



COLD WEATHER

Integrated Water Services, Inc.
(the Company)



Purpose

The purpose of this program is to address control measures to protect Integrated Water Services (the Company) employees from injuries or illness when working in cold temperatures.

Scope

This policy shall cover all Company employees when working in temperatures cold enough to cause injury.

Responsibilities

Safety Manager

- Implement and/or provide controls (engineering, administrative or personal protective equipment) to minimize cold stress where practicable.
- Provide training and education regarding cold stress, including early signs and symptoms of cold-related exposure.

Employee Responsibilities

- Identify and conduct a visual assessment of tasks where there is the potential for cold stress and then implement controls to protect from the cold.
- Adhere to all control measures or work procedures that have been designed and/or implemented to reduce exposure to conditions that could cause cold stress.
- Leave cold environments if signs or symptoms of cold-related injury occur.
- Wear all the required cold temperature protective clothing and PPE as appropriate for the actual and potential conditions.
- Immediately report any signs or symptoms of cold-related illness.

Cold Temperature Procedures

Health Effects of Cold Stress

Warning signs of hypothermia can include complaints of nausea, fatigue, dizziness, irritability, or euphoria. Workers can also experience pain in their extremities (hands, feet, ears, etc.), and severe shivering. Workers should be moved to a heated shelter and seek medical advice when appropriate.

Facilities

- Regularly used walkways and travel ways shall be sanded, salted, or cleared of snow and ice as soon as practicable.
- Employees must be knowledgeable of the dangers associated with working around unstable snow and ice build-ups both at and above walking and working surface, unstable snow build-up, sharp icicles and ice dams, and plan into their work how to prevent incidents caused by the same.
- When dangerous overhead build-ups of snow or ice are present, barricades will be used to prevent workers from walking or driving into potential danger zones.

Clothing, PPE, and Supplies

Proper cold weather protection must be worn by employees when working in cold, wet, and windy conditions. Protective clothing is the most important way to avoid cold stress. The type of fabric also makes a difference.



Cotton loses its insulation value when it becomes wet. Wool, silk, and most synthetics, on the other hand, retain their insulation even when wet. The following are recommendations (not requirements) for working in cold environments:

- Wear at least three layers of clothing. An inner layer of wool, silk or synthetic to wick moisture away from the body – a middle layer of wool or synthetic to provide Insulation even when hot - an outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Wear a head cover or hood under your hardhat. Up to 40% of body heat can be lost when the head is left exposed.
- Keep a change of dry clothing available in case work clothes become wet.
- Except for the wicking layer, it is not good to wear tight clothing. Loose clothing allows better ventilation of heat away from the body.
- Do not underestimate the wetting effects of perspiration. Often times wicking and venting of the body's sweat and heat are more important than protecting from rain or snow.
- Wear proper footwear. Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold since leather is porous and will allow the boots to "breathe" and let perspiration evaporate.
- Liner socks made from polypropylene will help keep feet dry and warmer by wicking sweat away from the skin. Always wear the right thickness of socks for your boots.
- Work clothing must be kept dry. Workers shall maintain a change of dry clothes in the event clothing becomes damp or wet in cold environments.

Preventative Controls That Are Implemented to Avoid Cold Induced Injuries

- Some preventive measures include drinking plenty of liquids, avoiding caffeine and alcohol.
- It is easy to become dehydrated in cold weather. If possible, heavy work should be scheduled during the warmer parts of the day.
- Take breaks out of the cold.
- Try to work in pairs to keep an eye on each other and watch for signs of cold stress.
- Avoid fatigue since energy is needed to keep muscles warm.
- Take frequent breaks and consume warm, high calorie food such as pasta to maintain energy reserves.
- If a worker exposed to cold shows signs or reports symptoms of cold stress or injury the worker must be removed from further exposure and treated by an appropriate first aid attendant, if available, or a medical care provider.
- For continuous work in temperatures below the freezing point, heated warming shelters such as vehicles, tents or cabins should be available. The work should be paced to avoid excessive sweating. If such work is necessary, proper rest periods in a warm area should be allowed and workers should change into dry clothes when work clothes dampen.
- New employees should be given enough time to get acclimatized to cold and protective clothing before assuming a full workload.
- For work below the freezing point, machines and tools should be designed so that they can be operated without having to remove mittens or gloves.

Training



Company employees who are required to work in cold weather conditions will receive initial and annual awareness training regarding the health effects of cold exposure and proper rewarming procedures. The following will constitute adequate training:

- Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops below the normal 98.6°F to around 95°F the onset of symptoms normally begins. The person may begin to shiver and stomp their feet to generate heat. Workers may lose coordination, have slurred speech and fumble with items in their hands. The skin will likely be pale and cold.
- Frostbite occurs when the skin freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30°F or lower, wind chill factors can allow frostbite to occur in above freezing temperatures. Frostbite typically affects the extremities, particularly the feet and hands. The affected body part will be cold, tingling, stinging, or aching followed by numbness. Skin color turns red, then purple, then white and is cold to the touch. There may be blisters in severe cases.
- Trench Foot or immersion foot is caused by having feet immersed in cold water at temperatures above freezing for long periods of time. It is similar to frostbite but considered less severe. Symptoms usually consist of tingling, itching or a burning sensation. Blisters may be present.
- While working in the cold, a buddy system should be used. Look out for one another and be alert for the symptoms of hypothermia.

Training required by this program is available at the company solution center located at www.iws.support.