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MONTHLY SAFETY BRIEF: COLD STRESS

Believe it or not, we have been doing monthly safety briefs for 5 years since 2015! Time flies! Some of the topics we have covered are worth repeating, especially since we have added many new staff members. This is a re-issue of a previous safety brief with some updates. It is intended to be timely to get us through another Chicago February warm and safe. Enjoy!

This safety brief provides a good overview of cold stress, but a more in-depth discussion is located within our Safety and Health Program in the Operations Drive. As with most potential employee exposure topics, your Project Manager is required to understand the work environments that workers may be exposed and conduct an appropriate risk evaluation and take measures to prevent exposures. This includes cold stress!

General Requirements –Cold Stress

As a Hygieneering field worker, you should understand the health effects of cold exposure, proper rewarming procedures, recognition and first aid for frostbite and hypothermia, required protective clothing, proper use of warming shelters, the buddy system, vehicle breakdown procedures, and proper eating and drinking habits for working in the cold. The following addresses these issues:

- 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 in order to generate heat. Workers may lose coordination, have slurred speech, and fumble with items in the hand. The skin will likely be pale and cold.

- Frostbite occurs when the skin actually 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.

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 for working in cold environments:

1) 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 wet. An outer wind and rain protection layer that allows some ventilation to prevent overheating.
2) Wear a hat or hood. Up to 40% of body heat can be lost when the head is left exposed.
3) Wear insulated boots or other footwear.
4) Keep a change of dry clothing available in case work clothes become wet.
5) With the exception of the wicking layer do not wear tight clothing. Loose clothing allows better ventilation of heat away from the body.
6) Do not underestimate the wetting effects of perspiration. Oftentimes wicking and venting of the body's sweat and heat are more important than protecting from rain or snow.

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.

Regularly used walkways and travel ways on Hygieneering property and at worksites under Hygieneering control are cleared of snow and ice and salted as soon as practicable.

When working in cold conditions, ensure you have good communication with your Project Manager and have a plan to meet your specific situation. If you need specialized (i.e. fire retardant) warm clothing, please contact your Project Manager.

COLD STRESS QUIZ

1) If you are working on a job that is outdoors in winter, you should:
   a. Make sure you wear appropriate layers to ensure you stay warm.
   b. Make sure your automobile is prepared for winter travel: snow tires, gas, blanket, etc.
   c. Make a cold stress plan with your Project Manager.
   d. All of the above

2) Frostbite occurs when the skin actually freezes and loses water.
   ☐ True
   ☐ False

3) Hypothermia occurs when body heat is lost faster than it can be replaced.
   ☐ True
   ☐ False

4) Up to 20% of body heat can be lost when the head is left exposed.
   ☐ True
   ☐ False

5) Which is a better fabric if it is cold out and you expect to get wet?
   ☐ Wool
   ☐ Cotton

SCORE: PASS/FAIL

Employee Signature _____ Supervisor Signature _____ Date _____