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Hydration Policy SPP# 1910.141 /1926.51

Quick Reference

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1.0 Purpose

Maintaining proper hydration is crucial for the health and safety of workers that engage in work activities in high temperatures, confined spaces, or engaging in physically demanding tasks. This policy outlines guidelines and procedures to ensure adequate hydration, prevent heat-related illnesses, and promote overall well-being.

2.0 Scope and Purpose

The hydration policy should be implemented under the following conditions:

- High Temperature: When the temperature exceeds 80°F (27°C).
- High Humidity**: When humidity levels exceed 60%.
- Extended Exposure: When workers are exposed to the sun or heat for more than two hours.
- Confined Spaces: When working in confined spaces where ventilation is limited.
- Physical Demands: During tasks that require intense physical effort.

3.0 Reference

This safety policy and procedure dealing with Hydration Safe Work Practices is established in accordance with NIOSH CDC, ANSI A10-50

4.0 Policy

It is the policy of NCDOT to provide a place of employment that is free from recognized hazards that cause or are likely to cause injury or serious physical harm to employees. This policy is to be utilized along with the current Heat Stress Policy.

5.0 General Responsibilities

It is the responsibility of each manager/unit head, supervisor, and employee to ensure implementation of NCDOT's safety policy and procedure for Hydration and Heat Stress Hazards. It is also the responsibility of each NCDOT employee to utilize this information 6.0and evaluate their overall health during all work practices.

6.0 Procedures

This section provides guidance to hydration and heat related activities.

6.1 Definitions

Heat Index

National Weather Service Heat Index which combines ambient temperature and humidity.

High Heat Trigger

Heat index of 90F or wet bulb globe temperature equal to the National Institute of Occupational Safety and Health recommended exposure limit.

Outdoors

An area not indoors including vehicles or equipment that do NOT keep ambient temperature under 80 degrees.

6.2 General Provisions

This section details the provisions of this safety policy and procedure with each provision discussed in a separate subsection. These provisions are:

- Hydration Guidelines
- Working in Confined Spaces
- Excessive Heat
- High Physical Exertion
- Monitoring Conditions
- Use of Energy Drinks
- Salt Tablets
- Use of Sports Drinks and Electrolytes

6.2.1 Hydration Guidelines

Water Intake: The body is 60%-70% water. The Mayo Clinic recommends water an intake of 13 cups per day for men and 9 cups per day for women. Hotter environments and/or strenuous activities may increase intake requirements. Therefore, workers should drink at least 8 ounces (approx. 240 ml) of water every 50-60 minutes during high heat or strenuous activities.

Electrolyte Substitutions: In addition to water, workers should have the option to consume electrolyte-replenishing drinks, especially during prolonged work periods in the heat and high humidity. Recommended electrolytes should include:

- Help retain water and maintain blood pressure.
- Potassium: Supports muscle function and prevents cramps.
- Magnesium**: Aids in muscle relaxation and function.
- Calcium: Important for muscle contractions and nerve function.

6.2.2 Working in Confined Spaces

Ensure proper ventilation.

Monitor temperature and humidity levels regularly.

Provide breaks every hour for hydration and cooling down.

6.2.3 Excessive Heat

Schedule heavy tasks for cooler parts of the day (early morning or late afternoon).

Provide shaded areas, tents or use of air-conditioned vehicles or rest areas for employee cooling stations.

Implement a buddy system to monitor signs of heat stress.

6.2.4 High Physical Exertion

Encourage frequent hydration breaks.

Supply cool water and electrolyte beverages.

Educate workers on recognizing symptoms of dehydration and heat stress.

6.2.5 Monitoring Conditions

Weather Monitoring: Use weather forecasts and on-site thermometers to monitor temperature and humidity.

Heat Index: Refer to the heat index to determine the perceived temperature and adjust work schedules accordingly.

Health Monitoring: Train employees and supervisors to recognize symptoms of dehydration and heat-related illnesses, such as:

- Headache
- Dizziness or light-headedness
- Muscle cramps
- Excessive sweating or lack of sweating
- Nausea or vomiting
- Rapid heartbeat

6.2.6 Use of Energy Drinks

As per the Centers for Disease Control guidance energy drinks as a form of hydration offered by the Department shall not be utilized.

6.2.7 Salt Tablets

Salt tablets **shall not** be provided by NCDOT as part of this hydration policy. Encouraging employees to follow a well-balanced diet is encouraged.

6.2.8 Use of Sports Drinks and Electrolytes

For days where employees will be experiencing heavy exertion tasks for long periods of time, management may elect to utilize sports drinks and/or electrolyte products along with water. Their use should be minimized as a small amount often is enough to ensure that the body has adequate minerals to optimize work.

6.3 Training and Education

Conduct regular training sessions including tailgate talks on the importance of hydration, recognizing signs of dehydration, and proper hydration practices.

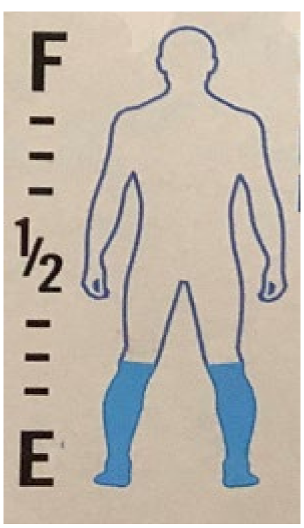
Provide educational materials and posters on hydration tips and heat stress prevention.

6.4 Emergency Procedures

Establish emergency protocols for treating heat-related illnesses.

Ensure that all workers know the location of hydration stations and first aid kits.

Train workers first aid for heat-related conditions, such as heat exhaustion and heat stroke.



<u>Consequences of Fluid Loss and Neglect of Fluid Balance</u>

2% - Impaired Performance

4% - Capacity for muscular work declines

6% - Heat Exhaustion

8% - Hallucination

10% - Circulatory collapse and Heat Stroke