Winter Hazards

List the winter hazards on site.

Explain dangers

The cold temperatures and icy conditions that are often a part of Canadian winters can cause hazards at the workplace.

Cold stress—Exposure to the cold can lead to frostbite and hypothermia.

Hypothermia—The body can no longer maintain its core temperature, causing persistent shivering, confusion, and poor coordination.

Frostbite—Parts of the body are exposed to extremely cold temperatures or come into contact with cold objects, causing the tissues to freeze.

Slips and falls—Ice, snow, slush, wet surfaces, and mud (during a thaw) can cause slips and falls. A slip on the ground can cost you weeks off work. A slip at height can cost you your life.

Carbon monoxide (CO)—CO is a clear, colourless gas that you can’t smell or taste. It interferes with your body’s ability to use oxygen. Even in small doses, it can kill you.

Identify controls

• Wear several thin layers of clothing instead of one thick layer.
• Wear gloves, as well as a hat or other head covering that can fit under a hard hat.
• Wear one pair of thick socks or two pairs of thin socks.
• If you get hot when you’re working, open your jacket but keep your hat and gloves on.

To prevent slips and falls:

• Clean the ice and snow off the soles of your boots and from access areas and work platforms.
• Use sand, salt, or other draining material (too often forms on the underside of platform materials, so don’t just turn them over).
• When working at height, be extra careful in the morning since there may be ice and snow.
• Watch your footing. Platforms may be clear in sunny areas but icy in the shade.
• When walking, have at least one hand free to help keep your balance and cushion a fall.

To prevent exposure to CO gas:

• When heating an enclosed space, use an indirect-fired heater.
• Check propane vehicle-cab heaters for leaks and proper venting.
• Operate engines outdoors when possible.
• When engines must be operated indoors, take the following precautions:
  o Choose electric rather than fuel-powered equipment.
  o Make sure the area is well ventilated. Keep doors and windows open, and use fans to bring in fresh air.
  o Monitor CO levels regularly with a gas detector.

Demonstrate

• Describe methods of keeping a two-second distance between two vehicles.
• Demonstrate stopping distances for small and large vehicles.
• Show the blind spots of any vehicles that workers are expected to drive.

Work at Heights—Fundamentals of Fall Prevention

If your workers face fall hazards, you’re required to provide them with fall-protection training. Taught by IHSA experts, this full-day program explores the essentials of fall protection in the construction, electrical & utilities, and transportation industries. The course involves classroom instruction and hands-on exposure to some common equipment.

It replaces IHSA’s previous four-hour basics of Fall Protection course and training kit.

“...I believe that this program has the potential to become the ‘gold standard’ for basic fall-prevention training in this province.”

– Peter Fonseca, Ontario’s former Minister of Labour

To document what happens on site:

Supervisor Log Book (RF008)

Supervisor Log Book

M: $24.95
NM: $49.95

A competent supervisor keeps a record of daily events on the job. Designed with safety in mind, IHSA’s Supervisor Log Book contains safety analysis (LSA) form, due diligence checklist, and other helpful resources. Hardcover. 240 pages.

IHSA specializes in high-risk training at heights.
Returning home safe to your loved ones is a promise you make everyday.

Keep your promise.

Tragically in Ontario a worker dies almost every day from either a workplace injury or illness. They will not be able to keep the promise they made to friends and family to come home safely.

In every workplace, hazards need to be respected, controlled, and if possible, eliminated. Getting home safely each day requires respect for the hazards that can occur, no matter how remote the possibility. Learn how IHSA can help. Visit ihsa.ca
Contents

2012: The year in review ............................................................. 4
Small business .............................................................................. 6
Protect yourself from winter hazards ................................... 8
Falls blitz coming in February ............................................... 10
Ontario utilities help restore power in US after Hurricane Sandy ................................................................. 12
Labour-Management Network update .............................................. 14
Staging areas for concrete pumps and boom trucks ........ 16
Personal protective equipment and winter weather ........ 18
Vulnerable workers ................................................................... 20
Your New Year’s safety resolutions ...................................... 22

On the cover...
Winter often brings additional occupational hazards that we need to control. From driving to working outdoors, IHSA will help keep you and your workers safe this season.

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As we come to the end of another year as the Infrastructure Health and Safety Association, I look back with pride on our achievements so far. Our long and storied history of providing high-quality health and safety education to Ontario’s workers began in 1914 when the Workmen’s Compensation Act was passed, creating the Workmen’s Compensation Board and permitting the establishment by employers of sector-specific safety associations. In 1915, the Electrical & Utilities Safety Association—one of IHSA’s legacy organizations—was given the mandate to deliver safety education in a sector that was struggling with a 50 per cent mortality rate.

The Construction Safety Association of Ontario was formed in 1929 and the Transportation Health and Safety Association in 1942 to offer safety education in other high-risk sectors. So, prevention is not new for us—we have been providing high-quality sector-specific health and safety education for a combined 250 years. It’s our history, but it’s also the foundation we continue to build upon for the future.

While our first year as IHSA was focused on uniting our associations and establishing our new identity, our second year was about taking steps towards what we wanted to achieve in the future. In 2011, we developed a three-year strategic plan that is dependent upon IHSA’s ability to create unique value. In 2012, we focused on putting this strategic plan into action.

With the experience and expertise of our three legacy associations, we have built a one-of-a-kind organization that delivers high-risk-activity programs and materials to our members. No one else in Ontario’s prevention system offers the quality and scope of training that we do. We provide 85 unique training programs and 44 products at no charge to members. Thanks
to our service-delivery model and our highly skilled team of regional trainers and consultants, we have the unique ability to offer all our educational programs on demand, anywhere in Ontario.

IHSA’s commitment to quality is unmatched, and our philosophy of safety education through skills development will continue to make Ontario workers the safest in the world. Yet there is always more to be done. I have spent the past year travelling throughout the province and introducing our strategic plan to stakeholders. One question I am often asked is, after 97 years of facilitating the safety education mandate in Ontario, what is needed to make further improvements?

In my opinion, the answer is mandatory training standards. We desperately need a governing body to develop standards, establish curricula, and authorize training-delivery agents in order to facilitate effective training methodologies, including evaluation programs for high-risk activities. To that end, we have been working actively with the Chief Prevention Officer (CPO) to develop training standards and a health and safety strategy for Ontario.

Each new year brings new accomplishments and new challenges, and I am enthusiastic about the opportunities that now lie ahead of us. We continue to expand stakeholder engagement through our network of Labour-Management Committees, Advisory Councils, and Fleet Safety Councils. We are collaborating with stakeholders and other agencies to expand our capacity and reach out to new markets. Our new Centre for Educational Excellence initiative will ensure the quality of our deliverables by improving the excellence of our instructors and by embedding evaluation and ROI methodologies into our high-risk training programs. We will continue to take advantage of new technologies and training-delivery formats to reach small businesses and vulnerable workers. Many things may change, but our goal will always stay the same—the continued health and safety of Ontario workers.

Al Beattie, President and CEO
Small businesses are the economic foundation of Ontario. That was true in the past and continues to be true today. Last year, businesses with fewer than 50 employees made up 95 per cent of all businesses in Ontario according to the Ministry of Economic Development and Innovation. Small and medium-sized firms employed 2.8 million people in Ontario.

IHSA recognizes that the health and safety needs of small businesses are different from those of large firms. As with any other aspect of running a business, managing a health and safety program for four employees can be very different from managing a program for four hundred. That’s why ihsa.ca has a Small Business section with tools and resources designed to help small-business owners and managers navigate Ontario’s health and safety system. Here are some of the things you’ll find there.

**Online certificate programs**

IHSA recently added two new online certificate programs specifically for independent operators and small businesses. These two programs provide the basic health and safety information workers and employers need to get the job done safely. The flexibility gained from completing the courses entirely online is ideal for independent operators and small businesses. Once you’ve completed all the courses, IHSA will issue you a Health and Safety Certificate.

**Independent Operator Certificate**

This certificate requires the completion of three e-learning courses:

- Bill 168 – Achieving Compliance
- Workplace Hazards: Identification, Assessment and Control
- PPE (Awareness).

**Small Business Certificate**

This certificate requires the completion of five e-learning courses:

- Bill 168 – Achieving Compliance
- Workplace Hazards: Identification, Assessment and Control
- PPE (Awareness)
- Incident Investigation
- Workplace Inspections.

Visit the Small Business section at ihsa.ca for details.
Health and safety resources
In addition to the online certificate programs, our Small Business section outlines legislative and training requirements based on the number of employees you have. It includes best practice guidelines and free downloadable forms and checklists to help you document and organize your health and safety efforts. Visit ihsa.ca/smallbusiness today to find out what your business needs.

Supervisor Log Book
IHSA’s new Supervisor Log Book is perfect for owners or crew-level supervisors in small businesses. Designed with safety in mind, the log book contains safety talks, inspection checklists, a job safety analysis (JSA) form, a due diligence checklist, and other helpful resources. Visit ihsa.ca/logbook to order some for your firm.

Policy and Program Templates
For effective health and safety management, a firm’s health and safety policy and program are essential. But it can be a daunting task to create a complete policy and program that addresses the kind of work your firm does and the environments you operate in. Fortunately, IHSA has templates that help streamline the process. IHSA’s Policy and Program Templates were developed with small-business owners in mind. They give you a framework that covers everything you need to have in your policy and program. The templates are divided into 17 categories that walk you through each part of an effective policy and program. You can download them for free and then customize them to meet the needs of your company. Visit ihsa.ca and click on Policy and Program Resources (under Tools and Resources) to get started.

Booklets and manuals
IHSA has several booklets and manuals ideal for small-business owners. These publications explain your legal responsibilities and the training you are required to provide for your workers. They discuss the common hazards you and your workers face and ways to reduce the risk of injury. They also describe safe work practices you can use in your regular operations. Several of IHSA’s booklets and manuals are available as free downloads at ihsa.ca/products.

Coming soon to ihsa.ca!
In addition to everything that IHSA already offers for small businesses, members will soon have access to some new online tools. These tools are designed to help independent operators and small-business owners develop and manage their health and safety program. Visit ihsa.ca/smallbusiness for details.

Managing a health and safety program for four employees can be very different from managing a program for four hundred.

Bill 119—Mandatory Coverage in Construction—
came into effect on January 1, 2013. Independent operators, sole proprietors, some partners in a partnership, and some executive officers who work in construction must now register with the Workplace Safety and Insurance Board (WSIB). For details and to register, visit beregisteredbeready.ca.
The plunging January temperatures tell us that we’re well into winter. We’re past that holiday, honeymoon phase. All we’re looking forward to now are the remaining months of the cold Ontario winter. For some, winter brings a snow-filled playground. For others, spring can’t come fast enough.

Whether or not you enjoy the winter, you need to be aware of the occupational hazards that it brings. Cold, snow, and ice introduce new risks that you likely haven’t dealt with since last year and that may not be uppermost in your mind. Here are some of the main winter hazards that employers and workers alike need to be aware of, along with tips for staying safe.

**Cold stress**
For most of us, frostbite is something from our childhood. But for outdoor workers, it’s still a reality. Cold weather can freeze your flesh, causing frostbite and possibly gangrene. The places most prone to frostbite are fingers and toes that are exposed to the cold. Another threat when you’re working in freezing temperatures is hypothermia. The symptoms include shivering, blue lips and fingers, slow breathing and heart rate, confusion, and poor coordination. If not treated, hypothermia can result in death.

To prevent frostbite and hypothermia:
- Wear several layers of clothing rather than one thick layer.
- Wear synthetic fabrics close to your skin that “wick” the sweat away.
- Wear warm gloves, hats, and hoods.
- Make sure your boots aren’t too tight (you should be able to wear either one thick pair of socks or two thin pairs).
- Change your clothes immediately if they get wet in temperatures below three degrees Celsius.
- Eat and drink warm, high-calorie foods and drinks.

**Slips, trips, and falls**
Slips, trips, and falls from heights are always a hazard that you must protect yourself against. But during the winter, ice and snow add another dimension to that hazard.

To prevent slips, trips, and falls in winter:
- Wear boots with good treads and gloves that provide a safe grip.
- Put salt or sand on icy work surfaces before starting work.
- Remove snow from walkways frequently and don’t allow it to build up.
- Check ladders, vehicles, and other equipment for ice before climbing up onto them.
- Make sure the cold and ice haven’t damaged your tools or equipment such as ladders.

**Winter driving**
Even if you aren’t a professional driver, your work likely requires some driving. Whether you drive a transport truck, a dump truck, or a bucket truck, winter weather presents additional hazards that you need to be prepared for.
With temperatures dipping well below freezing, many workers try to keep themselves warm with gasoline-, propane-, or diesel-fuelled heaters. They often keep warehouse and garage doors closed to keep the cold out, which also keeps exhaust in. While staying warm may prevent frostbite and hypothermia, the carbon monoxide in the exhaust from heaters, vehicles, and other fuel-burning equipment can be deadly. Carbon monoxide (CO) is a colourless, odourless, and tasteless gas that can poison you. The first signs of poisoning are fatigue and headache, which can be followed by unconsciousness and heart failure.

When using heaters and other fuel-burning equipment (including vehicles) in an enclosed space, take these precautions:

- Whenever possible, use electric heaters or heaters that vent byproducts outdoors to eliminate the risk of CO poisoning.
- Make sure the area is well ventilated by keeping the doors and windows open.
- Check CO levels regularly with a gas detector.
- If possible, use exhaust hoses or fans to draw the exhaust out of the work area.
- Make sure heaters and other fuel-burning equipment are in good condition.

Visit ihsa.ca for more information on these topics, and if you are an employer, go over them with your staff.
Falls blitz
coming in February

Get ready for February—which is Fall Prevention month—and for the Ministry of Labour’s (MOL’s) enforcement blitz on slips, trips, and falls.

Unfortunately, falls are still one of the leading causes of fatalities and critical injuries across Ontario. In the industries served by the Infrastructure Health and Safety Association (IHSA), the number of lost-time injuries caused by falls in 2011 rose by 3.2 per cent from the previous year. Those statistics show that we need to do more to reduce falls in our industries.

Start the year off right by preparing for MOL's blitz on slips, trips, and falls. Throughout February and March, MOL inspectors will pay particular attention to slip, trip, and fall hazards when they visit workplaces. They will also be looking for evidence that everyone in the workplace knows his or her responsibilities for fall prevention under the Occupational Health and Safety Act and related regulations.

More specifically, inspectors will focus on:
- the duties of employer, supervisor, and workers under the Occupational Health and Safety Act and compliance with the requirements for fall protection contained in the regulations
- hazard recognition and controls, fall prevention best practices, adequate measures and procedures, and emergency planning
- safe use of ladders, including portable ladders, manufactured ladders, job-built ladders, and vertical ladders
- education and training of workers

Make sure all your workers have received fall prevention training. If you’re in the construction business, that’s mandatory. Visit ihsa.ca for details on IHSA’s Working at Heights training program. Here are some other tips to help you and your workers get ready for the blitz.

Preventing falls from heights
- Guardrails and floor opening covers should be your first choice when it comes to preventing falls. They offer the best protection because they actually eliminate the fall hazard if they’re set up properly. With guardrails in place, you can’t fall because there is no open edge. With secured floor opening covers in place, you can’t fall because they eliminate the opening.
• From time to time, you may have to remove one or more guardrails to allow a delivery or access to certain equipment. Remember that before a guardrail is removed, everyone working in the fall hazard area must be protected by another form of fall protection (such as a travel restraint or fall-arrest system). As soon as it’s possible, put the guardrails back.

• When it’s not possible to use guardrails, use a travel restraint or fall-arrest system and ALWAYS tie off to a suitable anchor point.

• Avoid working from ladders. Use a work platform whenever possible.

• Always maintain three-point contact when you’re going up or down ladders and when you’re climbing on or off vehicles or equipment.

Preventing slips and trips

• The best way to prevent slips and trips is to practice good housekeeping. Keep pathways and work areas clear of materials and debris.

• With snow and ice during the winter months, you need to take extra care to prevent slips and trips. Keep walkways, access areas, and stairs clear of snow and ice. Use salt or sand in those areas and ensure your boots provide good traction.

• Stack materials neatly and secure them so that they can’t fall into pathways or work areas. Make sure the surface they are on can support their weight.

• Make sure that cords from power tools and lights don’t pose a tripping hazard. Fasten the cords to the floor or keep them away from pathways and work areas. Unplug them when they aren’t in use.

Visit ihsa.ca and follow this link: http://www.ihsa.ca/topics_hazards/fall_prevention_wah.cfm. You will find posters, safety talks, and other resources to help you prepare for the blitz on slips, trips, and falls.
Ontario utilities help restore power in US after Hurricane Sandy

When our neighbours to the south needed assistance to rebuild their damaged electrical grid in the wake of Hurricane Sandy, Ontario’s utilities and utility contractors answered the call.

According to the Electricity Distributors Association, about 400 electricity distribution workers from 25 Ontario utilities have travelled to Long Island, New York and other Northeastern states to restore power to communities devastated by Hurricane Sandy. As well, utility contractors joined in sending workers from across the province.

Once their own Ontario customers’ power had been restored, crews travelled across the border to help the millions of customers that were without power while those utilities faced the enormous task of repairing the devastated electricity grid.

Workers returned home safely and have provided IHSA with photos of what they saw during their efforts. Special thanks to those utilities and contractors who provided photos. There are more to see on our website at ihsa.ca

Horizon staff had to work in jungle-like conditions to restore power on Long Island.

PowerTel’s convoy travelled to Rutland, Vermont.

Entegrus crews spent most of their time in West Amwell and Lambertville, NJ—and were made Honourary Citizens of Lambertville.

Horizon faced tough restoration conditions such as road damage.

Oakville Hydro was busy with many repairs.
London Hydro worked on backyard repairs in Long Island.

Gridlink employees worked long days for three weeks in Vermont and New York. Employees included Cambrian College Powerline Technician student Tegan Denley, seen here in Bedford, New York. She’s now back at school.

London Hydro worked on backyard repairs in Long Island.

PowerStream workers got some help themselves from this little assistant who handed out bottles of water.

PowerTel trucks prepare to cross the border at Highgate Springs, Vermont, just south of Montreal. This was 7 am Monday, October 29, 2012.

Oakville Hydro workers took to the streets of Hempstead, New York, to help repair the damage done by the hurricane and subsequent “nor’easter.”

PowerTel’s convoy travelled to Rutland, Vermont.
The Labour-Management Network of Health and Safety Committees is one of the principal reasons why Ontario is the safest place in North America for workers. The Network—which is the only one of its kind in North America—consists of the Provincial Labour-Management Health and Safety Committee for construction, as well as 16 Regional and 24 Trade/Sector Labour-Management committees. These groups represent hundreds of thousands of construction workers, trade unions, and construction employers. Here we feature some of the latest news and information from the network.

Supervisor seminar a popular event
A one-day session on supervisory training and communications best practices was held on September 6 at IHSA’s newly renovated training facility at 21 Voyager Court in Etobicoke.

IHSA’s Labour-Management Network arranged this comprehensive session to tie in with a Ministry of Labour (MOL) blitz of construction sites in which they were investigating supervisors’ credentials or general awareness of health and safety hazards.

The keynote speaker, Wayne D. L’Orme (pictured above), who is Assistant Director of the Occupational Health and Safety Branch at the Ministry of Labour, talked about the MOL blitz and provided important details about what to expect from MOL inspectors when they come calling during the blitz.

After the keynote address, the participants could choose to attend any one of four smaller sessions:

• John Kelly presented a session for supervisors on the use of log books, due diligence, and safety talks.

• Robbie Shaw gave a presentation on resources and research techniques, including auditing principles, the Certificate of Recognition (COR™), and site inspections.

• Lou Terpstra gave a session on inspections and running effective meetings.

• Doug Heintz hosted a presentation on effective communications, the use of personal influence, and adult education.

While the participants were enjoying lunch, they had an opportunity to network and visit with representatives of the MOL, the Workplace Safety and Insurance Board (WSIB), the Ministry of Transportation (MTO), the Electrical Safety Authority (ESA), and the College of Trades, all of whom were on hand to provide information on their organizations and answer questions.

During a panel discussion, guests from the MTO, MOL, WSIB, IHSA, and ESA gave a brief overview of what their respective organizations do and how they interact with supervisors. Then the floor was opened to the audience for questions about a number of workplace situations.
The Pipe Trades Committee investigated the benefits of pre-job stretching exercises at the jobsite. The committee decided that IHSA’s Before You Start Work Exercises Card (VO12) was a good tool for use in a worksite program on pre-job stretching exercises.

The Mechanical Advisory Council has endorsed IHSA’s recently completed Supervisor Log Book (RF008).

That is just a sample of the many activities taking place in the network. The committees strive to keep abreast of new issues and work with IHSA to come up with strategies to reduce hazards in the various industries IHSA represents.

If you would like to learn more about the IHSA Labour-Management Network of Health and Safety Committees, please contact George Iacono at IHSA.

Would this kind of session be of interest to your community or sector?

Due to the success of the communications seminar, some regional and trade committees may consider running another session. Watch for more information in the future.

Other projects

The Labour-Management Network is always busy with new projects and ideas. Here are just a few that the various committees have been working on:

- All Labour-Management Committee co-chairs met on September 5 to discuss topics of common interest and share information. The meeting was held at IHSA’s revamped Voyager Court training facility. Visitors were able to see the new classrooms and hands-on training facilities during the event.

- The inaugural issue of a new publication called Network e-News has been introduced and sent to all members of the network. This is based on a newsletter that used to be published by the former Construction Safety Association of Ontario; it was brought back due to popular demand. It is e-mailed to all members of the network.

- Occupational health risks brochures for a number of trades have been completed and are posted on the IHSA website under Products.

- The committees strive to keep abreast of new issues and work with IHSA to come up with strategies to reduce hazards.
Staging areas for concrete pumps and boom trucks

Concrete pumps and hoisting devices such as boom trucks are a common sight on most residential construction sites. But if these large machines are not set up properly, the result can be serious and even deadly. Recent incidents involving concrete pumps led to the formation of an IHSA sub-committee to study the problem and make recommendations to the homebuilding industry.

One solution was to plan the jobsite properly and create staging areas for concrete pumps and boom trucks. A staging area is a designated place to set up vehicles, supplies, and construction equipment for convenient use. Although there are no standards for staging areas, here are some things to consider when setting up concrete pumps and boom trucks.

**Access to jobsite**

Manoeuvring large equipment like concrete pumps and boom trucks through tight spaces on a busy jobsite can be dangerous. It also wastes valuable time. With proper planning, the jobsite can be more accessible and equipment can be put into place quickly and safely.

**Space for setup**

If concrete pumps and boom trucks have enough space to set up, they can properly deploy their outriggers, which prevent them from tipping over and causing injuries or death. If boom trucks have enough setup space, they will be able to get close enough to the work area to offload safely. When workers have to move the material manually, it increases their risk of developing a musculoskeletal injury.

**Access for emergency vehicles**

When planning a staging area, make sure to leave enough room for emergency vehicles to get through. If an injury happens, you want emergency services to get to the injured person as quickly as possible.

According to the Regulations for Construction Projects, the constructor is legally required to have emergency procedures in place and to provide access for emergency vehicles on a jobsite.
Staging areas

The best time to select the staging areas for concrete pumps and hoisting devices such as boom trucks is during the development phase of the project. Here are some best practices when setting up staging areas.

- Designate and mark specific driveways or other areas for setup. Once the concrete pumps and boom trucks are done, these staging areas can be used as delivery areas and temporary laydown areas for other trades.
- Identify overhead powerlines and the location of underground utilities so you can avoid them as much as possible.
- Set up temporary powerlines behind excavations or away from staging areas.
- Compact the soil around the staging area or cover it with stone so it will support the pressure of outriggers.
- Designate areas for excavated material or spoil so it won’t compromise the soil conditions around the staging area or affect the setup and operation of the equipment.
- Designate areas where concrete pumps and boom trucks can be cleaned out.
- Predetermine the size of the machines you’ll be using so you’ll know how much space you need.

Proper jobsite planning, which includes setting up staging areas for concrete pumps and boom trucks, can prevent most—if not all—of the hazards caused by large machines and equipment. People often think planning takes more work, but putting together an effective course of action can help simplify a lot of tasks, save time, and improve safety.

For more info, visit the Heavy Equipment topic page on our website or download our “Safe Setup of Heavy Equipment” safety talk.
Cold-weather tips
Warm clothing can help prevent a number of cold-weather hazards, such as frostbite and hypothermia. (For more about these hazards, please read “Protect Yourself from Winter Hazards” on page 8.) Cold temperatures can also reduce your mental alertness and manual dexterity, and that can lead to dangerous situations. The following tips can help you choose the right kind of clothing for cold weather:

- Wear several layers of clothing rather than one thick layer. The air that’s captured between the layers is an insulator.
- If the job allows it, wear synthetic fabrics, such as polypropylene, next to the skin because they wick the sweat away.
- Don’t have your clothing so tight that it restricts your movements.
- If the weather is wet as well as cold, be sure your outer clothing is waterproof, or at least water-repellent.
- Wind-resistant fabrics may also be necessary under some conditions.
- At air temperatures of 3°C (37.4°F) or less, workers whose clothing gets wet for any reason must immediately be given a change of clothing and treated for hypothermia.
- Encourage the use of hats and hoods to prevent heat loss from the head and to protect the ears.
- Balaclavas or other face covers may also be necessary under certain conditions.
- Tight-fitting footwear restricts the blood flow. Footwear should be large enough to allow for either one thick pair of socks or two thin pairs. Wearing too many socks can tighten the fit of footwear and harm rather than help.
- If you get hot while you’re working, open your jacket but keep your hat and gloves on.
- When you put on extra layers of clothing for warmth, make sure none of it will pose a hazard, such as by catching on machinery.

Everyone knows that personal protective equipment (PPE) is designed to protect them against threats to their safety or health in the workplace. But you may not realize that those threats can include cold temperatures and other kinds of severe weather.

As the temperature falls, workers who spend much of their time outdoors should be sure they are prepared for the cold. At the same time, they should still be able to use all of the PPE that’s required both by the law and by their employers. If you are an employer, you also need to think about eliminating the hazards of cold weather if at all possible.

It’s important to choose protective clothing that is suitable for the temperature, the work you will be doing, and the physical exertion that is required by the task. A person doing a physically demanding job may need different clothing than a person doing a more sedentary task.
PPE, as well as inner layers of clothing, should be made of an appropriate material, such as a natural fibre or an Arc/FR-rated material suitable for the type of work being done.

You should be aware that some undergarments or inner layers of clothing can be unsafe even if your outer layer of clothing is made of an approved material. For example, if a hoodie or turtle neck shirt that you're wearing under your winter jacket is made of non-Arc/FR-rated materials, it can melt in an arc flash incident and cause severe burns.

If you are required to wear rubber protective gloves, as utility workers are for example, your glove liners should also be made of a suitable material such as Merino wool.

Hard hats
Though it’s important to keep your head warm, you also have to be sure your hard hat is still protecting you. If you’re wearing a hat or hood under the hard hat, make sure it won’t allow your hard hat to slide off. Some hoods or “hoodies” can also block your view to the side. It may be safer to wear a winter hard hat liner.

Arc flash hazards
If you are working on or near energized equipment, it’s important not only to keep warm but also to make sure your clothing is rated for protection against arc flash hazards. Synthetic materials that can melt should not be worn by workers who are exposed to certain electrical hazards.

Footwear
When you are choosing protective boots, you should also be sure they are warm and will stay dry.

What the law says about PPE
Since the precise legal requirements for PPE are not the same for every situation or every trade, it is necessary to consult the relevant sections of the Occupational Health and Safety Act or the Regulation for Construction Projects (O. Reg. 213/91). Federally regulated firms should refer to the Canada Labour Code, Part II.
In July 2012, the Ontario Council of Agencies Serving Immigrants reported that the second-highest concern among immigrants was not having a thorough knowledge of English; about 33 per cent of newcomers said it was a barrier to their integration into Canadian society. Their top concern was to find a job. That may be why some of these workers are not willing to tell their employers that they don’t understand safety directions.

Employers should consider the language spoken on the worksite and how best to speak to workers in a way they will understand. It may be helpful to demonstrate safety hazards with images or pictograms and with gestures and hand signals.

Who are vulnerable workers?
Generally speaking, vulnerable workers are those who have recently moved to Ontario from another province or country, have just started their first job, or are returning to the workforce after a long absence. Vulnerable workers also include people who work in the “underground” economy, especially those who

Ontario’s construction and transportation sectors are in ever greater need of new workers to meet the demand for skilled tradespeople and labourers. However, when these new workers are from non-English-speaking backgrounds, the language of health and safety becomes difficult.

If those workers have not understood their training or their supervisors’ safety instructions because of a language barrier, they may be in danger on the job. Even workers whose first or only language is English may still need help if their literacy skills are low.

Ontario’s skilled trades are facing serious shortages, and the provincial government is putting more emphasis on immigration to fill these needs. For the first time, the Ministry of Citizenship and Immigration is emphasizing the essential place of skilled immigrants in Ontario’s construction trades. The Ministry points to these facts:
• Newcomers make up 30 per cent of Ontario’s labour force.
• Without continued immigration, Ontario’s working-age population will begin to decline by 2014.

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do not have documentation—such as a SIN card or citizenship papers—and refugees whose English is inadequate. Though they may be skilled at their work, the language barrier may result in more injuries in the workplace.

Vulnerable workers may be more exposed to injury and illness than other workers because of their lack of experience, reluctance to ask questions, difficulty with English, and the type of work they do.

In a September 2008 report, the Conference Board of Canada argued that there is an opportunity to increase both productivity and safety by improving literacy in the workplace. The report described a two-year study which found that

• workers with a lower literacy level may not understand all their health and safety rights and responsibilities
• workers who work in high-hazard areas or perform high-risk tasks may not fully understand the health and safety precautions required or the warnings given by their supervisors or employers.

**General tips**

There are a few things a company can do when it has vulnerable workers among its employees.

• Establish procedures and measures for workplace health and safety and make sure they are always followed.
• Be sure the proper equipment and personal protective equipment are provided and are maintained properly.
• Insist that all hazards, illnesses, and injuries be reported immediately.
• Provide proper and ongoing general training.
• Point out hazards in the workplace and provide training or instructions on how to handle them.
• Respond promptly to all health and safety concerns expressed by workers.
• Lead by example: Use and wear safety equipment when it is required and take part in drills and other emergency-response training.

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A new year brings new beginnings and time to reflect. What did we accomplish last year, and what do we want to accomplish in the year ahead? It is the perfect opportunity to review the activities of the previous year and use that information to set health and safety targets and objectives for the upcoming year.

As Lord Kelvin once said, “if you cannot measure it, you cannot improve it.” That’s why modern health and safety practice uses performance measures. Without clearly defined performance measures, it is difficult to show that your health and safety system is working. The measures provide quantifiable information about your progress towards a goal and help to identify trends. When monitored regularly they also let you detect quickly when something is heading off track.

When deciding what measures to use, you should consider the areas that are most important to your health and safety performance and then commit to tracking and reviewing these measures. Performance measures should be
- chosen objectively
- reliably measurable
- broadly applicable.

All measures should be broken down into simple and understandable terms so they can be explained easily to all staff. Measures should also include both leading and lagging indicators.

Leading and lagging indicators
Leading indicators are conditions and activities that precede and affect the occurrence of workplace injuries and illness. They can uncover weak areas before something serious happens. Leading indicators should be a mix of both qualitative and quantitative data. Some examples of leading indicators are hazard and near-miss reporting, workplace inspections, site visits, training hours, and audit findings.

Lagging indicators measure the safety of a workplace in hindsight. They are helpful for learning from what has already happened, but they are not clues to something that may be unsafe now. Some examples of lagging indicators are number of medical-aid incidents, number of lost-time and non-lost-time injuries, and frequency rates of lost-time injuries.

All the measures should be consistent with the organization’s health and safety policy and should be based on reviews of the health and safety system. Each measure should be clearly defined, and the responsibility for tracking it should be assigned to an individual or group.

There should be a schedule for regular reviews of each measure to ensure that they continue to reflect the desired improvements in health and safety performance. It is also important that the data be gathered the same way and from the same source every time it is being reviewed.

Your New Year’s safety resolutions

“If you cannot measure it, you cannot improve it.” – Lord Kelvin
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List the winter hazards on site.

**Explain dangers**
The cold temperatures and icy conditions that are often a part of Canadian winters can cause hazards at the workplace.

**Cold stress**—Exposure to the cold can lead to frostbite and hypothermia.

**Hypothermia**—The body can no longer maintain its core temperature, causing persistent shivering, confusion, and poor coordination.

**Frostbite**—Parts of the body are exposed to extremely cold temperatures or come into contact with cold objects, causing the tissues to freeze.

**Slips and falls**—Ice, snow, slush, wet surfaces, and mud (during a thaw) can cause slips and falls. A slip on the ground can cost you weeks off work. A slip at height can cost you your life.

**Carbon monoxide (CO)**—CO is a clear, colourless gas that you can’t smell or taste. It interferes with your body’s ability to use oxygen. Even in small doses, it can kill you.

**Identify controls**
- Wear several thin layers of clothing instead of one thick layer.
- Wear gloves, as well as a hat or other head covering that can fit under a hard hat.
- Wear one pair of thick socks or two pairs of thin socks.
- If you get hot when you’re working, open your jacket but keep your hat and gloves on.

To prevent slips and falls:
- Clean the ice and snow off the soles of your boots and from access areas and work platforms.
- Use sand, salt, or other de-icing material (too often forms on the underside of platform materials, so don’t just turn them over!)
- When working at height, be extra careful in the morning because there may be new frost and snow.
- Watch your footing. Platforms may be clear in sunny areas but icy in the shade.
- When walking, have at least one hand free to help keep your balance and cushion a fall.

To prevent exposure to CO gas:
- When heating an enclosed space, use an indirect-fired heater.
- Check propane vehicle-cab heaters for leaks and proper venting.
- Operate engines outdoors when possible.
- When engines must be operated indoors, take the following precautions:
  - Choose electric rather than fuel-powered equipment.
  - Make sure the area is well ventilated. Keep doors and windows open, and use fans to bring in fresh air.
  - Monitor CO levels regularly with a gas detector.

**Demonstrate**
- Describe methods of keeping a two-second distance between two vehicles.
- Demonstrate stopping distances for small and large vehicles.
- Show the blind spots of any vehicles that workers are expected to drive.

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