Title 09

MARYLAND DEPARTMENT OF LABOR

Subtitle 12 DIVISION OF LABOR AND INDUSTRY

Chapter 32 Heat Stress Standards

09.12.32 Heat Stress Standards

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Authority: Labor and Employment Article, §§2-106(b)(5) and 5-1201(b), Annotated Code of Maryland

.01 Purpose.

The purpose of this chapter is to establish minimum requirements for employers to protect employees from heat-related illness caused by heat stress in the workplace.

.02 Scope.

A. This chapter applies to an employer with employees whose employment activities, indoor or outdoor, expose employees to a heat index in the area where the employee is working that equals or exceeds 80 degrees Fahrenheit.

B. This chapter does not apply to:

(1) Emergency operations and essential services as defined in Regulation .03B(4) of this chapter that involve protecting life or property;

(2) Incidental exposures when an employee is not required to perform work activities for more than 15 consecutive minutes per hour; or

(3) Buildings, structures, and vehicles that have a mechanical ventilation system or fan that maintains the heat index below 80 degrees.

.03 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) “Acclimatization” means the body's temporary adaptation to work in heat that occurs as a person is exposed over time.

(2) “Alternative cooling and control measures” means engineering, work-practice, administrative, or other controls to manage heat, including job rotation, mechanical ventilation systems, misting equipment, cooling vests, air-cooled or water-cooled garments, and access to recreational water.

(3) “Drinking water” means potable water that is safe to drink and cool in temperature.

(4) “Emergency operations and essential service” means work in connection with an emergency that requires the involvement of law enforcement, emergency medical services, firefighting, rescue and evacuation operations, or emergency restoration of essential utilities or telecommunications.

(5) “Heat index” means a measure of how hot it feels when relative humidity is taken into account along with the actual air temperature, which can be extrapolated from temperature and relative humidity using the National Weather Service Heat Index Calculator.

(6) “High-heat conditions” means working conditions where the heat index of the work area equals or exceeds 90 degrees Fahrenheit.

(7) “Shade or shaded areas” means blockage of direct sunlight.

.04 Heat-Related Illness Prevention and Management Plan.

A. An employer shall monitor the heat index throughout the work shift in areas where employees perform work using one of the following methods:

(1) Direct measurement of the temperature and humidity at the same time and location in the areas where employees perform work;

(2) Use of local weather data reported by the National Weather Service or other recognized source to determine the heat index; or

(3) Use of the National Institute for Occupational Safety and Health’s Heat Safety Tool application to determine the heat index.

B. An employer whose employees work in buildings and structures that do not have a mechanical ventilation system shall directly measure the temperature and humidity at the same time and location in areas where employees perform work.

C. An employer shall develop, implement, and maintain an effective heat-related illness prevention and management plan in writing.

D. The heat-related illness prevention and management plan shall contain the following elements:

(1) How sufficient amounts of drinking water will be provided;

(2) How employees will be provided sufficient opportunities and encouragement to stay hydrated by drinking water;

(3) How to recognize the symptoms of heat-related illness, including heat exhaustion and heat stroke;

(4) How to respond to suspected heat-related illness, including heat exhaustion and heat stroke;

(5) How employees will be provided with sufficient time and space to rest in shaded or cool, climate-controlled areas to cool off;

(6) How the employer will implement rest break schedules as necessary;

(7) How the employer will consider environmental conditions, workload, required clothing, personal protective equipment, and alternative cooling and control measures when determining rest break schedules;

(8) How employees will be encouraged to take rest breaks as needed to prevent heat-related illness;

(9) How employees will be trained on the hazards of heat exposure and the necessary steps to prevent heat-related illness;

(10) The use and maintenance of alternative cooling and control measures used to manage heat;

(11) Procedures for heat acclimatization in accordance with Regulation .05 of this chapter;

(12) Procedures for high-heat conditions in accordance with Regulation .08 of this chapter; and

(13) The emergency response plan in accordance with Regulation .09 of this chapter.

E. The written plan shall be made available and accessible to:

(1) Employees; and

(2) MOSH upon request.

.05 Acclimatization.

A. An employer shall provide for acclimatization of exposed employees for a period of up to 14 days:

(1) When an employee is newly exposed to heat in the workplace; and

(2) When an employee returns to work after 7 or more consecutive days of absence from the workplace.

B. An employer shall monitor employees during the acclimatization period for signs of heat-related illness through regular communication via:

(1) Phone or radio;

(2) A buddy system; or

(3) Other effective means of observation.

C. An employer shall develop and implement an acclimatization schedule which complies with one of the following:

(1) A schedule which gradually increases exposure time over a 5—14 day period, with a maximum 20 percent increase each day;

(2) A schedule which uses the current National Institute for Occupational Safety and Health's recommendations for acclimatization; or

(3) A schedule which uses a combination of gradual introduction and alternative cooling and control measures that acclimate an employee to the heat.

D. The acclimatization schedule shall be in writing and consider the following elements:

(1) Acclimated and unacclimated employees;

(2) The environmental conditions and anticipated workload;

(3) The impact of required clothing and personal protective equipment to the heat burden on employees;

(4) The personal risk factors that put an employee at a higher risk of heat-related illness;

(5) Re-acclimatizing employees as necessary, in accordance with §A of this regulation; and

(6) The use of alternative cooling and control measures.

.06 Shade Access.

A. Except as provided in §§C and D of this regulation, an employer shall provide shaded areas to exposed employees as close to the work area as practicable.

B. Shaded areas shall:

(1) Be outside, open, and exposed to air on at least three sides;

(2) Prevent contributing heat sources from reducing effectiveness;

(3) Be sufficiently sized for the number of employees utilizing the shaded area;

(4) Be arranged in a configuration that allows employees to sit in normal posture; and

(5) Accommodate the removal and storage of personal protective equipment during periods of use.

C. If creating outdoor shade is demonstrably infeasible or unsafe in the work area, the employer shall implement alternative cooling and control measures that provide equivalent protection to shade.

D. An employer may provide cooling with an indoor mechanical ventilation system as an alternative to outdoor shade provided that the indoor space satisfies the requirements of §B(2)—(5) of this regulation.

.07 Drinking Water.

A. An employer shall:

(1) Provide drinking water at no cost to exposed employees as close to the work area as practicable; and

(2) Make available at least 32 ounces of drinking water per hour to each exposed employee per work day.

B. An employer is not required to provide the entire drinking water supply at the beginning of an employee's shift but shall make drinking water available at all times while work is being performed.

.08 High-Heat Procedures.

A. An employer shall implement high-heat procedures when the heat index reaches or exceeds 90 degrees Fahrenheit in the area where the work is being performed.

B. The high-heat procedures shall include a work and rest schedule to protect employees from heat-related illness that is adjusted for environmental conditions, workload, and impact of required clothing or personal protective equipment.

C. Except as provided in §D of this regulation, the high-heat procedures shall include:

(1) Both:

(a) A minimum rest period of 10 minutes for every 2 hours worked where employees are exposed to a heat index above 90 and below 100 degrees Fahrenheit; and

(b) A minimum rest period of 15 minutes for every hour worked where employees are exposed to a heat index above 100 degrees Fahrenheit; or

(2) A rest period as provided for in the current National Institute for Occupational Safety and Health recommendations for work and rest schedules to manage heat exposures.

D. If an employer can demonstrate effective heat management and protection from heat-related illness through alternative cooling and control measures, the work and rest schedules set forth in §C of this regulation may not be required.

E. If an employer utilizes alternative cooling and control measures under §D of this regulation, the measures:

(1) Shall be readily available and accessible to employees at all times work is being performed;

(2) Shall be documented in writing; and

(3) May not supersede any other requirements of this chapter.

F. An employer may coincide rest periods with a scheduled rest or meal period.

G. Rest periods shall be taken in the shade in accordance with Regulation .06 of this chapter.

H. An employer may not discourage employees from taking rest breaks as needed to prevent heat-related illness.

I. When high-heat procedures are in effect, an employer shall monitor exposed employees for signs of heat-related illness with regular communication via:

(1) Phone or radio;

(2) A buddy system; or

(3) Other effective means of observation.

J. An employer shall make high-heat procedures available in writing in a language and manner that all employees can understand.

.09 Emergency Response.

An employer shall implement an emergency response plan that includes procedures for:

A. Ensuring effective and accessible means of communication at all times at the worksite to enable an employee to contact a supervisor or emergency medical services;

B. Responding to signs and symptoms of possible heat-related illness in employees;

C. Monitoring and providing care to employees who are exhibiting symptoms of heat-related illness; and

D. Contacting emergency medical services and, if necessary, transporting employees to a location accessible to emergency medical services.

.10 Training.

A. An employer shall:

(1) Provide initial heat stress training to employees and supervisors covered by this chapter prior to an employee's first exposure to heat;

(2) Re-train employees and supervisors at least:

(a) Annually prior to exposure; and

(b) Immediately following any incident at the worksite involving a suspected or confirmed heat-related illness;

(3) Present training in a language and manner that all employees and supervisors can understand;

(4) Ensure that training includes at least:

(a) The work and environmental conditions that affect heat-related illness;

(b) The personal risk factors that affect heat-related illness;

(c) The concept, importance, and methods of acclimatization;

(d) The importance of frequent consumption of water and rest breaks in preventing heat-related illness;

(e) The types of heat-related illness, signs and symptoms of heat-related illness, and the appropriate first aid and emergency response measures;

(f) The importance of and procedures for employees immediately reporting to the employer signs and symptoms of heat-related illness; and

(g) The employer's procedures and the requirements for complying with this chapter; and

(5) maintain training records for one year from the date on which the training occurred.

B. The training records required by this regulation shall include:

(1) The names of the persons trained;

(2) The dates of the training sessions; and

(3) A summary or outline of the content of the training sessions.

C. The training records shall be made available to MOSH upon request.

Administrative History

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