

BULLETIN

Risk Control

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by R. Scott Wood

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Heat Illness Prevention

Heat stress can be a serious health hazard for employees required to work while exposed to the sun or other heat sources. Supervisors and foremen should look continuously for symptoms and signs of heat stress-related disorders in employees. Awareness of heat illness symptoms can save lives.

California's Heat Illness Prevention Standard, Title 8, CCR, Section 3395, requires all employers with outdoor worksites to take steps to prevent heat illness. The latest heat illness information can be found at www.dir.ca.gov/dosh/etools/08-006/index.htm. An emergency amendment to the regulation was proposed on June 19, 2009, and includes specific requirements that employers must meet to ensure compliance (http://www.dir.ca.gov/oshsb/Heat_Illness_Emergency_Finding.pdf).

Training

The basic test of training is its effectiveness. The heat standard lists several items of training information content. DOSH evaluates compliance with the training requirements, by looking at the content as well as the manner in which it has been presented.

An employer should tailor training material obtained from a reputable source so it applies to the employer's particular work situation and employees. An employer using a "one-size-fits-all" product needs to understand the information provided, and to add and subtract whatever is necessary to make it relevant to the employer's individual work situation.

Provide Adequate Amount of Potable Water

There must be at least one quart per employee per hour of clean, cool, potable water available at the work site. Employees who are working in the heat should drink three to four glasses of water per hour, including at the start of the shift, in order to replace the water lost to sweat. For an eight-hour day this means employers must provide two or more gallons **per person**. Thirst is an unreliable indicator of dehydration. Employees often need ongoing encouragement to consume adequate fluids, especially when the workload or process does not encourage breaks.



Provide Adequate Shade

If the prediction on the previous day is for the temperature high for the area to exceed 85 degrees F, shade must be up as of the beginning of the shift and present throughout. Employers may choose to measure the temperature hourly during the work shift, to determine whether the dry bulb temperature exceeds 85 degrees F at the worksite. This can be done by using any thermometer that reasonably appears to display the proper temperature. If this method is chosen, the employer must promptly provide actual shade for the remainder of the shift once a temperature reading exceeds 85 degrees F.

Regardless of what the predicted high has been the previous day, employers are expected to know if the actual temperature is exceeding 90 degrees F at their worksite. If the temperature enters this range, shade

must actually be present regardless of the previous day's predicted temperature high.

Quality: Shade is blockage of direct sunlight. Blockage is always sufficient when objects do not cast a shadow in the shaded area. An enclosed area used to provide shade must allow cooling at least comparable to the cooling that would be provided in a shaded unenclosed area in the same location.

Sources: Shade can be provided by buildings, canopies, lean-tos, or other partial or temporary structures that are either ventilated or open to air movement. Trees and dense vines can provide shade that is superior to artificially provided shade, and are accepted as compliant sources of shade if the canopy of the trees or vines is sufficiently dense, to provide substantially complete blockage of direct sunlight. Flecks of sunlight are acceptable as long as, overall, the shade provides substantially complete blockage of sunlight.

The interior of a vehicle may not be used to provide shade, unless the vehicle is air-conditioned and the air conditioner is operating. Similarly, metal storage sheds and other out-buildings do not provide protection from sunlight that meets the definition of shade, unless they provide a cooling environment comparable to shade in open air (i.e., they must be mechanically ventilated or open to air movement).

Quantity: As a general rule, and subject to the considerations described above, DOSH considers the amount of shade to be sufficient if there is enough to accommodate, at the same time, 25 percent of the employees on a shift, so that employees can sit comfortably in the shade without touching each other.

Location: The nearest shaded area must be as close as practicable. Usually this will mean that shade must be reachable within a 2 ½ minute walk, but DOSH recognizes that, just as in some cases it is practicable to place shade closer than that, the same considerations of practicality will necessitate shade being placed farther away than that in other cases. DOSH believes that in no case is it permissible for shade to be located more than ¼ mile or a five minute walk away, whichever is shorter.

Evaluate the Severity of Environmental Risk Factors

There is no absolute cut-off below which work in heat is not a risk. With heavy work at high relative humidity or if workers are wearing protective clothing, even work at 70 degrees F can present a risk. In the relative humidity levels often found in hot areas of California (20 to 40 percent) employers need to take some actions to effectively reduce heat illness risk when temperatures approach 80 F. At temperatures above 90 F, especially with heavy work, heat risk reduction needs to be a major concern.

It is critical that employers track the weather and routinely check for approaching heat waves. Heat waves are the primary cause of heat-related illnesses and fatalities in the state. For example, according to a study by Cal/OSHA, 84 percent of the heat illnesses in 2006 occurred during the July heat wave.

The National Weather Service forecasts the temperature in various locations in California. Weather forecasts and information are broadcast on NOAA Weather radio and can be accessed at:

<http://www.weather.gov/view/states.php?state=ca&map=on>

Facilitate Rest Breaks

Rest breaks are important to reduce internal heat load and provide time for cooling. Heat illness occurs due to a combination of environmental and internal heat that cannot be adequately dissipated. Breaks should be taken in cooler, shaded areas. Rest breaks also provide an opportunity to drink water.

Seek Prompt Medical Attention

Recognizing the symptoms of heat illness and providing an effective response requires promptly acting on early warning signs. If you or a co-worker start to feel symptoms such as nausea, dizziness, weakness or unusual fatigue, let your supervisor know and rest in a cool shaded area. Keep in mind, progression to more serious illness can be rapid and can include unusual behavior, nausea/vomiting, weakness, rapid pulse excessive sweating or hot dry skin, seizures, and fainting or loss of consciousness.

Any of These Symptoms Require Immediate Attention

1. To give **first aid for heat exhaustion**, lay the person down flat in a cool environment, loosen his or her clothing, and give him or her plenty of water to drink.
2. To give **first aid for heat stroke**, immediately start aggressive cooling of the person and get him or her to a hospital.

Regardless of the worker's protests, no employee with any of the symptoms of possible serious heat illness noted above should be sent home or left unattended without medical assessment and authorization.

H.R. LaBounty Safety Award Winners Spring 2009

Recipients of the H.R. LaBounty Safety Awards were announced at the May 18, 2009, Board of Directors meeting in Sacramento. The following employees were nominated for their activities in their respective District's safety programs.

American River FCD

Eric Maculak - \$100
Sean O'Connor - \$100
Ross Kawamura - \$100
Roger Unruh - \$100

Carmichael WD

Ryan Stinson - \$100

Crescenta Valley WD

Dave Spain - \$100
Jim Halaszynski - \$100
Richard Scott - \$100

East Contra Costa ID

Butch Stevens - \$150
John Granado - \$150
Toby LaMunyon - \$150
Ron Allen - \$75
Gary Smith - \$200

Helix WD

Jason Moore - \$200
Matt Yantos - \$100
Terry Hartnett - \$200
Ken Nakamura - \$150

Mesa Consolidate WD

Donald (Drew) Gardner - \$75
Piet Pijl - \$75
Frank Scheafer - \$100
Bob Mitchell - \$100
Tom Neville - \$100

Orange County WD

Glen Arrieta - \$75

Palo Verde ID

Richard Mackey - \$150

Rancho California WD

Chris Lopez - \$200
David Holguin - \$200

Sacramento Suburban WD

Todd Artrip - \$100
Dan York - \$50

Tahoe City PUD

Ralph Turner - \$100

Western MWD

William (Bill) Brighton - \$100
Valmore Thomas - \$100
James Boucher - \$150

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