

HOT/COLD ILLNESS PREVENTION

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10.1 PURPOSE

10.2 GENERAL

10.3 PREVENTING HEAT-RELATED ILLNESSES

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10.5 EMPLOYEE TRAINING

Exhibit 10A Heat-Related FA and Emergency Response Procedures

10.1 PURPOSE

To protect employees from hazards posed by working in the outdoor environment by: identifying, evaluating, and controlling potential exposure to extreme temperature, humidity, and other environmental factors; providing drinking water; providing training; and establishing procedures.

10.2 GENERAL

Heat illness is a result of four environmental factors consisting of temperature, humidity, radiant heat, and air movement that combine to exert an influence on the human body. Heat induced illness occurs when the stress created by heat overload exceeds the body's capacity to maintain normal body functions.

During the winter months, focus will be on environmental hazards associated with working in cold weather. This includes effects on the body and hazards.

10.3 PREVENTING HEAT-RELATED ILLNESSES

10.3.1 Evaluating and Controlling Heat Stress Factors:

Employees are responsible for monitoring their own personal factors for heat related illness including consumption of water or other acceptable beverage to ensure hydration.

In addition to outdoor temperatures, superintendents and foreman should evaluate other potential heat stress factors including:

- Radiant heat (reflection of heat from asphalt, rocks roofing or work in direct sunlight)
- Air movement (natural or mechanical ventilation, commercial fans)
- Conductive heat (heat generated from equipment)
- Workload activity and duration
- Personal protective equipment (wearing respirator, sleeves for welding, non-flammable suits)

10.3.2 Control factors such as engineering and administrative controls should be utilized

Controls to consider may include:

- Taking breaks in shaded areas (canopy, under trees)
- Starting the work shift earlier and ending earlier; avoiding working outside during the hottest part of the day
- Using cooling headbands or neck ties
- Employees should not work alone in the heat, the buddy system should be used
- Utilize natural and mechanical ventilation
- Utilize more frequent rest breaks

10.3.3 Hydration/Drinking Water:

All project work sites, fabrication facilities and any other location where T.A. Woods Company employees perform tasks must have access to clean, drinkable water whether through drinking fountains or portable water coolers filled with potable water from municipal sources or bottled water. Individual disposable cups must be provided. A waste container must be located in the proximity of the water cooler.

Drinking water container must be tightly closed and should be labeled “Drinking Only” along with the date. Only designated employees are permitted to remove the cap of the container. Employees are prohibited from drinking directly from the spout of the container.

When TAW is the controlling contractor, subcontractors will be responsible for following this same procedure or TAW will provide drinking water.

10.3.4 Procedures for Responding to Heat-Related Illness:

Superintendents and foreman or other designated employees will respond to heat-related illness in a quick and safe manner.

Exhibit 10A Heat-Related Illness First Aid and Emergency Response Procedures provides response directives to the following conditions:

- Sunburn
- Heat rash
- Heat cramps
- Heat exhaustion
- Heat stroke

Employees experiencing sign and symptoms of a heat-related illness are to cease work and report their condition.

10.4 PREVENTING COLD-RELATED ILLNESSES

10.4.1 Evaluating and Controlling Cold Stress Factors:

A body's first response to a cold environment is constriction of blood vessels of the skin that reduces heat loss from the surface of the skin by decreasing blood flow and/or shivering that generates heat by increasing the body's metabolic rate.

Environmental conditions that cause cold-related stresses are:

- Low temperatures
- Cool winds
- Dampness
- Cold water

Wind-chill is an important factor to evaluate when working outside.

10.4.2 Other Major Risk Factors for Cold-Related Stresses:

In addition to the cold environment, other major risk factors contribute to cold-related stresses:

- Inadequate clothing or wet clothing
- Drug use or certain medications may inhibit the body's responses to cold or impair judgement
- A cold or other disease such as diabetes, atherosclerosis and hypothyroidism, may increase risk
- Susceptibility increases with age

10.4.3 Harmful Effects of Cold:

Common harmful effects of cold include frostbite, trench foot, and general hypothermia.

Frostbite symptoms include an uncomfortable sensation of coldness; tingling or stinging followed by numbness. Initially frostbitten areas appear white and is cold to the touch. This is followed by heat, redness and swelling. Tissue damage can be mild to severe. First aid includes treating affected areas with warm water at 102 to 110 F. Frostbitten areas should not be rubbed as it can lead to greater tissue injury.

Trench Foot may be caused by long, continuous exposure to a wet and cold environment or actual submersion in water. Symptoms include a tingling and/or itching sensation, pain, and swelling. Blisters may form and be followed by death of skin tissue and ulceration. First aid treatment is similar to frostbite and

includes moving the victim to a warm area, treating affected area with warm water at 102 to 110 F or warm packs, and obtaining medical assistance.

Hypothermia is the progressive loss of body heat with prolonged exposure to cold. Body heat loss is accelerated more rapidly when a person is wet because of sweat or working in a damp environment. The first symptoms of hypothermia are uncontrollable shivering and feeling of cold. As the body's temperature continues to drop, confusion and disorientation may set in. Employees experiencing mild hypothermia should be immediately moved to a warm, dry shelter. Further heat loss is minimized by removing wet clothing and applying warm blankets. Warm, caffeine-free drinks may be offered. More severe cases require medical care.

10.4.4 Preventing Cold-Related Disorders:

Personal protective equipment includes:

- Dress in layers:
 - Outer layer to break the wind and allow some ventilation
 - Middle layer to absorb sweat and retain insulating properties
 - Inner layer of cotton or synthetic to allow ventilation and escape of perspiration
- Layer clothing to create air pockets that help retain body heat and allows for adapting to changes in weather and level of physical exertion
- Keep available a change of clothing if work garments become wet
- Pay special attention to protection of feet, hands, head, and face.
- Wear work boots that protect against cold and dampness

Environmental protection:

- Protect hands, face, and feet from frostbite with an on-site source of heat
- Shield work areas from drafty or windy conditions

Safe work practices:

- Select the warmest part of the day for outside work tasks
- Rotate work activities to avoid such as activities as sitting or standing for prolonged periods of time
- Prevent dehydration by consuming adequate amounts of fluids

10.5 EMPLOYEE TRAINING

T.A. Woods Company employees who may be affected by hot or cold weather illness will be trained to know the effects of heat illnesses on the body, the different types of illnesses, prevention methods, and first aid procedures for potential health effects of heat illnesses on the body.