

OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833  
(916) 274-5721  
FAX (916) 274-5743  
Website address [www.dir.ca.gov/oshsb](http://www.dir.ca.gov/oshsb)



NOTICE OF PROPOSED MODIFICATIONS TO  
CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 7, Group 2, Article 10, Section 3395  
of the General Industry Safety Orders

**Heat Illness Prevention**

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named proposed standard in which further modifications are being considered.

On October 15, 2009, the Standards Board held a Public Hearing to consider revisions to Title 8, Section 3395 of the General Industry Safety Orders. The Standards Board received oral and written comments on the proposed revisions. Further modifications are now proposed for subsections (a), (b), (c), (d), (f)(1) and (f)(2).

The scope and application have been modified to specify in subsection (a)(1) that this standard applies to all outdoor places of employment. An exception is added that will exempt certain industries from compliance with subsection (e), High-heat procedures. Subsection (a)(2) specifies industries that will be required to comply with all provisions of the standard, including subsection (e) High-heat procedures. These industries were identified based on their incidence of heat illness or fatalities as monitored by the Division of Occupational Safety and Health from 2005 to the present. This change is in response to numerous comments to the Standards Board that the industry groups that are not to be subject to the high-heat procedures have demonstrated an ability to protect their employees by complying with the requirements of the existing standard.

Subsection (b) has been modified to include definitions of "landscaping" and "oil and gas extraction" as these terms are not defined elsewhere in Title 8.

Subsection (c) has been modified to remove the qualifying language regarding potable drinking water. This change is in response to numerous comments to the Standards Board that the wording is unclear, for regulatory purposes, and can be already inferred by the existing references to Sections 1524, 3363, and 3457.

Subsection (d)(4) has been modified to provide exceptions to the requirement to provide shade structures as required by subsection (d) for situations in which the shade structure creates an unsafe environment, or it is infeasible for shade to be erected or provided (for instance, employees reading residential utility meters throughout the work shift). The exception requires the employer to provide alternative procedures that provide equivalent protection. This change is in response to comments to the Standards Board describing specific incidents of shade structures creating safety hazards and numerous examples of highly mobile work that would be severely impacted by attempting to erect shade at each brief stop.

Subsections (f)(1) and (f)(2) have been modified to change the requirement for providing training about heat illness before beginning outdoor work. Employees would be required to be trained before beginning work that is reasonably anticipated to result in exposure to the risk of heat illness. Supervisors would be required to be trained before

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Notice of Proposed Modifications  
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supervising employees who are performing work that should reasonably be anticipated to result in exposure to the risk of heat illness. This change is in response to many comments to the Standards Board and at the advisory meeting of November 16, 2009, that it would be counter productive to require heat illness training for employees and supervisors if they are hired or assigned to outdoor work during colder seasons.

A copy of the revised text with these modifications clearly indicated is attached for your information.

Any written comments on these modifications must be received by 5:00 p.m. on July 6, 2010, at the Occupational Safety and Health Standards Board's Office, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. This proposal will be scheduled for adoption at a future Business Meeting of the Occupational Safety and Health Standards Board.

The Occupational Safety and Health Standards Board's rulemaking file on the proposed action is open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m. at the Standards Board's Office, 2520 Venture Oaks Way, Suite 350, Sacramento, California.

Inquires concerning the proposed modifications may be directed to the Executive Officer, Marley Hart at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH  
STANDARDS BOARD

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Marley Hart, Executive Officer

Date: June 21, 2010

**PROPOSED MODIFICATIONS**  
**(Modifications are indicated in bold**  
**double underline wording for new language**  
**and bold double strikeout for deleted language.)**

**STANDARDS PRESENTATION  
TO  
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

PROPOSED STATE STANDARD,  
TITLE 8, DIVISION 1, CHAPTER 4

Amend Section 3395 to read:

§3395. Heat Illness Prevention in Outdoor Places of Employment.

(a) Scope and Application.

(1) **This standard applies to all outdoor places of employment.**

**EXCEPTION: If an industry is not listed in subsection (a)(2), employers in that industry are not required to comply with subsection (e), High-heat procedures.**

(2) **List of industries subject to all provisions of this standard, including subsection (e):**

**(A) Agriculture**

**(B) Construction**

**(C) Landscaping**

**(D) Oil and gas extraction**

**(E) Transportation or delivery of agricultural products, construction materials or other heavy materials (e.g. furniture, lumber, freight, cargo, furniture, cabinets, industrial or commercial materials).**

(3) This section applies to the control of risk of occurrence of heat illness. This is not intended to exclude the application of other sections of Title 8, including, but not necessarily limited to, sections 1230(a), 1512, 1524, 3203, 3363, 3400, 3439, 3457, 6251, 6512, 6969, 6975, 8420 and 8602(e). ~~This section applies to all outdoor places of employment.~~

NOTE NO. 1: The measures required here may be integrated into the employer's written Injury and Illness Program required by section 3203, or maintained in a separate document.

NOTE NO. 2: This standard is enforceable by the Division of Occupational Safety and Health pursuant to Labor Code sections 6308 and 6317 and any other statutes conferring enforcement powers upon the Division. It is a violation of Labor Code sections 6310, 6311, and 6312 to discharge or discriminate in any other manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees.

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(b) Definitions.

“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.

“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.

“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.

**“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.**

**“Oil and gas extraction” means operating and/or developing oil and gas field properties, exploring for crude petroleum or natural gas, mining or extracting of oil or gas or recovering liquid hydrocarbons from oil or gas field gases.**

“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 water retention or other physiological responses to heat.

~~“Preventative recovery period” means a period of time to recover from the heat in order to prevent heat illness.~~

“Shade” means 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.

“Temperature” means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the

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thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

(c) Provision of water. Employees shall ~~be provided~~ have ~~at no cost, ready~~ access to ~~fresh, pure, suitably cool~~ potable drinking water meeting the requirements of Sections 1524, 3363, and 3457, as applicable. Where ~~it~~ 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. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water, as described in subsection (e) (f)(1)(C), shall be encouraged.

(d) Access to shade.

(1) Shade required to be present when the temperature exceeds 85 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 85 degrees Fahrenheit, the employer shall have and maintain Employees suffering from heat illness or believing a preventative recovery period is needed, shall be provided access to an area one or more areas with shade at all times while employees are present that is are either open to the air or provided with ventilation or cooling for a period of no less than five minutes. The amount of shade present shall be at least enough to accommodate 25% of the employees on the shift at any time, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other. The shaded area shall be located as close as practicable to the areas where employees are working.

(2) Shade required to be available when the temperature does not exceed 85 degrees Fahrenheit. When the outdoor temperature in the work area does not exceed 85 degrees Fahrenheit employers shall either provide shade as per subsection (d)(1) or provide timely access to shade upon an employee's request.

(3) Employees shall be allowed and encouraged to take a cool-down rest in the shade for a period of no less than five minutes at a time when they feel the need to do so to protect themselves from overheating. Such access to shade shall be permitted at all times.

~~(4) Exceptions to subsection (d):~~

(1) 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.

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(2) Except for employers in the agricultural industry, cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if the employer can demonstrate that these measures are at least as effective as shade in allowing employees to cool.

(e) High-heat procedures. The employer 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.

(3) Reminding employees throughout the work shift to drink plenty of water.

(4) Close supervision of a new employee by a supervisor or designee for the first 14 days of the employee's employment by the employer, unless the 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 4 or more hours per day.

(f) Training.

(1) Employee training. ~~No employee or supervisor shall begin outdoor work to which this section applies unless the employee or supervisor has received the training required by this section.~~ Effective training in the following topics shall be provided to ~~all~~ each supervisory and non-supervisory employees 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 employer's procedures for complying with the requirements of this standard;

(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 importance of acclimatization;

(E) The different types of heat illness and the common signs and symptoms of heat illness;

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(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 employer's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;

(H) The employer'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 employer'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 shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

(2) Supervisor training. Prior to ~~assignment to supervision of~~ supervising employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness working in the heat, effective training on the following topics shall be provided to the supervisor:

(A) The information required to be provided by section ~~(e)~~(f)(1) above.

(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 symptoms consistent with possible heat illness, including emergency response procedures.

(D) How to monitor weather reports and how to respond to hot weather advisories.

(3) The employer's procedures for complying with each requirement of this standard required by subsections ~~(e)~~(f)(1)(B), (G), (H), and (I) shall be in writing and shall be made available to employees and to representatives of the Division upon request.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.