on his/her backside.

Heat cramps. Gently massage the cramping muscle. Drink a couple of glasses of slightly salted fluids. Rest in a cool place.

Heat syncope is fainting as a result of overheating (*syncope* is the medical term for fainting). It is another stage in the same process as heat stroke, as it occurs under similar conditions. The basic symptom of heat syncope is a body temperature above 40°C (104°F) with fainting, with or without mental confusion, which does occur in heat stroke. Heat syncope is caused by mild overheating with inadequate water or salt.

Heat stroke. Call for an ambulance or paramedics. Bring the body temperature down as fast as possible. If using a cold bath or ice bath, rub the skin constantly to maintain skin circulation. Discontinue body cooling when temperature is reduced to 101°F. Keep towels and sheets wet. Increase air movement around victim. Place ice bag on victim’s head.

Heat Stress / Illness Prevention

Employees can take personal responsibility in preventing heat stress by doing the following:

- Prevent excessive loss of body water. Drink small amounts of water every 15 minutes. If an employee loses more than 1.5-% body weight in a workday, the possibility of suffering from heat stress rises.
- Become acclimatized to the environment. Work extension in hot environments should be done in stages. Employees need to “get used to” working in hot environments.

- Be aware of certain medications. Some medicines, including inflammation reducers, that reduce heat tolerance. Consult a personal physician.
- Replace salt loss due to sweating. When salt is needed, add it to food or water. Workers who are not acclimated do not sweat enough to properly cool their bodies. Salt loss is greater in the sweat of such workers.
- Keep physically fit. Body fat acts as an insulator and slows the body’s ability to remove heat.
- Avoid alcohol, caffeine and addictive drugs. Addictive drugs reduce heat tolerance. Alcoholic beverages increase body water loss.

Work Rate Guidelines

The following guidelines are intended to minimize the risk of heat illness from physical overexertion in confined spaces, but may be applied elsewhere, such as a rooftop or mechanical room where radiant heat sources from operating systems expose workers to high heat and humidity. Each space, employee, work activity, and ambient conditions should be considered on a case-by-case basis.

While Engaged in Work Wearing Coveralls

Temp. (°F)	Light Work (min)	Moderate Work (min)	Heavy Work (min)	Supplied Air (min)
75-85	240	180	120	Based on source temp.
85-95	180	135	90	Based on source temp.
95-105	60	45	30	Based on source temp.
105-125	20	15	10	Based on source temp.
> 125	10	10	10	Based on source temp.

Note: Reduce by 50% for plastic suits. Time may be increased if ice vests are provided (e.g., ice packs placed into sewn pockets internal to the protective garment).

APPENDIX G HEAT ILLNESS DEFINITIONS

1. *Acclimatization* means 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* means 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.
3. *Environmental risk factors for heat illness* means 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. *High-heat procedures* means local operating instructions or pre-job briefings that are activated when the temperature equals or exceeds 95°F or in areas or operating conditions that have a known history of heat illness. Such instructions include:
 - a) Ensuring effective and reliable communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor or activate the emergency medical system when necessary;
 - b) Observing employees for alertness and signs or symptoms of heat illness;
 - c) Reminding employees throughout the work shift to drink plenty of water; and
 - d) Maintaining close supervision of a new employee for the first 14 days of employment, unless the employee has a prior work history of similar outdoor work for at least 10 of the past 30 days for four or more hours per day.
4. *Landscaping* means providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns, or gardens, or providing these services in conjunction with the design of landscape plans and/or the construction (i.e., installation) of walkways, retaining walls, decks, fences, ponds, and similar structures, except for employment by an employer who operates a fixed establishment where the work is performed and where drinking water is plumbed.
5. *Personal risk factors for heat illness* means 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 retention or other physiological responses to heat.
6. *Shade* means blockage of direct sunlight. 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.
7. *Temperature* means the dry bulb temperature in degrees Fahrenheit (°F) obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. In determining the correct temperature, the bulb or sensor or the thermometer should be shielded while taking the measurement (e.g., with the hand or some other object) from direct contact by sunlight.

APPENDIX H

DEVELOPMENTAL RESOURCES

1. Title 8, California Code of Regulations and Sections 1524, 3363, 3395, and 3457
2. LACCD EH&S IIPP, Injury and Illness Prevention Program
3. LACCD EH&S FC-04, Confined Spaces
4. American Red Cross HSFA Instructor Courses and Course Materials for First Aid for Heat-Related Illness
5. State of California - Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service Heat Illness Prevention Etool
[Reference: <http://www.dir.ca.gov/dosh/etools/08-006/index.htm>]
6. Cal/OSHA Consultation Service Heat Illness Information
[Reference: <http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html>]
7. Cal/OSHA Consultation Service Heat Illness Prevention Training
[Reference: http://www.dir.ca.gov/DOSH/2013_Heat_Illness_Prevention_Training.pdf]
8. National Weather Service Forecast Office – Los Angeles /Oxnard
[Reference: <http://www.wrh.noaa.gov/lox/>]