Sample Heat Illness Prevention Plan

Cal/OSHA requires certain employers to develop written procedures for heat illness prevention in order to reduce the risk of work-related heat illnesses among employees working outdoors. This sample plan follows Cal/OSHA’s requirements for such written procedures.

This sample plan includes:

• procedures for the provision of water

• procedures for the provision of shade

• procedures to reduce the risk of heat-related illness and respond to possible symptoms of heat-related illness

• training procedures

Employers Covered

All employers that have any outdoor places of employment are covered. Procedures must be in writing and must be made available to employees and Cal/OSHA upon request. Heat illness prevention procedures may be incorporated into the employer’s Injury and Illness Prevention Plan.

Legal Sources

This sample Heat Illness Prevention Plan follows the requirements of the Standard found at 8 CCR § 3395 and Cal/OSHA’s “Employer Sample Procedures for Heat Illness Prevention,” available online at http://www.dir.ca.gov/dosh/dosh_publications/ESPHIP.pdf. This plan also incorporates the changes to the Standard that were approved in August 2010, which became effective in the Fall of 2010.
PURPOSE

These procedures are intended to reduce the risk of work-related heat illnesses in outdoor places of employment whenever environmental risk factors for heat illness are present.

RISK FACTORS

The following are considered to be environmental risk factors for heat illness:

- air temperature in excess of 85°F
- relative humidity
- radiant heat from the sun and other sources
- conductive heat sources such as the ground
- air movement, or lack thereof
- workload severity and duration
- protective clothing and personal protective equipment worn by employees

The following are considered to be personal risk factors for heat illness:

- age
- degree of acclimatization
- health
- water consumption
- alcohol consumption
- caffeine consumption
- use of prescription medications that affect the body’s water retention or other physiological responses to heat
**PROVISION OF WATER**

Water is a key preventative measure to minimize the risk of heat-related illness. All employees working outdoors will have access to potable drinking water. If the supply of water to the jobsite is not plumbed or otherwise continuously supplied, water will be provided in sufficient quantity at the beginning of the work shift to provide at least one quart per employee per hour for drinking for the entire shift. If a work shift is begun with a smaller quantity of water, water will be replenished during the shift as needed to allow employees to drink one quart or more per hour.

To ensure access to sufficient quantities of potable drinking water, the following steps will be taken:

- A supervisor or designated person will ensure that there is at least two quarts of drinking water available per employee at the start of a shift.

- The designated person(s) will monitor the water level of all containers every 30 minutes, and more frequently when the temperature exceeds 90°F. Employees are encouraged to report low water levels or dirty water to the supervisor or designated person(s).

- When drinking water levels within a container fall below 50%, water containers will be refilled with cool water. To accomplish this task, the designated person(s) will carry one or two additional water containers (e.g., five gallon bottles) to replace water as needed.

- When the temperature exceeds 90°F or during a heat wave, the designated person(s) will carry ice in separate containers so that, when necessary, it can be added to the drinking water to keep it cool.

- The designated person(s) will bring enough paper cone rims or bags of disposable cups and the necessary cup dispensers to ensure that enough cups are made available for each worker and that they are kept clean until used.
The designated person(s) will check the worksite and place the water as close as possible to the workers (i.e., no more than 50 feet from the workers). If field terrain prevents the water from being placed as close as possible to the workers, the designated person(s) will bring bottled water or individual containers, in addition to disposable cups and water containers, so that workers will have readily accessible drinking water.

The designated person(s) will ensure that the water containers are relocated to follow along as the crew moves, so that drinking water will be readily accessible.

The designated person(s) will point out daily the location of the water coolers to the workers and remind them to drink water frequently.

The designated person(s) will be responsible for cleaning the water containers and ensuring that they are kept in sanitary condition. All necessary cleaning supplies will be provided by the company, or the designated person(s) will be reimbursed by the company.

The company will reimburse the designated person(s) for any costs incurred for filling up water containers as needed on a daily basis or to purchase necessary disposable cups.

When the temperature equals or exceeds 95°F or during a heat wave, the designated person(s) will increase the number of water breaks and will remind workers more frequently throughout the work shift to drink water.

The following person(s) are the “designated person(s)” referenced above and have been assigned the above tasks concerning provision of water (e.g., supervisor, foreman, safety coordinator, crew leader):
The frequent drinking of potable water will be encouraged. During training, the importance of frequent drinking of water will be stressed.

To encourage frequent drinking of water, the following steps will be taken:

- Supervisors will provide frequent reminders to employees to drink water often.

- During heat waves or other severe working or environmental conditions, additional water breaks will be provided as required, and supervisors will provide more frequent reminders to drink water.

- A short tailgate meeting will be held each morning to remind workers (in their own language) about the importance of frequent consumption of water throughout the shift.

- A noise-making device, such as an air horn, may be used to remind employee’s to take their water break.

- [Additional steps]

- [Additional steps]

**ACCESS TO SHADE**

Access to rest and shade or other cooling measures are important preventative steps to minimize the risk of heat-related illness. Employees suffering from heat illness or who believe preventative recovery periods are needed will be provided access to an area with shade that is either open to the air, or they will be provided with ventilation or cooling, for a period of no less than five minutes. Such access to shade will be permitted at all times. Cooling measures other than access to shade, such as the use of misting machines, may be provided in lieu of shade if it can be demonstrated that the measures are at least as effective as shade in allowing employees to cool. *(Note: This exception is not available to agricultural employers.)*
To ensure access to shade and a preventative recovery period at all times, the following steps will be taken:

- The designated person(s) will bring _________ shade structures to the site so that number at least 25% of the employees on the shift can be shaded at one time. The designated person(s) will also bring chairs, benches, sheets, towels, or other items that will allow those employees to sit and rest without contacting the bare ground. However, chairs, benches, etc., are not required for acceptable sources of shade such as trees.

- When the temperature equals or exceeds 85°F, the designated person will ensure that the shade structures are opened and placed as close as practical to the workers. When the temperature is below 85°F, the shade structures will be brought to the site, but will be opened and set in place upon request by a worker. The interior of a vehicle will not be used to provide shade unless the vehicle is air-conditioned and the air conditioner is on.

- The designated person(s) will ensure that the shade structures are relocated to follow along with the crew, double-checking that the shade structures are as close as practical to the employees, so that access to shade is provided at all times.

- In situations where trees or other vegetation are used to provide shade (such as in orchards), the designated person will evaluate the thickness and shape of the shaded area, given the changing angles of the sun during the entire shift, before assuming that sufficient shadow is being cast to protect employees.

- The designated person(s) will point out the daily location of the shade structures to the workers.

- Workers will be allowed and encouraged to take a five-minute rest in the shade when they feel they need to do so to protect themselves from overheating.

- In situations where it is not safe to provide shade (e.g., winds are more than 40 mph), the designated person will document how this determination was made and what steps will be taken to provide shade upon request.
• In situations where it is not safe or feasible to provide shade, the designated person will document how this determination was made and what steps will be taken to provide shade upon request or what other alternative cooling measures with equivalent protection will be used.

• A short tailgate meeting will be held each morning to remind workers (in their own language) about the importance of rest breaks and the location of shade.

• Whenever possible, areas for employees to take their breaks in will be:
  - readily accessible,
  - in the shade, open to the air, and ventilated or cooled, and
  - near sufficient supplies of drinking water.

• The following person(s) are the “designated person(s)” referenced above and have been assigned the above tasks concerning access to shade (e.g., supervisor, foreman, safety coordinator, crew leader):

MONITORING THE WEATHER

In order to know whether a heat wave is expected or if schedule modification will be necessary, the following steps will be taken:

• Two weeks in advance of any summer job (or as many days in advance as possible), the designated person will check the internet, call the National Weather Service, or check the Weather Channel TV Network to view the extended weather forecast in order to plan the work schedule in advance. This type of advance planning will take place all summer.
• Prior to each work day, the designated person will review the forecasted temperature and humidity level for the worksite and compare it against the National Weather Service’s heat index to evaluate the risk level for heat illness (e.g., “extreme caution,” “extreme danger,” etc.). The designated person will keep in mind that the temperature at which these warnings occur must be lowered as much as 15° if the workers under consideration are in direct sunlight.

• The designated person will be responsible for monitoring the weather with a simple thermometer at the worksite each day. This critical weather information will be taken into consideration when determining when it will be necessary to make modification to the work schedule, such as stopping work early, rescheduling the job, working at night or during the cooler hours of the day, or increasing the number of water and rest breaks.

• The designated person will check the temperature with the thermometer at least once every hour in order to:

  - monitor for sudden increases in temperature,
  - ensure that the shade structures are opened and accessible to workers once the temperature meets or exceeds 85°F, and
  - ensure that additional preventive measures such as the High Heat Procedures or the Heat Wave Procedures listed below are taken once the temperature equals or exceeds 95°F.

The following person(s) are the “designated person(s)” referenced above and have been assigned the above tasks concerning monitoring the weather (e.g., supervisor, foreman, safety coordinator, crew leader):

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**HIGH HEAT PROCEDURES**

*(Note: Per the regulations, High Heat Procedures apply to agriculture, construction, landscaping, oil and gas extraction, and transportation of agricultural products, construction products, and other heavy materials. However, use of High Heat Procedures in all industries requiring outdoor work will ensure a safer workplace.)*

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High Heat Procedures are the additional preventive measures that this company will use when the temperature equals or exceeds 95°F.

To reduce the risk of heat-related illness during times of high heat, the following steps will be taken:

- The designated person(s) will ensure that effective communication by voice, observation, or electronic means is maintained so that employees at the worksite can contact a supervisor when necessary. If the designated person(s) is unable to be near the workers to observe them or communicate with them, then 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.

- The designated person will observe employees for alertness and sings and symptoms of heat illness.

- The designated person will remind employees throughout the work shift to drink plenty of water.

- The designated person will closely supervise all new employees, or a “buddy” or more experienced co-worker will do so, for the first 14 days of employment, unless the new employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for four or more hours per day.

The following person(s) are the “designated person(s)” referenced above and have been assigned the above tasks concerning High Heat Procedures (e.g., supervisor, foreman, safety coordinator, crew leader):

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**HEAT WAVE PROCEDURES**

A heat wave or heat spike is a sudden increase in daytime temperature of 9° or more. Because of the extreme environmental conditions during a heat wave, the physical and mental conditions of employees may change rapidly into a serious medical condition. The onset of heat illness may also be confused with other problems or may not always be obvious before it becomes life-threatening.
Therefore, in order to protect workers during heat waves or heat spikes, the following steps will be taken:

• During a heat wave or spike, if possible, the work day will be cut short, will be rescheduled (i.e., to night work or during cooler hours), or cease for the day.

• If schedule modifications are not possible or feasible and workers have to work during a heat wave, the designated person(s) will conduct a tailgate meeting to reinforce heat illness prevention and emergency response procedures and to discuss the weather forecast. In addition, the designated person(s) will institute alternative preventive measures such as increased number of water and rest breaks, increased supervision to ensure that workers stop and take these breaks, and close observation of all workers for signs and symptoms of heat illness. Each employee will also be assigned a “buddy” to be on the lookout for signs and symptoms of heat illness and ensure that emergency procedures are initiated when their buddy displays possible signs or symptoms of heat illness.

• Current weather information will be used to make the appropriate adjustments in work activities throughout the work day. The designated person(s) will monitor the weather at the specific job locations where work activities are occurring and will stay updated throughout the work shift on the changing air temperatures and other environmental factors.

• If necessary, alternative cooling measures in addition to shade (e.g., allowing employees to spend time in an air-conditioned place or having employees spray themselves with water) will be used.

The following person(s) are the “designated person(s)” referenced above and have been assigned the above tasks concerning Heat Wave Procedures (e.g., supervisor, foreman, safety coordinator, crew leader):

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PROCEDURES FOR ACCLIMATIZATION

Acclimatization is the temporary and gradual physiological change in the body that occurs when the environmentally induced heat load to which the body is accustomed is significantly and suddenly exceeded by sudden environmental changes. The body needs time to adapt when temperatures rise suddenly. Employees risk heat illness by not taking it easy when a heat wave strikes or when starting a new job that exposes the employee to heat to which the employee’s body has not yet adjusted. Inadequate acclimatization can endanger anyone exposed to heat conditions and physical stress significantly more intense than what they are used to. Acclimatization peaks in most people within 4 to 14 days of regular work for at least two hours per day in the heat.

In order to allow employees to acclimatize, the following steps will be taken:

• The designated person will monitor the weather and be on the lookout for sudden heat waves or increases in temperatures to which employees have not been exposed to for several weeks or longer.

• During a heat wave or heat spike, if possible and feasible, the work day will be cut short, work will be rescheduled to night or cooler hours, or cease for the day.

• During the hot summer months, the work shift will start two hours earlier in the day or later in the evening.

• For new employees, the designated person(s) will attempt to lessen the intensity of that employee’s work during a two-week break-in period by scheduling slower-paced, less physically demanding work during the hot parts of the day and scheduling the heaviest work activities during the cooler parts of the day. The designated person(s) will be extra-vigilant with new employees and will stay alert to the presence of heat-related symptoms. In addition, the designated person will assign a “buddy” or experienced co-worker to new employees in order to monitor closely for discomfort or symptoms of heat illness. Steps taken to lessen the intensity of the workload for new employees will be documented.

• During a heat wave or spike, the designated person will observe all employees closely (or maintain frequent communication via phone or radio) and be on the lookout for possible symptoms of heat illness.
• Employee and supervisor training will include the importance of acclimatization, how it is developed, and how the company’s Heat Illness Prevention Plan addresses it.

**REDUCING THE RISK AND REPORTING TO SYMPTOMS**

Written procedures help to reduce the risk of heat-related illnesses and ensure that emergency assistance is provided without delay. These written procedures will be made available to employees and Cal/OSHA representatives upon request.

To reduce the risk of heat-related illness and respond to possible symptoms of heat illness, the following general steps will be taken:

• All employees will be trained prior to working outdoors.

• Working hours will be modified, when possible, so that work is performed during the cooler hours of the day.

• When a modified or shorter work shift is not possible, more water and rest breaks will be provided.

• Supervisors will continuously check all employees and will stay alert to the presence of heat-related symptoms.

• Co-workers will use a “buddy system” to watch each other closely for discomfort or symptoms of heat illness.

• Supervisors and co-workers are encouraged to never discount any signs or symptoms they are experiencing or noticing, and will immediately report them.

• Supervisors will carry cell phones or other means of communication to ensure that emergency services can be called. Supervisors will check that these means of communication are functional on the jobsite prior to each shift.

• A short tailgate meeting will be held each morning to remind workers (in their own language) about the address and directions to the jobsite and emergency procedures.

• We will allow all employees to acclimatize to the heat.

• All supervisors will monitor weather conditions throughout the work shift at the specific jobsite. Based on current weather information and worker input from the field, supervisors will implement any additional measures necessary to address heat illness.
• A supervisor or designated person will account for the whereabouts of all crews at appropriate intervals throughout the work shift and at the end of the work shift.

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To ensure that emergency medical services are provided without delay, the following steps will be taken.

Our procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided, should they become necessary, are: (Outline steps, which may vary by jobsite, here. Provide maps as necessary. Add additional lines as necessary.)

• When an employee displays possible signs or symptoms of heat illness, a trained first aid worker or supervisor will check the sick employee and determine whether resting in the shade and drinking cool water will suffice or if emergency service providers will need to be called. The designated person will contact emergency service providers if necessary. Under no circumstances will a sick worker be left alone in the shade.

• When an employee displays possible signs or symptoms of heat illness and no trained first aid worker or supervisor is available at the site, the designated person will call emergency service providers.

• The designated person will call emergency service providers immediately if an employee displays signs or symptoms of heat illness, does not look OK, or does not get better after drinking cool water and resting in the shade. While the ambulance is in route, the designated person will cool the worker by placing him or her in the shade, removing excess layers of clothing, placing ice packs in the armpits of the victim, and fanning the victim. Sick workers will not be allowed to leave the site alone, as they can get lost or die before reaching the hospital.

• If an employee is displaying signs or symptoms of severe heat illness and the worksite is located more than 20 minutes away from a hospital, the designated person will call emergency service providers, communicate the signs and symptoms
of the victim, and request an Air Ambulance.

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Our 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 are: (Outline steps, which may vary by jobsite, here. Provide maps as necessary. Add additional lines as necessary.)

- Prior to assigning a crew to a particular worksite, the designated person(s) will ensure that a qualified, appropriately trained, and appropriately equipped person will be available at the site to render first aid if necessary.

- Prior to the start of the shift, the designated person(s) will determine if a language barrier is present at the site and take steps (such as assigning the responsibility to call emergency medical services to the foreman or an English speaking worker) to ensure that emergency medical services can be immediately called in the event of an emergency.

- All foreman and supervisors will carry cell phones or other means of communication to ensure that emergency medical services can be called. Prior to each shift, each foreman and supervisor will check to make sure that the cell phone or other means of communication is functional at the worksite.

- At remote locations such as rural farms, lots, or undeveloped areas, the designated person will designate an employee or employees to physically go to the nearest road or highway where emergency responders can see them. If daylight is diminished, these employee(s) will be given reflective vests or flashlights in order to direct emergency personnel to the location of the worksite, which may not be visible from the road or highway.

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Our procedures for ensuring that clear and precise directions to the jobsite can and will be provided as needed to emergency responders in the event of an emergency are: (Outline steps, which may vary by jobsite, here. Provide maps as necessary. Add additional lines as necessary.)

• Prior to assigning a crew to a particular worksite, the designated person will provide workers and the foreman a map along with clear and precise directions (such as streets or road names, distinguishing features, and distances to major roads) to the site in order to avoid delay of emergency medical services.

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A designated person will be available at all times when hot temperatures could be expected to ensure that emergency procedures are invoked when appropriate.

TRAINING

Training is critical to help reduce the risk of heat-related illnesses and to assist with obtaining emergency assistance without delay.

Training in the following topics will be provided to all employees, whether supervisory or non-supervisory:

• environmental and personal risk factors for heat illness

• our procedures for complying with the Heat Illness Prevention Standard

• the 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

• the importance of acclimatization

• types of heat illness and the common signs and symptoms of heat illness

• the importance of immediately reporting to the employer, either directly or through a supervisor, signs or symptoms of heat illness in themselves and co-workers
our procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary and how to proceed when there are non-English-speaking workers

our 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

our procedures for ensuring that clear and precise directions to the jobsite can and will be provided as needed to emergency responders in the event of an emergency

Training in the following additional topics will be provided to all supervisors prior to assignment to supervision of employees working in the heat:

- the procedures the supervisor is to follow to implement these training provisions
- the procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures

To ensure that all employees and supervisor are properly trained, the following steps will be taken:

- All employees, especially all newly hired employees, will receive heat illness prevention training prior to working outdoors.
- Both general contractors and subcontractors will ensure that all employees working outdoors are trained in heat illness prevention.
- Supervisors will be trained prior to being assigned to supervise outdoor workers.
- On hot days and during heat waves, supervisors will hold short tailgate meetings to review this important information with all workers.
- All workers will be assigned a “buddy” or experienced co-worker to ensure that they understood the training and follow company procedures.