CSN Procedure	Facilities Management
Category: Environmental Health and Safety	Effective Date: 06/28/2024
Heat Illness Prevention Program	

I. PURPOSE

The purpose of this program is to ensure that all College of Southern Nevada (CSN) employees, working in outdoor places of employment or in other areas where environmental risk factors for heat illness are present, are protected from heat illness and are knowledgeable of heat illness symptoms, methods to prevent illness, and procedures to follow if symptoms occur.

II. SCOPE

Each work site and job task can be unique and contain a variety of heat stress hazards that must be addressed prior to the beginning work and during work activities. Supervisors and workers are responsible for assessing these hazards and taking necessary preventative or corrective actions to reduce the risk of heat-related illnesses.

III. DEFINITIONS

Acclimatization: the 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.

Drinking water: must be fresh, potable, suitably cool and located as close as practicable to the areas where employees are working.

Heat Illness: serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat rash, heat cramps, heat exhaustion, heat syncope (fainting), and heat stroke (Refer to Appendix A for more details).

Environmental Risk Factors for Heat Illness: 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.

Personal Risk Factors for Heat Illness: 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: period of at least five minutes spent in area that is mechanically cooled or shaded (with open air or ventilated) used to recover from the heat in order to prevent further heat illness.

Shade: 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 the heat in the area of the 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.

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

IV. PROGRAM SUMMARY

A. Responsibilities:

1. CSN Environmental Health and Safety (EHS)
    - Establish, periodically review, and update the written CSN Heat Illness Prevention Program.
    - Provide consultation/training to departments who fall within the scope of the program.
    - Conduct heat exposure assessments when requested.
    - Assist departments in determining when, where, and how water and shade are provided.
2. Managers and Supervisors
    - Ensure that the requirements in this program are followed.
    - Identify all employees having work duties, environments, or health issues that put them at higher risk for heat illness.
    - Implement as many of the following engineering and administrative controls as feasible:
        - Work in air conditioning
        - Provide cooling fans
        - Ensure access to shade for outdoor workers or have them take breaks inside
        - Use work/rest schedules especially as employees are acclimatizing
        - Schedule hot jobs for the cooler parts of the workday
        - Schedule routine maintenance and repair work during cooler seasons of the year when possible
        - Use relief workers to reduce physical demands of the job
    - Provide fresh, potable, and suitably cool drinking water and cool shaded areas that are closely accessible to employees when access to a building’s amenities is beyond a short walk.
    - Consider offering employees heat protective clothing and equipment such as: wide brim hats, long sleeve moisture-wicking shirts, safety sunglasses, electrolyte drink mixes, cooling towels and vests.
    - Monitor employees, working conditions, and the weather (current and forecast) and make necessary adjustments to the workload or schedule for the purpose of reducing the risk of heat-related illnesses.
    - Ensure that all personnel working in outdoor places or in other areas where environmental risk factors for heat illness are present receive proper training to reduce the risk of heat-related illness.
    - Contact University Police Services (7-911 from a campus phone or 702-895-3669 from cell phone) for medical emergencies or when medical assistance is required.
3. Affected Employees
    - Be aware of and comply with all appropriate heat illness prevention procedures while performing assigned duties.
    - Take extra precautions while wearing PPE and face coverings by reducing the interval times between breaks and visits to shade or indoors.
    - Employees are ultimately responsible for drinking adequate amounts of hydrating fluids when the environmental risk factors for heat illness are present. Ensure you are hydrated when you arrive at work and throughout the workday.

- Ensure access to a shaded area is available to recover from heat related symptoms prior to beginning work tasks.
- Take regular breaks while working in the heat. Find shade or a cool area to rest and allow your body to recover.
- Request supervisors schedule hot areas or outdoor tasks early in the day or at night when temperatures are lower.
- Inform supervisors if shade and/or water is inadequate.
- Alert your supervisor if you have heat intolerance due to medical conditions and/or medications you are taking.
- Report any symptoms of heat related illness promptly to supervisors.
- Know the symptoms of heat-related illnesses such as heat exhaustion and heat stroke and seek help immediately if they or their co-workers show signs of these conditions. Refer to Appendix A for more details on heat illness symptoms.
- Contact University Police Services (7-911 from a campus phone or 702-895-3669 from cell phone) for medical emergencies or when medical assistance is required for anyone.

B. Access to Water

1. Supervisors must provide employees with access to fresh, potable, and suitably cool water and encourage consumption of small amounts frequently throughout the workday.
2. All workers, whether working alone or in groups, will have access to drinking water. If plumbed potable water is not readily accessible, portable water containers or bottled water must be made available before work can commence.
3. Water storage containers, drinking vessels and support utensils must be kept in a condition that is both clean and sanitary.
4. Water must be placed as close as possible to the workers to encourage frequent water consumption.
5. When the work environment is such that water cannot be placed close to the workers, bottled water or personal water containers must be provided.
6. Storage containers should be refilled with fresh cool water when levels drop below 50%. If adequate water supplies cannot be maintained, work must cease, and the workers must be moved into a controlled environment.
7. During employee training, the importance of frequent water intake must be stressed.

C. Access to Shade

1. Access to open shade structures is required when temperatures equal or exceed 90 degrees Fahrenheit.
2. Supervisors should provide access to shade at temperatures less than 90 degrees Fahrenheit when requested by an employee.
3. Employees in need of a recovery period from the heat must be provided with access to shade that is either open to the air or provided with ventilation or mechanical cooling. Alternative cooling methods may be used if they prove to be at least as effective as an appropriate shaded area.
4. When access to open shade structures is needed, the shade structures must be as close to the workers and work site as practical.
5. During employee training, the importance of taking frequent rests breaks in cool shade must be stressed.

D. Worker Acclimatization

1. Supervisors of new employees and employees not accustomed to working in the heat must

lessen the workload and intensity for the first two weeks. Acclimatization must be gradual and deliberate.

2. Acclimatization process must be appropriate and tailored to the individual employee.
3. Supervisors will remind employees before and during the work shift to pace themselves, take frequent breaks in cool shade, and to drink plenty of water.

E. Weather Monitoring

1. Supervisors should monitor weather conditions year-round using resources such as the National Weather Service, the Weather Channel, AccuWeather, local broadcast station or the NIOSH Heat Safety Tool app on a cell phone or other supported device.
2. Special attention should be given to days where the National Weather Service issues heat warnings or head advisories:
    - Heat Advisory: A Heat Advisory is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Advisory is that the maximum heat index temperature is expected to be 100°F or higher for at least 2 days, and nighttime air temperatures will not drop below 75°F.
    - Heat Wave: A heat wave is forecasted when the daily maximum temperature exceeds 95°F or when the daily maximum temperature exceeds 90°F and is 9°F or more above the maximum reached on proceeding days.
    - Excessive Heat Warning: An Excessive Heat Warning is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Warning is that the maximum heat index temperature is expected to be 105°F or higher for at least 2 days and nighttime air temperatures will not drop below 75°F.
    - Excessive Heat Watch: Heat watches are issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased but its occurrence and timing is still uncertain.
    - Excessive Heat Outlook: Outlooks are issued when the potential exists for an excessive heat event in the next 3-7 days. An Outlook provides information to those who need considerable lead-time to prepare for the event.
3. Work scheduling and type of work performed must be respectful of the forecast, and modified, as necessary, to prevent heat illness. When the temperature equals or exceeds 90 degrees Fahrenheit, outdoor activities will be modified as much as reasonably feasible.

F. Preventative Recovery Period

1. A recovery period is essential for the prevention of heat illness. The supervisor is required to provide access to shade for employees who believe they need a preventative recovery period from the effects of heat and for any who exhibit indications of heat illness.
2. Access to shade must be allowed at all times, and employees must be allowed to remain in the shade for at least five minutes. If employees are wearing PPE including but not limited to respirators, face coverings, disposable coveralls, backpack vacuums, arc flash suits, and welding gear, they need to be allowed more frequent breaks to prevent overheating. These breaks may need to be longer to allow the employees to remove PPE to cool more completely. In addition, activities in hot locations like tunnels and some welding or pipe soldering operations will require more frequent breaks where the employees need to leave the area to a cooler area often.
3. The purpose of the preventative recovery period is to reduce heat stress on the employee. The preventative recovery period is not a substitute for medical treatment.

G. Heat Related Illness Response

1. Common early signs and symptoms of heat illness include headache, muscle cramps, and unusual fatigue. However, progression to more serious illness can be rapid, and can include loss of consciousness, seizures, mental confusion, unusual behavior, nausea or vomiting, hot dry skin, or unusually profuse sweating (See Appendix A).

2. When an employee displays signs or symptoms of early heat illness, move the victim to shade, provide cool water to drink, remove excess layers of clothing, place ice packs in the armpits and groin and fan the victim. Do not leave the victim unattended at any time. If an employee's condition does not improve after consuming water and resting, initiate medical emergency procedures.
3. When an employee displays signs or symptoms of severe heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), initiate medical emergency procedure which includes calling University Police Services (dial 7-911 from a campus phone or 702-895-3669 from a cell phone).
4. When any of the above occurs at a location in which a hospital is greater than 20 minutes away, initiate medical emergency procedures.
5. If any employee exhibits signs or symptoms of heat stroke emergency medical services must be contacted. Supervisors and workers in the vicinity must be able to provide clear and precise directions to the worksite and should carry cell phones or other means of communication to ensure that emergency services can be called.
6. All Supervisors and employees must be trained to recognize and respond to symptoms of possible heat illness.

V. TRAINING

A. Employees

1. Employees who work in outdoor places or in other areas where environmental risk factors for heat illness are present shall receive training in the following topics:
    - Environmental and personal risk factors for heat illness.
    - Procedures for identifying, evaluating, and controlling exposure to environmental risk factors for heat illness.
    - The importance of frequent consumption of hydrating fluids, e.g., up to 1 quart (4 cups of water) per hour, when environmental risk factors for heat illness are present. Particularly when an employee is excessively sweating during the exposure.
    - The importance of acclimatization.
    - Different types of heat illness and the common signs and symptoms of heat illness.
    - The importance of immediately reporting symptoms or signs of heat illness, in themselves or in co-workers, to their supervisor.
    - Understanding the procedures for contacting emergency medical services in the event of severe heat illness, and if necessary, for transporting employees to a point where they can be reached by emergency medical service.
    - Procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided to emergency responders.

B. Supervisors

2. Supervisors of employees who work in outdoor places or in other areas where environmental risk factors for heat illness are present shall receive training in the following topics:
    - The training information required of the employees, detailed above.
    - Procedures supervisors are to follow to implement the provisions of this program.
    - Procedures the supervisor shall follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

VI. RECORDS

All training records (electronic or hard copy) prepared in association with the Heat Illness Prevention Program will be maintained by the Environmental Health and Safety Department

VII. AUTHORITY AND CROSS REFERENCE LINKS

Nevada Department of Business and Industry, Division of Industrial Relations, Occupational Safety & Health Administration Guidance for Nevadan Business related to the Health Illness National Emphasis Program (Dated May 4, 2022)

VIII. APPENDICES

Appendix A – Symptoms of Heat-Related Illnesses
Appendix B – Document Revision History

Appendix A – Symptoms of Heat-Related Illnesses

HEAT-RELATED ILLNESSES	
WHAT TO LOOK FOR	**WHAT TO DO**
HEAT STROKE = Life-Threatening Medical Emergency	

• High body temperature (103° F or higher)
• Hot, red, dry, or damp skin
• Fast, strong pulse
• Headache
• Dizziness
• Nausea
• Confusion, altered mental status, slurred speech
• Seizures
• Losing consciousness (passing out)
	• Call 911 right away – heat stroke is a life-threatening medical emergency
	  ○ Call **University Police Services**:
	  702-895-3669 (from a cellphone)
	  7-911 (from a campus phone)
	• Move the person to a cooler place
	• Remove unnecessary clothing, including shoes and socks
	• Help lower the person's temperature with cool cloths or a cool bath
	• Do not give the person anything to drink

HEAT EXHAUSTION (may advance to heatstroke, if not treated)	

• Heavy sweating
• Cold, pale, and clammy skin
• Fast, weak pulse
• Nausea or vomiting
• Muscle cramps
• Tiredness or weakness
• Dizziness or lightheadedness
• Headache
• Fainting (passing out)
	• Move to a cool place
	• Loosen your clothes
	• Put cool, wet cloths on your body or take a cool bath
	• Sip water
	Get medical help right away if:
	  • You are throwing up
	  • Your symptoms get worse
	  • Your symptoms last longer than 1 hour

HEAT CRAMPS	

• Heavy sweating during intense exercise
• Muscle pain or spams
	• Stop physical activity and move to a cool place
	• Drink water or a sports drink
	• Wait for cramps to go away before you do any more physical activity
	Get medical help right away if:
	  • Cramps last longer than 1 hour
	  • You're on a low-sodium diet
	  • You have heart problems

HEAT SYNCOPE (FAINTING)	
• Fainting • Dizziness or lightheadedness	• Stop physical activity and move to a cool place • Drink water or a sports drink
HEAT RASH	
• Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in skin folds)	• Stay in cool, dry place • Keep the rash dry • Use powder (like baby powder) to soothe the rash
SUNBURN	
• Painful, red, and warm skin • Blisters on the skin	• Stay out of the sun until your sunburn heals • Put cool cloths on sunburned areas or take a cool bath • Put moisturizing lotion on sunburned areas • Do not break blisters

Appendix B – Document Revision History

Date of Review: 06/28/2024	
Section	**Change**
All	New Document
Date of Review:	
Section	**Change**
Date of Review:	
Section	**Change**