



Risk Control Services Technical Bulletin

Winter Weather Precautions

Background

Winter weather not only brings rain and snow, but increased potential for injuries to the public due to slips and falls. The following offers some guidelines to reduce the potential for injury, and to provide a first line of defense against suits due to those falls.

Pre-Winter Storm

Be prepared and plan for winter weather before it arrives. **Contract** your snow removal company and specify clearly, what the expectations are for when they will respond, and areas to be cleared. Obtain their certificates of insurance for workers' compensation, auto, and general liability. Check with your house counsel on what policy limits you will want to require. If you have sufficient "clout," there is a possibility that you could be added as a named insured on the removal firm's insurance.

If you are **not** using a snow removal service, **purchase** the proper snow removal equipment and materials such as the proper shovels and de-icing materials and have them available. You may need to purchase extra floor mats and "wet floor" signs. Store them in a location where they are easily accessible in the event of a storm. Make sure exterior lights are functional and replacement bulbs are available.

- **Establish** a communication process so that all personnel can be reached, not only for purpose of closing or delaying operations, but also for calling in additional staff for snow removal tasks. Get landline phone numbers, cell numbers, and e-mail addresses.
- **Conduct** a "tool-box" safety meeting with employees who will be involved in your plan. Review priorities and safe work practices, especially if employees will be shoveling snow (see tips later in this bulletin).
- **Document** your efforts on the Salt Log included in this bulletin. Consult with your house counsel on how long these records should be retained. Do not assume that because the winter has passed, there is no need to retain them. Lawsuits are frequently filed long after the snow is only a memory.
- **Investigate** falls and related incidents as quickly as possible. A sample accident investigation form that focuses on fall incidents is included in this bulletin. Respond to falls by the public with empathy, but make no statements admitting liability. If medical attention is needed, follow your company procedures.

There is no better way to keep ahead of a winter storm than with **NOAA Weather Radio (NWR)**, a small receiver device that can be purchased at many electronic stores. As the "Voice of the National Weather Service," it provides continuous broadcasts of the latest weather information from local National Weather Service offices. Weather radios come in many sizes, with a variety of functions and costs. The NWR network has been further advanced by the implementation of Specific Area Message Encoding (SAME) technology. The SAME allows the user to receive warnings only for their specific location. SAME receivers are a lifesaving tool, providing audible alert tones for any weather warnings.

Snow Shoveling

This strenuous activity can cause overexertion and back injuries. Here are tips for employees to reduce these exposures:

- If you experience pain of any kind, stop immediately and seek assistance.
- Choose a shovel that is right for you. A curved handle that is the correct length enables you to keep your back straight when shoveling. The length is correct when you can slightly bend your knees, flex your back 10 degrees or less, and hold the shovel comfortably in your hands at the start of the “shoveling stroke.”
- Push the snow, do not lift it. Pushing puts far less strain on the spine than lifting.
- Be sure your muscles are warm before you start shoveling. Cold, tight muscles are more likely to sprain or strain than warm, relaxed muscles.
- When you grip the shovel, make sure your hands are at least 12 inches apart. By creating distance between your hands, you increase the leverage and reduce the strain on your body.
- Your shoveling technique is very important. The American Academy of Orthopedic Surgeons recommends: “If you must lift the snow, lift it properly. Squat with your legs apart, knees bent and back straight. Lift with your legs. Do not bend at the waist. Scoop small amounts of snow in the shovel and walk to where you want to dump it. Holding a shovel of snow with your arms outstretched puts too much weight on your spine. Never remove deep snow all at once; do it piecemeal. Shovel an inch or two; then take another inch off. Rest and repeat if necessary. In addition, remember to move your feet rather than twisting your back.”
- Remember that wet snow can be very heavy. One full shovel load can weigh as much as 25 pounds.
- Pace yourself by taking frequent breaks to gently stretch your back, arms, and legs.
- Wear layered clothing, mittens or gloves, and a hat. Layering clothes will keep you warmer than a single heavy coat. Outer garments should be tightly woven and water repellent. Mittens or gloves and a hat will prevent loss of body heat. Mittens are warmer than gloves because fingers maintain more warmth when they touch each other. Half of your body heat loss is from the head.
- Cover your mouth to protect your lungs from extremely cold air. Avoid taking deep breaths; minimize talking.
- Watch for signs of hypothermia and frostbite. Frostbite is a severe reaction to cold exposure that can cause permanent harm to people. A loss of feeling and a white or pale appearance in fingers, toes, nose, or earlobes are symptoms of frostbite. Hypothermia is a condition brought on when the body temperature drops to less than 95°F. Symptoms of hypothermia include uncontrollable shivering, slow speech, memory lapses, frequent stumbling, drowsiness, and exhaustion. Hypothermia is not always fatal, but for those who survive there are likely to be lasting kidney, liver, and pancreas problems.
- If frostbite or hypothermia is suspected, begin warming the person slowly and seek immediate medical assistance. Warm the person's trunk first. Using your own body heat will help. Arms and legs should be warmed last because stimulation of the limbs can drive cold blood toward the heart and lead to heart failure.

Put the person in dry clothing and wrap their entire body in a blanket. Never give frostbite or hypothermia victim alcohol or something with caffeine in it, like coffee or tea. Caffeine, a stimulant, can cause the heart to beat faster and hasten the effect the cold has on the body. Alcohol, a depressant, can slow the heart and hasten the ill effects of the cold.

- Keep dry. Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses much of its insulating value and transmits heat rapidly away from the body.

Take small steps on wet and icy walkways. Use handholds to stabilize yourself when they are available. Asphalt and oiled surfaces can also be hazardous because rainwater may produce oil sheen and create slippery walking conditions.

Snow Blowing

The Consumer Products Safety Commission estimates that 3,000 persons are treated in emergency rooms in the United States for snow-blower injuries each year. Carelessness while operating a snow blower is a leading cause of injuries during the winter. Here are a few tips to keep you safe.

- Read the manual and become familiar with the equipment before operating it.
- An injury often results when a person uses their hands to clear clogged exit chutes. Snow blowing blades can continue to spin or be under some torque and can resume spinning as soon as the snow is removed. Blades may also be close to opening of the chute. The proper procedure to clear jams is to turn the engine off, wait more than five seconds, and then use a stick or other device to clear the obstruction. Never use your hands.
- Never leave the snow blower unattended when it is running.
- Do not add fuel to the snow blower when the engine is hot.
- Always be sure of your footing and keep hands, feet, and clothing away from machine's working parts.
- Make sure the discharge chute is not aimed at passing vehicles or pedestrians.
- Maintain the snow blower in good working condition.

Do not remove or modify such safety features as the shield on power driven parts or the "Auto Shut Off" safety switch.

De-icing Materials

After shoveling or using a snow blower to remove snow, there always seems to be a thin layer left over that quickly turns to ice as it melts and is compacted by tires or feet. It can be removed by sprinkling it with ice-melting granules that come in 5 lb. and 25 lb. bags. Caution should be used in choosing a chemical, because some chemicals can be corrosive to metal items such as cars or damage concrete and are toxic to plants. Following are primary chemicals found in most commercial de-icing products; read product labels carefully to determine content and check any warnings about use.

- **Sodium Chloride (rock salt).** This chemical is commonly used and is typically the least expensive de-icing material. It is effective down to about **5 degrees** and can be spread on top of ice and snow. It is not harmful to concrete but can corrode reinforcing steel. The salt is also more toxic to plants than some other products when it is washed into the soil.

- **Potassium Chloride** will melt ice at temperatures down to **10 degrees** and if used judiciously, will not harm vegetation. But, it can leave a white residue that may be tracked indoors and can corrode metal.
- **Calcium Chloride** can melt ice down to **25 degrees below zero** but does not prevent refreezing. It is less harmful to plants and concrete if used sparingly, but can corrode metal and can leave a residue that will harm carpets, tile, and shoes. It can also irritate eyes and skin.
- **Liquid potassium acetate** is a newer product effective to **15 degrees below zero** and can be applied with a garden sprayer before snow falls. It is biodegradable and listed as safe on vegetation and non-corrosive; however, it can be costly.
- **Sand:** Sand is applied to provide traction for cars and pedestrians but it does not work well as a de-icer. It is often used as a compliment to de-icing materials.

In The Lobby

- Safety experts recommend a three-step process for mats:
 1. A porous mat outside to pull off as much contaminant as possible from footwear;
 2. A smoother but still relatively rough mat in the foyer to pull off the next layer of contaminants and absorb moisture, and
 3. Walk-off mats to remove moisture so it is not tracked into the building.
- Provide umbrella and coat stands to prevent water from dripping across floors. Disposable umbrella bags can be provided on metal stands and are a great way to prevent dripping umbrellas from wetting your floors.
- Regularly change doorway mats that become wet.
- Provide for ample “caution” signage for all wet spots.

Parking Lots/Sidewalks

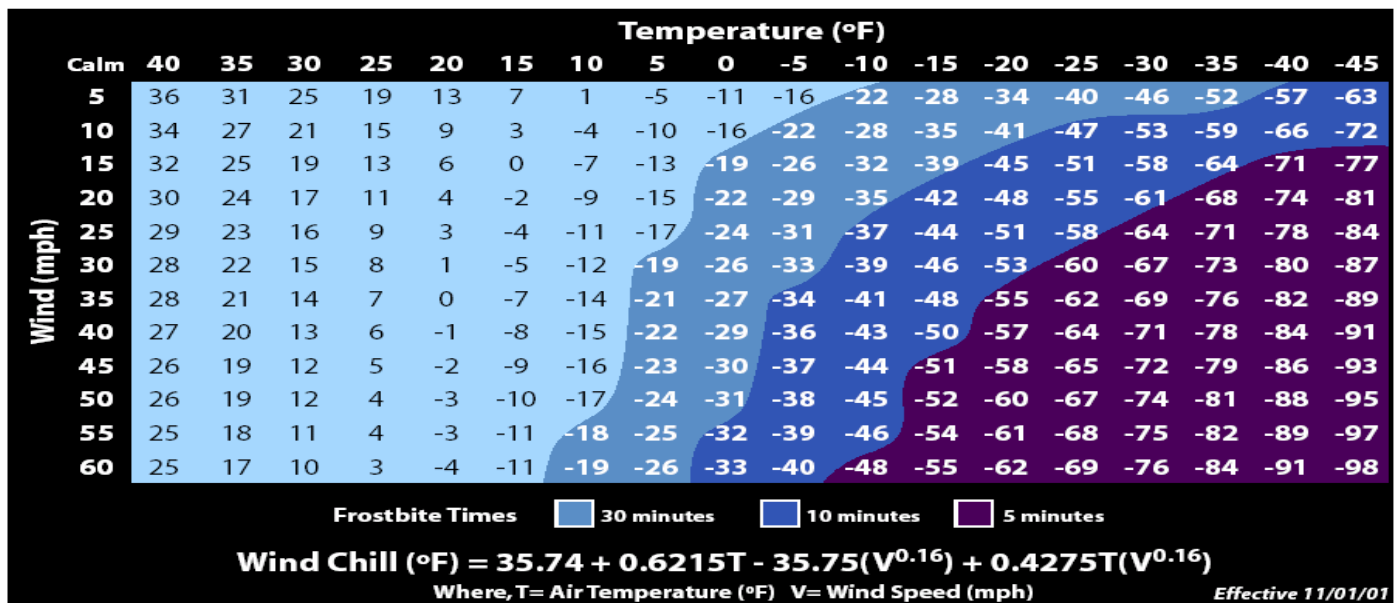
- Maintain all parking lots free of water accumulation – water should drain easily. Areas that accumulate water in warm wet weather can become “ice-rinks” when freezing weather hits.
- Maintain adequate lighting in parking areas and on sidewalks.
- Designate pedestrian crossing areas in parking lots and clearly identify speed bumps as well as curbs. Watch traffic patterns of pedestrians on your property; anticipate where they actually walk, as opposed to where you want them to walk.
- Repair all chips and/or cracks in sidewalks.
- Repair all potholes and/or cracks in the parking lot.
- Paint all car stops a contrasting color and allow them to be placed only on exterior edges of parking lots. No one should have to step over a car stop.

- Provide handrails on all steps/stairs and ramps with three or more steps or a steep incline.
- Repair leaking gutters that drain onto walkways.
- Direct all downspouts so that water is not allowed to re-freeze on walkways.

Steps/Stairs

- Minimize the use of one or two step isolated stairs.
- Minimize distractions surrounding stairs.

Wind Chill Factors



Know Your Winter Weather Terms

PMA Risk Control urges our customers to keep abreast of local forecasts and warnings and familiarize themselves with key weather terminology.

Winter Weather Advisories - inform you that winter weather conditions are expected to cause significant inconveniences that may be hazardous. If caution is exercised, advisory situations should not become life-threatening.

Winter Storm Warning: Issued when 4 or more inches of snow or sleet are expected in the next 12 hours, or 6 or more inches in 24 hours, or 1/4 inch or more of ice accretion is expected. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.

Winter Storm Watch: Alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Severe winter conditions, such as heavy snow and/or ice, may affect your area, but its occurrence, location,

and timing are still uncertain. A winter storm watch is issued to provide **12 to 36 hours** notice of the possibility of severe winter weather. A winter storm watch is intended to provide enough lead time so those who need to set plans in motion can do so.

Winter Storm Outlook: Issued prior to a Winter Storm Watch. The Outlook is given when forecasters believe winter storm conditions are possible and are usually issued 3 to 5 days in advance of a winter storm.

Blizzard Warning: Issued for sustained or gusty winds of 35 mph or more, and falling or blowing snow creating visibilities at or below ¼ mile; these conditions should persist for at least three hours. Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill. Be sure to listen carefully to the radio, television, and NOAA Weather Radio for the latest winter storm watches, warnings, and advisories.

Lake Effect Snow Warning: Issued when heavy lake effect snow is imminent or occurring.

Lake Effect Snow Advisory: Issued when accumulation of lake effect snow will cause significant inconvenience.

Wind Chill Warning: Issued when wind chill temperatures are expected to be hazardous to life within several minutes of exposure.

Wind Chill Advisory: Issued when wind chill temperatures are expected to be a significant inconvenience to life with prolonged exposure and, if caution is not exercised, could lead to hazardous exposure.

Winter Weather Advisories: Issued for accumulations of snow, freezing rain, freezing drizzle, and sleet, which will cause significant inconveniences and, if caution is not exercised, could lead to life-threatening situations.

Dense Fog Advisory: Issued when fog will reduce visibility to ¼ mile or less over a widespread area.

Snow Flurries: Light snow falling for short durations. No accumulation or a light dusting is all that is expected.

Snow Showers: Snow falling at varying intensities for brief periods of time. Some accumulation is possible.

Snow Squalls: Brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant. Snow squalls are best known in the Great Lakes region.

Blowing Snow: Wind-driven snow that reduces visibility and causes significant drifting. Blowing snow may be snow that is falling and/or loose snow on the ground picked up by the wind.

Sleet: Rain drops that freeze into ice pellets before reaching the ground. Sleet usually bounces when hitting a surface and does not stick to objects. However, it can accumulate like snow and cause a hazard to motorists.

Freezing Rain: Rain that falls onto a surface with a temperature below freezing. This causes it to freeze to surfaces, such as trees, cars, and roads, forming a coating or glaze of ice. Even small accumulations of ice can cause a significant hazard.

If you have any questions or would like additional information, please contact your local PMA Risk Control Consultant.

IMPORTANT NOTICE - *The information and suggestions presented by PMA Companies in this risk control technical bulletin are for your consideration in your loss prevention efforts. They are not intended to be complete or definitive in identifying all hazards associated with your business, preventing workplace accidents, or complying with any safety related or other laws or regulations. You are encouraged to alter the information and suggestions to fit the specific hazards of your business and to have your legal counsel review all of your plans and company policies.*



Slip /Fall Investigation Form

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____

Age _____ Sex _____ Date of accident _____ Time of accident _____ AM PM

Lighting: Daylight After Dark Dawn Dusk

Time of last area inspection by designated employee _____

TYPE OF ACCIDENT

LOCATION OF ACCIDENT

Slip/Fall
Misc. Injury
Misc. Employee Injury

Entrance/Lobby
Public Restrooms
Parking Lot

Stairs
Hallways
Other _____

SLIP/FALL

Condition of walking surface: Wet Dry Snow/Ice Other (if other, what was it?) _____

Describe shoes worn: Hard Sole Athletic High Heels Other _____

Description of Accident:

Probable Cause of Accident:

Nature of Injury:

WITNESS:

Name _____ Phone (____) _____

Address _____

City _____ State _____ Zip _____

What steps have been taken or can be taken to prevent similar accidents? _____

Name of person completing this report _____

Date _____ Time _____ AM PM