

**INITIAL STATEMENT OF REASONS**

CALIFORNIA CODE OF REGULATIONS  
TITLE 8: Division 1, Chapter 4, Subchapter 7, Article 10, Section 3395  
of the General Industry Safety Orders  
Heat Illness Prevention

**SUMMARY**

The Occupational Safety and Health Standards Board proposes to adopt amendments to Title 8 of the California Code of Regulations, Section 3395 of the General Industry Safety Orders. These proposed amendments are authorized by Labor Code Section 142.3.

These proposed amendments are needed to clarify the requirements of Section 3395 in order to prevent heat illness and to ensure that emergency medical services are provided without delay.

Currently, Section 3395 requires that drinking water and access to shade be provided to employees. Existing Section 3395 also specifies that shade be erected at temperatures above 85° F, that it accommodate 25% of the employees and that employees be allowed and encouraged to take a cool-down rest in the shade for at least five minutes. Furthermore, existing Section 3395 requires that additional precautionary measures be taken when the outdoor temperature is at or above 95° F and that employees be observed for alertness and signs or symptoms of heat illness. Existing Section 3395 also provides for some emergency procedures, that employees and supervisors be trained on the employer's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.

The amendments proposed in this rulemaking would further clarify requirements regarding drinking water including that water be provided at no cost, that the water provided be fresh, pure, suitably cool and be located within 400 feet, unless prohibited by site conditions. The amendments would also require that shade be present when the temperature exceeds 80° F, be enough to accommodate the number of employees who are on meal periods, rest periods or recovery periods, and be located within 700 feet of employees unless that is not feasible. In order to prevent the development of heat illness the amendments would require that an employee who is taking a cool-down rest be encouraged to remain in the shade until symptoms have abated and that the employer monitor the worker during this recovery period. It is further proposed that the outdoor temperature at which high heat procedures must be initiated be lowered from 95° F to 85° F. The proposed amendments would include as part of the high heat requirements, the means by which the existing requirement that an employer observe employees for signs and symptoms of heat illness could be accomplished, a requirement that an employee at the worksite be designated and authorized to call for emergency medical services, and a requirement for a pre-shift meeting. In addition, the proposal would require that when an employee in agriculture work two continuous hours in temperatures equal to or exceeding 95° F, the employer must ensure that the employee takes a ten minute net recovery period, which may be combined with other rest periods. Furthermore, the proposed amendments would require that workers receive additional training on the right to exercise their rights under the standard without fear of retaliation, the employer's procedures for acclimatization and the appropriate first aid and/or emergency

response. These amendments would add new elements to the required written heat illness prevention procedures, which would now be called a heat illness prevention plan. The amendments would also require that supervisors take immediate action if an employee exhibits symptoms of heat illness. The employer would be prohibited from sending home an employee who was exhibiting signs or symptoms of heat illness without first offering the employee onsite first aid and/or providing emergency medical services.

### **SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION**

This regulatory proposal is intended to improve worker safety in all outdoor places of employment and reduce the incidence of heat illness.

This proposed rulemaking action:

- Is based on the following authority and reference: Labor Code Section 142.3, which states, at subsection (a)(1) that the Board is “the only agency in the state authorized to adopt occupational safety and health standards.” When read in its entirety, Section 142.3 requires that California have a system of occupational safety and health regulations that at least mirror the equivalent federal regulations and that may be more protective of worker health and safety than are the federal occupational safety and health regulations.
- Differs from existing federal regulations, in that federal OSHA does not have a specific and comprehensive standard to address the prevention of heat illness.
- Is not inconsistent or incompatible with existing state regulations.
- The proposal will enhance the safety of employees by clarifying the current requirements for providing water and shade to workers, minimizing disincentives for drinking water and taking rest periods, requiring additional observation and training during high heat periods, and improving procedures for accessing first aid and emergency medical services.

The specific rationale and necessity of the proposed amendments are outlined below:

#### **Section 3395 Heat Illness Prevention.**

##### **Section 3395(b) Definitions.**

Existing Section 3395(b) includes a definition for the term “Shade.” This definition is proposed to be revised to clarify that the conditions of the shade must not discourage workers from accessing it. This amendment is necessary to clarify that shade can not be located in situations that discourage its use, such as adjacent to portable toilets, or across a highway from the work area.

##### **Section 3395(c) Provision of water.**

Section 3395(c) details requirements for provision of drinking water to employees covered by the regulation. The importance of maintaining hydration, including frequent drinking of water, in

preventing heat illness has long been recognized<sup>1</sup>, and has been incorporated into this standard since it was first adopted. It is proposed to amend the existing language of this section to avoid conflict with existing standards and to clarify that the required drinking water shall be fresh, pure, suitably cool, and provided at no cost to the employee. This amendment is necessary to provide an enforceable regulation implementing Labor Code Section 2441, requiring the employer to provide fresh and pure drinking water, without charge to employees, as well as to implement Labor Code Section 6401 which requires the employer to provide all necessary safeguards. It is necessary to require suitably cool water in order to encourage employees to drink water frequently, and to be consistent with Title 8, California Code of Regulations, Section 3457.

It is further proposed that Section 3395(c) be amended to specify the distance at which drinking water shall be located as within 400 feet from the workers with some limited exceptions. This specific distance and exceptions are based on the Division's experience, based on hundreds of heat illness prevention trainings conducted since 2009 and during interactions with employers during inspections and consultations. The purpose of this amendment is to increase access to drinking water by providing a clear statement regarding the specific distance within which water must be located. The necessity for these amendments is to clarify for employers the distance at which drinking water shall be provided so as to be readily accessible to workers.

#### **Section 3395(d) Access to shade.**

Existing subsections 3395(d)(1) and (d)(2) detail requirements for provisions of shade and specify the outdoor temperature at which shade must be provided. Existing subsection 3395 (d)(1) also mandates the amount of shade that must be present. The contribution of exposure to the sun to heat illness has long been recognized<sup>2</sup>, and requirements for shade have been incorporated into this standard since it was first adopted. It is proposed to amend these subsections to revise the temperature at which one or more shaded areas must be provided from 85 to 80 degrees Fahrenheit (°F) at which point the employer shall have and maintain one or more shade areas. The necessity for reducing the temperature trigger for shade is based on the Division's experience and observations in the field.

Section 3395(d)(1) is also amended to change the requirement for the amount of shade required from an amount sufficient to accommodate 25% of the employees to an amount sufficient to accommodate all the employees who are on a meal period, rest period, or recovery period. The purpose of this amendment is to ensure that sufficient shade is provided so that all employees can obtain the maximum relief from the heat during these periods. The necessity for this amendment is to provide shade to all employees during meal, rest, and recovery periods not just a specified percentage of the employees.

It is further proposed that subsection 3395(d)(1) be amended to address the maximum distance at which shade shall be placed as 700 feet unless site conditions prohibit that location. This specific distance is based on the Division's experience, based on hundreds of heat illness prevention trainings conducted

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<sup>1</sup> For example, see ACGIH Criteria document for a heat stress and strain threshold limit value. (2009) American Conference of Governmental Industrial Hygienists. 7th Edition.

<sup>2</sup> For example, see United States Department of Commerce, National Oceanic and Atmospheric Administration, Heat Index Chart. 2014 revision available at: <http://www.nws.noaa.gov/om/heat/index.shtml>

since 2009 and during interactions with employers during inspections and consultations. The purpose of this amendment is to increase access to shade by providing a clear statement regarding the specific distance within which shade must be located. The necessity for these amendments is to clarify for employers the distance at which shade shall be placed in order to be accessed by workers.

It is also proposed to amend subsection 3395(d)(3) to clarify for employers with outdoor workplaces that employees are to be encouraged to take a cool-down rest in the shade when they feel the need to do so to prevent heat illness. This rest ideally should be taken as a preventive measure before the employee is experiencing signs or symptoms of heat illness. The amendments to this provision clarify that the employee is not to be ordered back to work before any signs or symptoms of heat illness have resolved, which includes those symptoms that may have occurred prior to the rest period and those that may have become manifest during the rest period. The amendments further clarify that the employee shall not be ordered back to work, regardless of the presence of signs or symptoms at the initiation of the rest period, before five minutes of rest have occurred, which does not include the time necessary to access the shade. Other amendments provide additional requirements for preventive rest or recovery periods which include the requirement in subsection (d)(4) that the employer monitor employees during any recovery period to determine if symptoms are abating or worsening, and if symptoms do not resolve to initiate appropriate first aid or emergency medical services. Subsection (h) requires employers to take actions commensurate with the severity of the signs and symptoms, in regards to immediate provision of first aid and/or emergency medical services. The necessity for this requirement is to set clear requirements for minimum rest periods and to clarify that employers are to encourage workers to take a cool-down rest in the shade, that they will not be ordered back to work until any symptoms have abated and that in no event is their resting period to be less than 5 minutes in addition to the time needed to access the shade.

It is further proposed to amend Section 3395(d) to add a new requirement in subsection (d)(4) that if an employee exhibits signs or symptoms of heat illness, the employers must monitor the employee during the recovery period and that if the signs or symptoms do not resolve, appropriate emergency medical services must be provided. The necessity for this requirement is to set clear requirements for employers so that employees are monitored for the presence of symptoms of heat illness and if symptoms are exhibited, that emergency services be provided without delay.

The exceptions to subsection (d) are also revised to clarify that they only apply to subsections (d)(1) and (2) since those are the requirements specifically regarding provision of shade.

#### **Section 3395(e) High-heat procedures.**

It is proposed to amend Section 3395(e) to revise the outdoor temperature from 95 °F to 85 °F at which additional precautions must be taken by the employer to reduce the risk of heat illness. The necessity for these amendments is to provide greater protection from the heat at the lower temperature trigger of 85 °F, in order to prevent heat illness and reduce the severity of the disease for employees working outdoors under high heat conditions.

It is also proposed to amend the existing requirement in subsection 3395(e)(2) that the employer observe employees during high heat for alertness and signs or symptoms of heat illness. The amendment includes three examples of the means employers can use to ensure effective employee observation and

monitoring, which include ensuring the capability of a supervisor to effectively observe 20 or fewer employees, mandating a buddy system, or maintaining regular communication with a sole employee by radio or cellular phone. This section also permits an employer to use other effective means of observation. The necessity for this requirement is to ensure that the employer is able to recognize and respond early to heat-related illness symptoms and signs and ensure that emergency services be provided without delay.

It is proposed to insert new requirements in subsection (e)(3), and to relocate to subsection 3395(e)(4) the existing requirement to encourage employees throughout the shift to drink water. New subsection (e)(3) would add language clarifying that at each worksite during high heat, the employer is to have a designated employee who is authorized to call for emergency medical services. The necessity for this amendment is to establish a clear requirement that there be an employee on-site to ensure that immediate action is taken so as to stop the progression of the illness, ensure that emergency services are provided without delay and secure the best outcome for the employee.

It is proposed to relocate existing subsection 3395(e)(4) to a new subsection (g), as this item is to be included in the employer's written procedures, now called a heat illness prevention plan.

It is proposed to amend Section 3395(e) to add a new requirement as subsection (e)(5) specifying pre-shift meetings before beginning work to review the high heat procedures, encourage employees to drink plenty of water and remind them of their right to take a cool-down rest. These meetings are not required to be a comprehensive heat training as required by subsection (f), but rather to provide a brief update to the preventive measures for that day's work, which includes identifying the individual authorized to call for emergency medical services, and the means by which effective observation will be implemented. Further this meeting is a means to remind employees to drink water frequently and take rest periods as needed. The necessity for this requirement is to ensure that employees have accurate information at the start of the shift and are reminded of preventive measures.

It is further proposed to amend Section 3395(e) to add a new requirement as subsection (e)(6) specifying that an employer of an agricultural employee who works at or above 95° F for two continuous hours, is required to ensure that the employee take a 10 minute net recovery period, and that to the extent practicable, the period occur towards the end of the two hour working period. The term "net recovery period" means that the recovery period does not include time needed to access a rest area, or any time during which the employee performs work activities. This provision is intended to create an enforceable provision requiring the employer to make sure that an employee takes this recovery period. This recovery period may be combined with other required rest periods. The necessity for this subsection is to provide relief from the high heat and to set clear guidelines for employers on the frequency and duration of recovery periods in order to prevent heat illness and/or reduce the severity of the illness.

### **Section 3395(f) Training.**

Existing Section 3395(f)(1)(B) requires that employees be trained on the employer heat illness prevention procedures. It is proposed to amend 3395(f)(1)(B) to clarify that the employers procedures shall include the employer's responsibility to provide water, shade, cool-down rests, access to first aid and that the employee has the right to exercise these rights without retaliation. This clarification is necessary to set clear guidelines on the required elements of the employer's prevention procedures

which workers have to be trained on, in order to prevent heat illness and or reduce the severity of the illness.

Existing subsection 3395(f)(1)(D) requires that employees be trained on the importance of acclimatization. It is proposed to amend 3395(f)(1)(D) to clarify that employers need to train workers on the concept, importance, and methods for acclimatization, and the employer's procedures under subsection (g)(3) for new employees and for situations in which the temperature is predicted to be above 80 degrees Fahrenheit and to increase ten degrees or more above the average daily temperature for the previous five days.. This amendment is necessary to set clear requirements for training about acclimatization, and to be consistent with the proposed amendments in subsection (g)(3). This is necessary to reduce the risk of developing heat illness and to reduce the severity of heat illness. .

Existing subsection 3395(f)(1)(E) requires that employees be trained on the different types of heat illness and their common signs and symptoms. It is proposed to amend 3395(f)(1)(E) to add that the employers need to train workers on appropriate first aid or emergency responses to these different types of heat illness and stress that heat illness may progress quickly from mild to a serious and life threatening illness. This amendment is necessary to clarify that this training is to include the appropriate first aid and or emergency responses to each type of heat illness, to ensure that immediate action is taken so as to stop the progression of the illness, ensure that emergency services are provided without delay and secure the best outcome for the employee.

Existing subsection (f)(1)(G) and (f)(2)(C) require training for employees and supervisors respectively on the employer's procedures for responding to symptoms of heat illness. An amendment is proposed to each subsection to include the phrase "signs or symptoms" to clarify that the employers must train employees on responding to signs as well as symptoms of heat illness. The necessity is to recognize that outward signs of heat illness may be observed as well as symptoms, and employees and supervisors must be trained in the employer's procedures for responding to either type of manifestation of heat illness.

### **Section 3395(g) Written Procedures.**

It is proposed to amend and relocate the existing requirements in subsection 3395(f)(3) requiring written procedures for complying with this Section, to a new subsection 3395(g) which identifies requirements for an effective heat illness prevention plan, which must be established, implemented and maintained. This proposed modification is to clarify that the employer's heat illness prevention plan shall be in writing and shall be available at the worksite in both English and the language understood by the majority of the employees. The newly proposed written plan must include procedures for the provisions of water and shade, for high heat, for the close supervision of new employees and for all employees when the high daily temperature is predicted to exceed the average daily high temperature for the previous five days. . The written plan would also be required to include emergency response procedures, including the employer's procedures for ensuring that clear and precise directions can be provided to the worksite. The necessity for the proposed amendments is to set clear requirements for the employer's written plan, including that it would be available to employees and be implemented. The necessity is also to establish the elements that need to be included in the written employer's plan to

ensure that precautions are taken to safeguard workers from heat illness and or if symptoms are present, that immediate action is taken so as to stop the progression of the illness, ensure that emergency services are provided without delay and secure the best outcome for the employee.

**Section 3395(h).**

It is proposed to add a new Section 3395(h) which details the requirement that the supervisor is to observe employees and if any signs or symptoms of heat illness are observed, the supervisor is to take immediate action commensurate with the severity of the symptoms. The employer would be required to implement emergency response procedures if the employee is exhibiting signs or symptoms of severe heat illness. The proposed amendment clarifies that an employee exhibiting signs or symptoms of heat illness is not to be sent home without being offered onsite first aid and or being provided with emergency medical services. The necessity for the proposed amendments is to establish clear requirements for employers and to ensure that extra precautions are taken to safeguard workers from heat illness and or if symptoms are present, that immediate action is taken so as to stop the progression of the illness, ensure that emergency services are provided without delay and secure the best outcome for the employee.

DOCUMENTS RELIED UPON

ACGIH Criteria document for a heat stress and strain threshold limit value. (2009) American Conference of Governmental Industrial Hygienists. 7<sup>th</sup> Edition.

Anderson, G B and Bell, M L. (2011) Heat waves in the United States: mortality risk during heat waves and effect modification by heat wave characteristics in 43 U.S. communities. NIH Environmental Health Perspectives 119:210–218. <http://ehp.niehs.nih.gov/1002313/>

United States Department of Commerce, National Oceanic and Atmospheric Administration, Heat Index Chart. 2014 revision available at: <http://www.nws.noaa.gov/om/heat/index.shtml>

US Army, Heat Stress Control and Heat Casualty Management, Technical Bulletin. Washington, D.C. March 7, 2003. Available at: [http://armypubs.army.mil/med/dr\\_pubs/dr\\_a/pdf/tbmed507.pdf](http://armypubs.army.mil/med/dr_pubs/dr_a/pdf/tbmed507.pdf)

Armed Forces Health Surveillance C [2011]. Surveillance Snapshot: reportable medical events of 19 heat injury in relation to heat index, June-September 2011. MSMR 18(10): 19.

Meeting Summary of the Heat Illness Prevention Meeting on July 8, 2013, with a list of Attendees and Interested Parties.

Meeting Summary of the Heat Illness Prevention Meeting on February 3, 2014, with a list of Attendees and Interested Parties.

These documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC  
IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action.

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Economic Impact Analysis

The Board has made a determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed. Currently, employers covered by this standard are required to comply with Section 3395, which includes for the provisions of water, shade, high heat procedures and training.

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under “Determination of Mandate.”

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed standard does not impose a local mandate. There are no costs to any local government or school district which must be reimbursed in accordance with Government Code Sections 175000 through 17630.

EFFECT ON SMALL BUSINESSES AND RESULTS  
OF THE ECONOMIC IMPACT ASSESSMENT

The Board has determined that the proposed amendments will not affect small businesses. Currently, employers covered by this standard are required to comply with Section 3395, which includes requirements for the provisions of water, shade, high heat procedures and training.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.