Not Cool . . . Brrrrrrr, It's Cold!

*Your employees need special support in cold situations and more yet in emergency cold situations.*

By Linda J. Sherrard  
Nov 01, 2010

Office workers returning from a conference are stranded overnight on an ice-covered interstate snarled with accidents and traffic, waiting for rescue. Deckhands on commercial fishing vessels in the Alaskan sea combat icy decks and tools while sheets of water flood over them. Food service workers toil in cold rooms, freezers, or loading trucks. Sanitation, utility, and emergency services employees provide critical services through worst winter can dish out.

Whether the exposure happens every day or once in a while, trying to work while cold is miserable. The damage can be extensive, ranging from being cold and uncomfortable to frostbite, chilblains, even death. Cold exposure builds up even more quickly if weather conditions are harsh, with severe wind chill, cold rain, snow, or sleet, and when workers are fatigued from long hours or tedious tasks.

Mistakes will be made unless you avert them now. Consider your operation, facility, processes, and location on the map. If cold work processes or locations can even potentially be an issue, plan and prepare now before the worst of winter arrives:

- **Integrate your plans to include cold stress factors.** Assign responsibility for monitoring the weather, process changes, or movement of personnel.
- **Thoughtfully plan any work done in the cold.** Appropriate PPE, clothing, gloves, socks, shoes, weatherproof outer layers, and face protection are all critical.

Supervisor and upper management oversight is essential. Review all aspects of your emergency plans, co-op plans, scheduled and unscheduled maintenance activities, and everyday normal operations. If needed, walk the facility with a quality digital thermometer, taking readings and talking with employees. (This is real cold stress situation, not some odd worker who needs a sweater. Intensively cold working conditions can cause physical injuries, waste time, and destroy morale if not addressed and handled correctly. Help employees understand the dangers and the solutions. Rate the potential exposure, formulating precautions if a serious threat exists.

**Providing the Right PPE for the Conditions**

Some employees do not have a background of working in cold environments. Provide work hardening for those new to the process/location and offer methods to stay warm: increased break times, warm rest areas, and plenty of food/hydration offerings. Monitor their progress through supervisors. Advise everyone of "safe options" for different situations and how to prepare (such as for ice storms). Have awareness and policy items to back up sound judgment.

Any PPE item you can imagine needing for cold work environments has been developed and is ready in an array of sizes and materials for immediate shipping. It really is one-stop shopping now, with both distributors and manufacturers online or only a call away often with next-day delivery. Your list might include face protection, head protection, ear protection, wind vests and wind-blocking jackets, over suits, warming vests and hand warmers, gloves, water/wind insulated clothing, and special cold insulated foot protection and slip-resistant footwear/ice cleats. Don't forget glare protection! I highly recommend polarized safety sunglasses where needed. Include your employees in the selection process and hazard assessment because they know firsthand what is needed and what will work. Having employees' approval also helps to ensure they will wear the items.
Other items to consider:

- **Fire protection.** It may seem odd, but many employees take chances in cold environments, especially in emergency situations, with fire/heat units. Make sure reasonable options and adequate fire protection/extinguishment are in place.

- **Hydration.** A huge risk of any cold working situation is dehydration. Do your employees monitor what they drink and limit their caffeine? Are they offered warm drinks and rest frequently enough?

- **Fatigue.** Long hours and crisis situations take a toll on employees' alertness and ability to perform as needed. Make sure rotation and rest are part of the plan. Supervisors need to be monitoring alertness levels of these employees, too.

- **Tools of the icy protection trade.** Go the extra mile and have on hand the items employees need. You may need to thaw vehicle locks and start vehicles with dead batteries. Surface grit or chemical components will melt ice and snow. Prepare appropriate snow removal equipment, backup generators, food supplies, and water for crews who may be on emergency rotation or stranded on site. Have emergency kits in every vehicle.

- **Contributing factors.** Employees may be affected more by cold when they are taking certain medications, work while sick, or are unfamiliar with protective measures needed, or are in the midst of a panic situation. Combination situations can cause escalation (an emergency situation combined with power outages, for example). Materials such as plastics and metals may not work as expected. Things seize up, freeze over, die from low batteries. Think outside the box about what could go wrong.

- **Stress.** Those who work regularly in cold settings tend to be better prepared and are more hardened to adverse work conditions, and they know how to dress for the job. Situational cold exposures, such as non-routine maintenance activities or a vehicle becoming trapped on a highway during an ice storm, can be more dangerous, in my opinion. Such employees tend to underestimate the potential danger and exposure warning signs and take chances, often with disastrous results. Don't forget your family contact system: Your employees, especially emergency crews, occasionally need to check in with family to ensure they are OK. HR should try to monitor this because tempers may flare with higher-stress situations.

Listening is one skill upper management can do. In cold environments, most employees follow policy and safe work procedures. That being said, through their experience and exposure, they often have a better way to get the job done safely. Your employees need special support in cold situations and more yet in emergency cold situations. Safety must have a strong presence, seen and heard as it provides a level of comfort that everything that can be done is being done. Safety also can be the eyes of management and recommend changes that are good for employees' well-being.

**2010 OHS Cold Protection checklist**

Cold is miserable for the unprotected worker. Within only minutes, every task seems drudgery, with pain and extra effort while the employee concentrates only on getting back to warm. Injuries may not be noticed immediately because of the numbing of cold or may be misjudged by an uninformed worker.

Whether the isolated vehicle breakdown leaves employees in snowy, cold desolation or there are the day-to-day rigors of work in cold environments such as food service cold rooms, any employee who experiences cold need to be protected. There is a wide range of hazards when dealing with these environments: slippery walking conditions, dulled reactions due to fatigue caused by the cold temperatures, physical reactions to the cold, work materials not responding correctly, and employees hurrying so they can go back inside.

Managers must be responsible and monitor such work conditions closely to ensure employees have the physical protection needed and the training/awareness skills to protect themselves. In many of these environments, the conditions change, so follow-up and attention to detail matter for line supervisors and upper management.
Yes No Is there a consistent safety presence on your job site through active supervision, training, and administrative oversight for all employees? Safety is not a person, it is a shared responsibility.

Yes No Does someone at your site(s) take responsibility to monitor work conditions for changes that may affect thermal safety? Fast-dropping temperatures, falling snow, freezing rain, high winds, and wind chills can move any construction or outside trade job from reasonable to dangerous in a matter of minutes.

Yes No Has your workplace been assessed as to the need for occupational thermal protection and education on these working conditions? Evaluate infrequent natural disaster situations, such as ice storms, and working outside in areas not usually subject to extreme cold temperatures. Consider man-made hazards of cold rooms and freezers, labs, underground work, machinery issues, chemicals, below-ground work, process handling, and special or unique situation.

Yes No Was input offered from the worker's compensation specialist on your history of cold-related injuries, such as frostbite, chilblains, etc., and was this used to target locations or processes for extra effort, training, or PPE to reduce exposures?

Yes No Did you give special attention to walking and work surfaces where cold can cause extra slippery conditions, such as dock plates and entrances to cold processes and storage. Also note entrances where there is a greater potential for slips, trips, and falls. Smooth metal or tile flooring may be easier to keep clean, but cold condensation or icing can be disastrous for the busy worker in a hurry.

Yes No Is a plan in place for unique situations, such as heavily iced walkways, icy muck from snowstorms, or other cold debris buildup in connector areas or entrances that may cause falls?

Yes No Have you created appropriate lists of PPE (possibly including head/ear protection, layered thermal garments, gloves, face masks, and protection from rain/snow moisture)? Are employees advised to exchange if items get wet during extremely cold conditions?

Yes No Is thermal protection is clearly explained to all new employees as to their responsibilities on the job to use all proper PPE and to dress accordingly in cold environments? This may include dressing in layers, taking extra breaks, etc.

Yes No Are your PPE policy and procedures designed based on the level and type of hazards at the work site for all work types and shifts? It is monitored and updated as needed? Is this done by individual or committee?

Yes No Does this assessment include compliance for all full-time, part-time, temporary workers, as well as volunteers and visitors? Do supervisors have input into the assessment? How? Is this documented on every employee?

Yes No Are supervisors aware of all job tasks exposing employees to cold extremes? How are they advised of this? Do they know what is needed and why? Is there a call-back or monitoring system to check on employees working alone or in remote locations?

Yes No Are all employees advised as to when to use protective equipment, such as outer oversuits, thermal coats, gloves, insulated boots, etc.? Are they told how to use it properly? Have you considered sanitation of these, if they are reusable items?

About the Author
Linda J. Sherrard (lsherrard@ncdoj.gov), MS, CSP, is Safety Director and Workmens Compensation Administrator for the North Carolina Department of Justice and former technical editor of Occupational Health & Safety.

Copyright 2010 1105 Media Inc. See our Privacy Policy.