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Planning for safety

Evacuating people who need assistance in an emergency

A guide for building managers and occupants

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Canada

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Preface

Each of us needs to have a strategy for getting out of a building quickly in the event of a fire or other emergency—whether we are at home, at work or in a public area such as a mall, theatre or hotel.

Some people will need assistance to evacuate a building safely. For example, they may have difficulty using stairs or seeing exit signs.

This guide is intended for:

1) Building managers
2) Floor wardens
3) First responders
4) Building occupants, including people who need assistance in an emergency

Who needs assistance to evacuate a building in an emergency?

Anyone who has reduced mobility, a speech, hearing or visual impairment, or a cognitive limitation—regardless of whether or not these conditions are temporary or permanent—may need assistance to evacuate a building in an emergency.

For example:

- someone who uses a wheelchair or is temporarily using crutches due to an injury;
- a pregnant woman who is having difficulty walking long distances;
- a person who uses hearing aids during the day but removes them at night;
- an elderly person who needs a walker to get around; and
- someone who has difficulty understanding verbal or written instructions in either of Canada's official languages.

Building managers should use this guide to develop their overall building evacuation procedures.

Building occupants should use this guide to develop their individual evacuation plans.

Legislation and building and fire codes

This guide is based on the National Building Code and National Fire Code. Readers should also refer to the specific codes for their own province or territory. Appendix A and Appendix B highlight federal, provincial and territorial legislation as well as fire, building and housing codes.

References to legislation and building and fire codes in this guide are current at the time of publication.

Section 1: Purpose of this guide

The safety of building occupants is everyone's responsibility

This guide is intended to provide **building occupants** and **emergency managers** with information regarding the needs of at-risk individuals in emergencies and to provide practical strategies to ensure their safety.

Evacuation planning and preparation are essential to ensuring everyone's safety

Building and fire-safety codes and standards in Canada are continually being improved and updated, however, only recently have these standards begun to address the need for accessibility and exit strategies.

While buildings must be constructed in a way that enables everyone to enter easily, until recently, ensuring a rapid exit by at-risk individuals in the event of a fire or other emergency has not received the same amount of attention.

The first step in emergency planning is for emergency managers to navigate complex building and fire codes. The National Building Code has been adopted in its entirety in some provinces and modified in others. Municipal standards and bylaws must also be considered.

Terminology

For the purposes of this guide, building occupants who need assistance to evacuate in an emergency are referred to as ***at-risk individuals*** because, without emergency assistance, they may be more susceptible than others to danger.

The term ***emergency manager*** is used to describe building managers and floor wardens, firefighters and other first responders such as police, paramedics and other emergency personnel.

Elements such as visual alarms (e.g., blinking lights) and establishing areas of refuge and rescue are a step in the right direction, but emergency managers must ensure the evacuation needs of all at-risk individuals are met, and that evacuation procedures are communicated and practiced. At-risk individuals also have some responsibility for ensuring that their evacuation needs are met.

Number of people at risk increasing

Studies have shown that people with disabilities (both physical and intellectual) are at greater risk of injury or death in the event of a fire.

Across all age groups, those who are bedridden or who have a physical disability account for close to 8% of all fire-related deaths and nearly 2% of injuries. For those over 65, the rate of death jumps to more than 18% and the rate of fire-related injury triples to almost 7%.[1]

Significantly, the rate of disability—and therefore, the level of risk—increases with age. According to the 2006 Statistics Canada Participation and Activity Limitation Survey (PALS), over 13% of Canadians (more than 4 million people) are over 65 and close to half (about 43%) report some form of disability.

In the coming years, the number of at-risk Canadians is expected to grow by millions as the baby boomers, the largest population group, continue to age.

Universal design and universal fire safety

Universal design is a way to create products and environments that are usable by everyone, regardless of age or ability. The principles of universal design are viewed as a commonsense approach to integrating design practices that accommodate everyone, including older people, children and people with or without disabilities.

Universal fire safety means that all emergency managers and at-risk individuals have considered their responsibilities and roles and have practiced evacuation procedures.

The concepts of universal design and universal fire safety are now being incorporated as a global approach to design, development, management and operation of buildings and communication systems.

An International Organization for Standardization (ISO) committee called Accessibility and Usability of the Built Environment has dedicated considerable effort to developing adequate provisions for the evacuation of people with activity limitations and for incorporating these provisions into the concepts of universal design and universal fire safety.

1 Hall, John Jr., *Patterns of Fire Casualties in Home Fire by Age and Sex*, 1992–96. Fire Analysis & Research Division, National Fire Protection Association. Quincy, MA. June 1999.

A new, inclusive approach to emergency-evacuation planning emphasizes that the needs of all building occupants must be considered. This approach also stresses planning for, and practicing, the safe evacuation of all occupants. It includes addressing building communication systems and ensuring that a variety of different evacuation methods are available to meet the needs of permanent occupants and visitors.

After the disaster in the United States on September 11, 2001, the National Institute of Standards and Technology examined building performance and fire-evacuation procedures to study the experiences of different people with mobility impairments. For example, one survivor, a quadriplegic, had previously been involved in an evacuation and had a comprehensive plan that included the use of a fire-evacuation device. Many recommendations from this report are influencing changes to international codes and standards. Some of these are listed in "Appendix C: Useful resources" on page 26.

Emergency-evacuation procedures

In most provinces and municipalities, emergency managers are required to develop building-evacuation procedures for use in the event of a fire or other emergency (check the applicable requirements for your jurisdiction). These procedures should include the address and name of the building and a floor plan for each storey.

Each floor plan should show: the location of all main corridors and exits, the location of fire-protection equipment—including evacuation devices—and a list of all at-risk building occupants, including their usual location within the building. Evacuation procedures should also incorporate the individual evacuation plans of the building's at-risk occupants. (Individual evacuation plans are explained in Section 2.)

Evacuation procedures should also establish an area outside of the building where occupants can meet to ensure that everyone has evacuated the building safely.

Emergency protocols and procedures have three primary components:

- ***Fire hazard control***. The use of building systems such as fire pulls (alarms), fire doors that close automatically and horizontal fire separations (fire doors that divide a floor into separate areas).
- ***Fire protection system***. Areas of refuge and communication systems that ensure people can be notified of an emergency and kept safe until they can evacuate safely.
- ***Emergency evacuation***. Comprehensive procedures to ensure the safe evacuation of all occupants, including at-risk individuals who need assistance to evacuate, each of whom also has an individual evacuation plan.

Building managers should take steps to ensure that signage and building-evacuation procedures are produced in suitable formats for people with disabilities and in a variety of different languages for those occupants who may not have an adequate understanding of English or French.

Example

The following is an example of evacuation procedures recommended by the fire department in Delta, British Columbia.

If you discover a fire:

- activate the fire alarm
- phone 9-1-1
- fight the fire if it is small and you are not alone
- evacuate via the nearest exit
- do not use the elevator
- assist persons requiring assistance
- once outside, report to the fire department

The procedures also include a page for at-risk individuals.

People who require assistance

Name: _____

Disability: _____

Floor, suite: _____

Special information: _____

Name of assistant #1: _____

Name of assistant #2: _____

Section 2: What to include in an individual evacuation plan

Preparation and planning are the keys to surviving in an emergency situation, and strategies should be in place to prevent injuries for all building occupants. The more information that is captured in emergency procedures and plans, the better-equipped emergency managers will be in the event of an emergency.

In most Canadian jurisdictions, building managers are required to maintain a list of at-risk individuals in their building, whether it is a workplace or residential building. While individuals are not obligated to self-identify as being at risk, it is in their best interest to communicate their evacuation needs and abilities to avoid putting themselves and others at risk. Emergency managers and individuals should work together to plan the best, most suitable evacuation and assistance strategy.

The role of individuals who require evacuation assistance

- Communicate with emergency managers. Develop your plan through this discussion.
- Assess and disclose your abilities and limitations to emergency managers.
- What communication system works best for you: visual or audio?
- Does the building have appropriate notification systems for you?
- Do you use assistive devices? Do you require an evacuation device? Do you have a preferred lift or carry method, if this becomes necessary?
- Do you spend considerable amounts of time in various locations in the building? How will you be found in the event of an emergency?
- Is the building elevator capable of providing a safe exit for you during an evacuation or will you need to use the stairs?
- Make sure you are listed in the evacuation procedures for the building as someone who needs assistance to evacuate.
- Familiarize yourself with the building. Make sure you know the location of areas of refuge or safe holding areas, evacuation devices, fire-rated doors and accessible exit routes. Discuss these with emergency managers.
- Identify at least two exit routes.
- Identify “buddies” who are prepared to assist you during an evacuation. Engage your building neighbours in your plan.
- Update your plan if your needs or the names of your evacuation assistants change.
- Practice your plan whenever all building occupants are required to do so.

A checklist to help you develop your evacuation plan can be found on page 21.

The role of emergency managers

Communicate with building occupants to help them develop their individual plans. Here are some things to consider to ensure you understand their needs.

- What are their communication requirements? Is the person hard of hearing? Are they visually impaired?
- What are their physical strengths and weaknesses? Is one side of their body stronger than the other? Do they use assistive devices? Can the person stand or walk a few steps?
- What is their preferred method of lift or carry for evacuation?
- Are there one or two “buddies” (assistants) assigned to the individual?
- Does the individual spend considerable amounts of time in various locations in the building? How will he or she be located?
- Is the building elevator capable of providing a safe exit during an evacuation or will the individual have to use the stairs?
- What are the language needs of the building occupants? How many people will require assistance in languages other than English or French?
- Are evacuation devices available? Will they be required?
- Incorporate the evacuation plans of at-risk individuals into the overall evacuation procedures for the building.
- Lists of at-risk individuals and their evacuation plans should be kept confidential in accordance with the requirements of applicable privacy legislation.
- Put procedures in place for the evacuation of at-risk individuals and practice them whenever all building occupants are required to do so.

Keep these aspects of individual plans in mind as you develop evacuation procedures.

A checklist to help you develop or update building-evacuation procedures can be found on page 23.

Section 3: Making sure the building supports a safe evacuation

Interior doors and building exits

The Canadian Standards Association recommends that doors have a minimum "clear width" of 810 millimetres (32 inches); however, requirements vary across jurisdictions. Building occupants should identify those exits that are wide enough for them to use during an evacuation.

Most emergency exit doors have a panic bar that occupants simply push on to release the latch and open the door, although some require the user to move a latch to one side.

Fire doors in public buildings are sometimes held open magnetically. Generally, the magnetic release is activated by the fire alarm. When reviewing the evacuation route in a building, it is a good idea to check the doors along the route.

In general, buildings should have at least two accessible exits; the larger the building, the greater the number of accessible exits required (check the applicable requirements for your jurisdiction). Exit routes must be clearly marked so that building occupants are aware of their locations. Doors along the exit route cannot be locked or secured in a way that obstructs anyone attempting to exit. In high-security buildings, security systems may be integrated with the emergency alarm system so that doors along the exit route unlock automatically when the fire alarm is activated or when a "system failure" occurs.

Notification systems

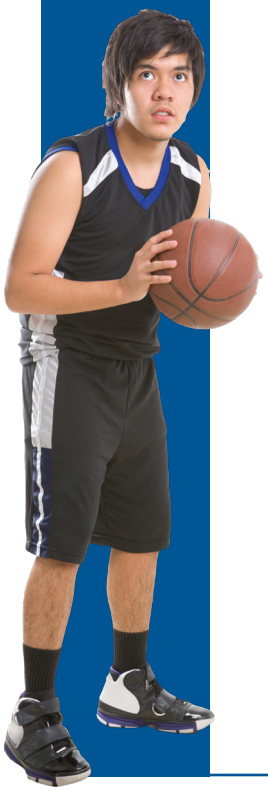
Buildings are usually equipped with either a one-stage or two-stage alarm system. When a one-stage alarm is activated, building occupants are required to evacuate the building immediately. In a two-stage alarm system, there is an initial alarm to notify building occupants that the alarm has been activated and they should stand by for instructions. If the second alarm is activated, occupants are required to evacuate the building.

Accessible notification systems include audible alarms, visual alarms (e.g., strobe lights) or a combination of visual and audible alarms. Visual alarms should be installed in common areas, gathering places, washrooms, workstations and anywhere a person might be alone. Fortunately, many new building codes require these visual alarms.

In a residential setting, it should be noted that people who are hard of hearing might be able to hear an alarm during the day with the benefit of a hearing aid. However, at night they remove the aid and are no longer alerted by an audible alarm. In such cases, they should plan to have an alternate alert system, such as a visual alarm like strobe lights or a vibrating-pad smoke detector (usually placed under a pillow). These devices are described in more detail in Section 4.

Building codes require that fire-alarm activation levers (pulls) be within reach of anyone seated or standing. In the event of an emergency, building occupants should follow posted information on how to trigger an alarm using a fire pull and notify the 9-1-1 call centre or fire department.

It is the responsibility of building occupants to become familiar with the notification system and ensure that it works for them.



Example of the need for an accessible notification system

Jiang is a young man who enjoys playing basketball and will be starting to play forward on his high school team. To perfect his shot he stays late after school most nights to practice shooting. Jiang is hard of hearing and wears hearing aids during the school day. If there is an alarm, he is able to hear it and also takes visual cues from his classmates to know when he should evacuate the building. When he is practicing basketball alone in the evening he often takes out his hearing aids. This leaves him virtually deaf.

One evening the fire alarm sounded. He could not hear it.

Problem

The school was not equipped with visual alarms and Jiang did not hear the audible alarm. It was only when the fire department arrived to put out the small fire in the science lab upstairs did they find Jiang in the gymnasium.

Solution

The use of a vibrating pager or the installation of visual alarms could be used to notify Jiang of an alarm. Individuals, regardless of whether or not they have a disability, should notify security if they are going to be in an unoccupied area of a building after regular hours.

Emergency communication

One of the responsibilities of building managers is to ensure efficient communication in the event of an emergency. Clear and efficient communication with everyone, including regular occupants and visitors, will enhance the safety of all building users during an emergency.

Hotels and other places of temporary accommodation pose an additional challenge that can be managed with an enhanced communications plan. Individuals, guests and visitors should be invited to register if they have any disabilities or limitations so their accommodation can be planned accordingly.

People who are blind or have reduced vision need to be given emergency information in a format they can use. For example, some building occupants may need information about emergency procedures in large print or in an electronic format.

Emergency procedures should be posted in a clear, easy-to-read format, such as 14-point type, to ensure a greater number of people are able to read it. Emergency procedures should be posted on the wall at a maximum height of 1200 millimetres (47 inches) and should be located in a prominent place.

If emergency procedures include communicating with building personnel, care must be taken to ensure that an emergency TTY (telephone typewriter) device is available for people who are deaf or hard of hearing. Use of a “relay service for the deaf,” where operators provide two-way translation between spoken words and typed text, is not appropriate in an emergency situation, which requires direct communication. As a secondary communication strategy during a power failure or other event, a “buddy” could be assigned to provide assistance.

At-risk individuals may use a speech synthesizer or electronic pager, or a mobile telephone or text telephone. All alternate communication options should be explored.

Signage

Accessible signs are those that include both tactile and Braille characters.

Signs should indicate the accessible exit route on all floors and in all rooms and staircases.

Fire-emergency procedures must be posted for building occupants to see. They should be provided in large print and mounted at a height that is visible to people who are seated, standing or moving. If building occupants need the information in another format, such as an electronic file or in Braille, the building manager should make appropriate arrangements to ensure that everyone is well informed about emergency procedures.

Exit routes

A clear evacuation route is very important in the event of a fire or other emergency. The accessible exit route should be clearly indicated and maintained so it is free of obstacles such as storage items or garbage containers.

Elevators

Most elevators are programmed to return to the ground floor when a fire alarm is sounded. However, elevators designed for use by firefighters are key-operated and can be controlled by either building emergency personnel or the fire service. In some jurisdictions, such elevators are used to safely bring occupants down to ground level.

According to the proceedings of the 2003 International Conference on Tall Buildings, "the desire for increased egress (exit) capacity of tall buildings to facilitate simultaneous evacuation has rekindled interest in elevators as a secondary means of egress for all occupants."[2]

Recently, Committee TC178 of the International Organization for Standardization (ISO) identified at least 12 countries that require firefighter-controlled elevators in tall buildings (i.e., buildings taller than 30 metres) to, "Provide for fire department access and to support operations as well as to evacuate people with disabilities." [3,4]

Stairs

It is important to consider the width of stairs that are to be used as part of an accessible exit route, and whether or not the stairs will accommodate someone being carried in a wheelchair or evacuation device. These devices vary in size and require an adequate width and manoeuvring space.

2, 3 Bukowski, Richard. *Protected Elevators For Egress and Access During Fires in Tall Buildings*. USA. Proceedings of the CIB-CTBUH Int. Conference on Tall Buildings, Malaysia. October 20–23, 2003.

4 International Organization for Standardization. *Comparison of Worldwide Lift (Elevator) Safety Standards: Firefighters Lifts (Elevators), ISO/TR 16765:2002(E)*. Geneva, Switzerland. 2002.

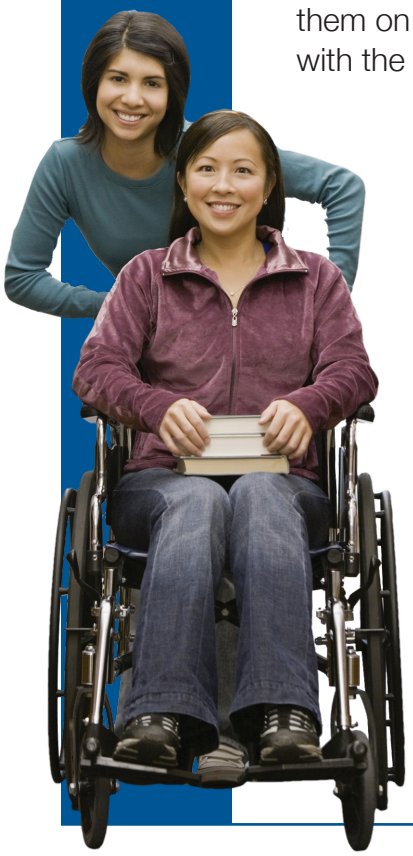
Example: The importance of training

Meera is a strong and vibrant paraplegic woman who uses a manual wheelchair to assist with her mobility. She is active in her community and works on the 9th floor of a large building complex.

She has her own individual fire-safety plan and knows who her fire warden and deputy warden are. She also knows they are the people assigned to stay with her in a designated area of refuge during an emergency. On several occasions they have discussed how she would like to be evacuated, although they have not practiced it. There is an evacuation chair available to her, but she does not like to use it as it means she will be without her wheelchair when she gets to the ground floor.

Situation

Around 5:00 p.m., at the end of the workday, there was an alarm. In keeping with her fire-safety plan, she and her wardens went to their safe area of refuge and used a phone in the area to contact building security. Security's role is to update them on where the fire is, instruct them on whether or not they need to evacuate and to communicate with the fire service.



The regular security person had already left and the person staffing the desk was unfamiliar with his responsibilities. Although security staff had access to a key that enables firefighters to control the elevator so it can be used to evacuate people who require assistance, security staff could not find the key.

Due to the lack of direction by the security staff, the wardens became concerned and carried her and her wheelchair down the stairs.

Upon arrival in the main lobby, the security person realized with alarm that other people with reduced mobility might still be in the building. Although security staff were required to maintain a list of people who needed assistance, they didn't understand the significance of their responsibilities.

Problem

Meera is unable to evacuate on her own. Even with an individual fire-safety plan, not everyone had been trained properly.

Solution

Security staff undertook additional training that included information on the location and use of the elevator key. The wardens, security staff and Meera all underwent additional training on her fire-safety plan, and practiced it to become comfortable with the process.

Areas of refuge/rescue assistance

Areas of refuge (or areas of rescue assistance) are safe, fire-protected areas connected to accessible routes where a person who needs evacuation assistance can wait safely until help arrives. This holding area is frequently located near the stairwell or the elevator lobby, but away from the evacuation route so it does not interfere with others.

Areas of refuge/rescue assistance must be equipped with a communication system connecting them to the building manager or emergency personnel. The area should have accessible signs and appear on all emergency-evacuation procedures so that all building occupants are familiar with the locations of these areas.

Areas of refuge/rescue assistance are required under the Canadian Standards Association's *Accessible Design for the Built Environment standard (CAN/CSA B651-04)* and these requirements are beginning to appear in building codes. Areas of refuge have successfully been in use in British Columbia for decades.

Section 4: People and devices that provide evacuation assistance

Evacuation devices

At-risk individuals may use aids and devices to assist them in their daily living. In addition, there are devices designed specifically for use in emergency situations.

Evacuation devices enable the safe evacuation of people with mobility issues. These allow someone to sit in a wheeled chair while being guided up or down the stairs by an assistant. Some devices require only one assistant while others require two. Some have anti-roll mechanisms or brakes, while others depend on the strength of the operator. Regardless of the type being used, it is important to practice using the device prior to an emergency situation.

In private homes or buildings with only a few stairs, it may be possible for wheelchair users to safely and quickly evacuate a building using portable ramps.

Alerting devices

There are a variety of signalling devices available that provide either visible, audible or tactile cues to signal an alarm.

Audible alarms for the hearing impaired use a lower frequency that is easier for many hard-of-hearing people to hear. There are also many combination audible-visual alarms readily available.

Vibrating smoke detectors have a small pad that is placed under the pillow that vibrates when the receiver is activated by a fire or smoke alarm.

Communication tools such as text telephones, mobile telephones and pagers are increasingly being used by everyone. They are an excellent form of communication as they can be used for both text and voice (audible) alerts.

A telephone typewriter (TTY) or telecommunications device for the deaf (TDD) helps facilitate communication by telephone with the hearing impaired. Because many 911 and other emergency-response systems do not incorporate the use of newer technologies such as cellular phones and pagers, TTYs are still commonly used.

The buddy system

Under the buddy system, friends or associates volunteer to provide assistance to an individual who cannot evacuate independently.

In the event of an alarm or emergency situation, the buddy and the person requiring assistance meet at a pre-arranged location. They then wait there for assistance, or at the closest area of refuge, or the buddy helps the other person to evacuate.

The fire service

Fire-service personnel have a dual responsibility: to fight fire and to ensure the safety of building occupants.

In the event of an emergency call, the first priority for the fire service is the resolution of the fire or emergency situation. While firefighters and other first responders are trained to conduct rescues, many fire departments advise firefighters to deal with the fire situation and to rescue a person only if that person's life is in danger.

Fire services operate under the assumption that people who require assistance to evacuate have a plan in place for independent or assisted evacuation that does not involve fire-service personnel. They also assume that this plan has been practiced with those responsible for the safe evacuation of a building.

In addition, members of the fire service are seldom trained on how to properly lift and carry someone with mobility issues. As a result, they are more likely to use the lifts they are trained to use, including a two-person lift or a firefighter's lift, which may not always be safest for a person with limited mobility.

Shelter-in-place

Shelter-in-place is a strategy where a building occupant remains in his or her office or residence until notified of further action. Shelter-in-place is a relatively recent strategy used in high-rise buildings where each unit is rated for fire (i.e., protected from fire for up to two hours).

Never adopt this approach without consulting the building manager and the local fire service.

Horizontal separation (fire door)

Horizontal separation is when a floor is divided by a fire-rated door to create separate areas for the safe, horizontal movement of building occupants.

Assembly areas

Theatres, lectures halls, museums and other public facilities pose a unique challenge as there may be a large number of people, including seniors and people who use wheelchairs, assembled in one room. Particular attention should be paid to the evacuation procedures for these areas.

Example: Ensuring the buddy system works

Leon is a quadriplegic man who uses a wheelchair for mobility. He has recently become less mobile and less able to perform certain tasks. His attendance at work is inconsistent and he works in an environment where staff changes frequently.

Leon has an individual fire-safety plan, and is familiar with his fire warden and deputy warden. They have discussed his evacuation procedure and have practiced it once. There is no evacuation chair available to him and he would prefer if one were available.

Situation

One day, the fire alarm sounded and one of his wardens, who was also trained as his buddy, was out of the building. It was lunchtime and only a few people were in the office. Leon was left with only one of his trained fire assistants.

Problem

Leon is unable to evacuate on his own. Even with an individual fire-safety plan and a buddy identified, a buddy is not always available to provide assistance.

Solution

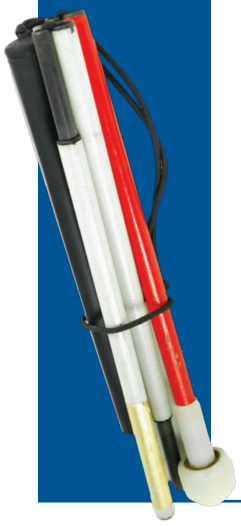
Leon's evacuation plan was updated to include additional buddies and back-ups. Additional training was provided to ensure that everyone was comfortable with the process. An evacuation chair was purchased for the office.

Section 5: Putting individual evacuation plans into action

Once a plan has been developed, it is extremely important to practice it. Practicing evacuation procedures when there is no emergency can provide everyone with peace of mind and a sense of confidence. Practicing allows participants a chance to evaluate the plan, identify and overcome challenges and avoid uncertainty during an actual emergency.

For example, individuals who require the use of evacuation devices should practice transferring into them. Someone who is deaf should practice communicating with his or her floor warden. In a practice session, a person with a service animal will be able to observe the behaviours of both the animal and the building occupants.

In residential high-rises, at-risk individuals should practice their emergency-evacuation plans with family or neighbours present so that everyone is familiar with the alarm system and expected procedures.



Example:
At-risk individuals need to make their concerns known

Donna lives on the top floor of a six-storey apartment building and works alone in her home office. She has had to adapt to vision loss, which is developing slowly. Building management has a list of all the people in the building who require evacuation assistance, including the many older adults in the building.

The building has fire drills, but evacuation procedures for people requiring assistance are not practiced. Although Donna has indicated she would like to practice the procedure for evacuating with her floor warden, this has never occurred. She is worried that in an actual emergency, people will be in such a rush to leave that no one will remember that she now requires assistance.

Problem

Donna is afraid that she will not be able to evacuate on her own. While the building has general evacuation procedures, they are not tailored specifically to meet her needs. She is also concerned about a number of residents in the building who also have reduced vision or hearing who would benefit from individualized evacuation plans.

Solution

Donna spoke with the building manager about her concerns and together they developed a fire-safety plan for her and ensured that it was noted on the building's evacuation procedures. In addition, building management sent a notice to all building occupants inviting them to think about their ability to hear the fire alarm and to evacuate the building if necessary.

Section 6: Emergency-evacuation planning checklists

The following checklists are intended to facilitate planning and communication between at-risk individuals and emergency managers to ensure that comprehensive emergency-evacuation plans and procedures are prepared.

Checklist for at-risk individuals

Building-evacuation procedures	Y	N	N/A	COMMENTS
Does your building have evacuation procedures?	❒	❒	❒	
Were evacuation procedures established in consultation with you, your emergency managers and your buddies?	❒	❒	❒	
Do you have an individual emergency-evacuation plan? (Use the section below to create one if you do not already have one.)	❒	❒	❒	
Do the building procedures incorporate your individual evacuation plan?	❒	❒	❒	
If the building does not have evacuation procedures in place, do you know who to speak to about them?	❒	❒	❒	

Checklist for at-risk individuals (cont'd)

Individual evacuation plan	Y	N	N/A	COMMENTS
Does your building have an alarm system that warns you of an emergency?	❒	❒	❒	
Do you have a communication system?	❒	❒	❒	
Do you have two accessible exit routes?	❒	❒	❒	
If not, do you know who to speak to about it?	❒	❒	❒	
Does your plan indicate how you can be located in the building?	❒	❒	❒	
Does your evacuation plan explain evacuation procedures adequately?	❒	❒	❒	
Is the building elevator system capable of providing a safe exit for you during an evacuation or will the stairs be needed?	❒	❒	❒	
Does your plan include the use of evacuation devices?	❒	❒	❒	
Does your plan include the assistance of buddies?	❒	❒	❒	
Does your plan specify whether or not to use a particular lift or carry method?	❒	❒	❒	

Instructions and training	Y	N	N/A	COMMENTS
Has training been provided on evacuation procedures?	❒	❒	❒	
Did you participate?	❒	❒	❒	
Did your buddy or assistant attend?	❒	❒	❒	

Checklist for emergency managers

Access routes	Y	N	N/A	COMMENTS
Are there at least two accessible exit routes from the building?	❒	❒	❒	
Is there an exterior access route to the main entrance (e.g., fire escape)?	❒	❒	❒	
Is the building accessible to people with mobility limitations?	❒	❒	❒	
Is the surface of the exit route stable, firm, level and slip-resistant?	❒	❒	❒	
Are the access routes at least 920 millimetres (36 inches) wide?	❒	❒	❒	
If there is a ramp, is the slope 1:20 or greater?	❒	❒	❒	
Is the route free of protruding objects?	❒	❒	❒	
Can the elevators be used for evacuation?	❒	❒	❒	
Is there an established outside meeting place?	❒	❒	❒	

Stairs	Y	N	N/A	COMMENTS
Do stairs have uniform risers?	❒	❒	❒	
Do stairs have a handrail on both sides?	❒	❒	❒	

Checklist for emergency managers (cont'd)

Doors	Y	N	N/A	COMMENTS
Are doors at least 810 millimetres (32 inches) wide?	❒	❒	❒	
Can the doors be easily unlatched and opened?	❒	❒	❒	

Signs	Y	N	N/A	COMMENTS
Are all signs free from glare and well contrasted?	❒	❒	❒	
Are there Braille and tactile signs?	❒	❒	❒	
Do the signs clearly indicate the accessible exit route?	❒	❒	❒	

Area of refuge/rescue assistance	Y	N	N/A	COMMENTS
Is there an area of refuge/rescue assistance?	❒	❒	❒	
Is there an area of at least 1500 x 1500 millimetres (59 inches x 59 inches) that will accommodate a wheelchair?	❒	❒	❒	
Is an evacuation device available at that location?	❒	❒	❒	
Is there a communication device in the area?	❒	❒	❒	
Is there a sign indicating the location of the area of refuge?	❒	❒	❒	
Does the area of refuge appear on the evacuation procedures for the facility?	❒	❒	❒	

Checklist for emergency managers (cont'd)

Communication	Y	N	N/A	COMMENTS
Is there a visual alarm (e.g., one with blinking lights)?	❒	❒	❒	
Are telephones available within a height of 1200 millimetres (47 inches)?	❒	❒	❒	
Are telephones equipped with volume control?	❒	❒	❒	
Is there a TTY or text telephone available?	❒	❒	❒	

Emergency-evacuation planning	Y	N	N/A	COMMENTS
Are there emergency-evacuation procedures for the building?	❒	❒	❒	
Have the evacuation procedures been posted/communicated?	❒	❒	❒	
Is the information available in different formats (e.g., Braille, CD, audio, verbal communications, large print, sign language)?	❒	❒	❒	
Do safety and health committees exist?	❒	❒	❒	
If so, were they consulted about the procedures?	❒	❒	❒	
Are there emergency-evacuation procedures in place for people who need assistance to evacuate?	❒	❒	❒	
Were the individuals consulted about these procedures?	❒	❒	❒	

Checklist for emergency managers (cont'd)

Instructions and training	Y	N	N/A	COMMENTS
Is training provided to everyone?	❒	❒	❒	
Is specific evacuation training provided to people who need assistance to evacuate?	❒	❒	❒	
Is specific evacuation training provided to buddies/monitors (people assigned to assist at-risk individuals to evacuate)?	❒	❒	❒	
Are training and information on safety and health available in different formats (e.g., Braille, CD, audio, verbal communications, large print, sign language)?	❒	❒	❒	

Personnel responsibilities	Y	N	N/A	COMMENTS
Have two buddies/monitors been assigned to each person who requires evacuation assistance?	❒	❒	❒	
Have emergency wardens been appointed for each floor in the building?	❒	❒	❒	
Are the buddies/monitors on the same floor as the emergency wardens?	❒	❒	❒	
Are the wardens trained to provide assistance?	❒	❒	❒	
Do emergency wardens meet at least once a year?	❒	❒	❒	
Are drills carried out at least once per year?	❒	❒	❒	
Does everyone participate in the drills?	❒	❒	❒	
Do people who require assisted evacuation participate in the drills?	❒	❒	❒	

Appendix A: Federal, provincial and territorial legislation in Canada

There are a number of pieces of Canadian legislation that protect the rights of people with disabilities. Until recently, however, legislation has not specifically dealt with ensuring the accessibility of emergency exits.

Federal regulations provide excellent recommendations for the development and implementation of fire-safety and emergency-evacuation plans for both public and private spaces. For example, section 125 of the *Canada Labour Code, Part II* states that:

> "… every employer shall, in respect of every work place controlled by the employer and, in respect of every work activity carried out by an employee in a work place that is not controlled by the employer, to the extent that the employer controls the activity… (o) comply with prescribed standards relating to fire safety and emergency measures; (p) ensure, in the prescribed manner, that employees have safe entry to, exit from and occupancy of the work place."

Part XVII (Safe Occupancy of the Work Place) of the *Canada Occupational Health and Safety Regulations*, Section 17, clearly outlines the legislated requirement regarding safe occupancy of the work place, specifically as it relates to emergency-evacuation plans.

Section 17.4 outlines who is covered by the plan and specifies what information it should contain, including evacuation procedures. Section 17.5 indicates that emergency procedures should be developed for everyone, including people with disabilities, and that each person with a disability should have an individual evacuation plan.

Sections 17.6 to 17.10 stipulate the training requirements and describe the roles and responsibilities of fire wardens and deputy wardens with respect to the development, training and execution of evacuation plans for people with disabilities.

Provincial human rights acts and codes across the country stipulate that no one may be discriminated against or denied accommodation, services, facilities or goods that members of the public customarily have access to. Nor may anyone with a disability be denied access to anything normally offered to the general public. The underlying principle is that an effective emergency-evacuation plan must be developed so that all individuals who have access to a facility are able to exit safely.

Appendix B: Building, fire and housing codes and regulations

Internationally, the new ISO TC59/SC16 *Accessibility and Usability of the Built Environment* standard identifies accessible exits as an integral component of an accessible, sustainable facility.

Canadian government facilities, transportation terminals, banks and postal outlets are all federally regulated and must comply with the Treasury Board Secretariat's *Real Property Guidelines*. These guidelines refer to the Canadian Standards Association (CSA) B651 *Accessibility of the Built Environment standard*. This CSA standard provides specifications for building components to ensure both buildings and exits are accessible.

However, there are some municipal fire codes that address evacuation plans. A leading example is subsection 2.8.2 of the Vancouver Fire By-law. It states that an acceptable fire-safety plan shall be prepared in cooperation with the fire department.

With respect to building interiors, except for Ontario, Quebec, British Columbia and Alberta, the majority of provinces have adopted the *National Building Code* (NBC). In some provinces and territories there are additional requirements regarding access and accessibility, but there are no corresponding requirements for fire-safety planning and evacuation.

The *National Building Code* has limited provisions relating to fire safety for people with hearing impairments. The NBC only requires visual signal devices in buildings used primarily by people with hearing impairments (Section 3.2.4.17[4]). In contrast, Newfoundland's *Building Accessibility Act and Regulations* requires that visual alarms be installed wherever there is an alarm system. Ontario, at a minimum, requires visual alarms in public corridors and places "where people may congregate."

In addition, the NBC provides the dimensions for clearance on each side of a horizontal exit in areas of refuge.

The *Ontario Fire Code* requires the development of a fire-safety plan for people who require evacuation assistance. For tall buildings, a copy of the facility's fire-emergency procedures, and a description of the duties of supervisory staff (as outlined in the fire-safety plan) must be given to all supervisory staff. In addition, fire-emergency procedures must be prominently posted and maintained on each floor. (See Ontario Fire Code, Sections 2.8.2.4 and 2.8.2.5.)

Key federal regulations

- *Real Property Guidelines, Treasury Board Secretariat*
- *Canada Labour Code, Part II, Occupational Safety and Health Regulations*
- *Fire Commissioner of Canada*

Federal government buildings are governed by the Treasury Board Secretariat's *Real Property Guidelines*. These guidelines relate directly to the provisions of the *Canada Occupational Safety and Health Regulations* enacted under the *Canada Labour Code*, Part II.

The guidelines stipulate that fire protection and services are to be delivered by Labour Canada through the Fire Commissioner of Canada.

The *Canada Labour Code* stipulates the steps that must be taken to provide fire-safety preparation and evacuation planning for each individual with a disability.

The Fire Commissioner of Canada is considered the technical authority on fire protection. The Fire Commissioner is responsible for the administration and enforcement of the Treasury Board policies, standards, codes and regulations that cover fire protection under the *Canada Labour Code*.

- *Canada Labour Code, Part II*
  Canada Occupational Health and Safety Regulations, Part I
  Interpretation: Alternate Media Provisions of Section 1.8

This section deals with alternate media and ensuring that all emergency, warning and directive communications are available to employees in a communication format that is suitable for their individual needs, be it audible, visible or tactile.

- *Canada Occupational Health and Safety Regulations, Part XVII*
  (Safe Occupancy of the Work Place), Section 17

This section of the *Canada Occupational Safety and Health Regulations* outlines the legislated requirements regarding safe occupancy of the work place, specifically as it relates to emergency-evacuation plans. *(See also "Appendix A: Federal, provincial and territorial legislation in Canada," page 23.)*

Appendix C: Useful resources

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Betty Dion Enterprises Ltd. *Fire Safety for People with Disabilities: Public Educators Kit.* "Background Information About People With Disabilities." Ottawa, Canada. 2005.
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Federal Emergency Management Agency (FEMA). *Emergency Procedures for Employees with Disabilities in Office Occupancies*. Federal Emergency Management Agency and US Fire Administration. 1999.
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Government of Canada. *Canada Labour Code, Part II, Canada Occupational Safety and Health Regulations, Part XVII*. Department of Labour. Ottawa, Canada.

Government of Canada. *A Guide for the Evacuation of Mobility-Impaired Persons*. HRSDC. Ottawa, Canada. www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/guide/mobility_immediate/page01.shtml

HM Government. *Fire Safety Risk Assessment: Means of Escape for Disabled People*. London, UK. 2007.

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National Fire Prevention Association. *Emergency Evacuation Planning Guide for People with Disabilities*. USA. June 2007.
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National Fire Protection Association (NFPA). *Remembering When: A Fire and Fall Prevention Program for Older Adults.* NFPA and the Centers for Disease Control and Prevention (CDC). USA.
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Office of the Fire Marshal of Ontario. *Municipal Fire Protection Information Survey*. 2007.
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Appendix D: Glossary of terms

Areas of refuge/ rescue assistance	A safe holding area where a person who needs evacuation assistance can wait safely until help arrives.
Buddy	An individual, friend or associate who volunteers to provide assistance to someone who requires assistance in an emergency situation.
Egress (exit) route	A clear evacuation route for use in the event of a fire or other emergency.
Horizontal fire separation	The dividing of a floor by a fire-rated door to create separate areas for the safe, horizontal movement of building occupants.
Notification system	A system to notify building users of an alarm, including devices such as audible alarms, strobe or visual alarms and combination visual-audible alarms.
Shelter-in-place	A strategy where building occupants remain in their unit (e.g., office or residence) until notified of further action.
Technical device/aid	A device that assists people with disabilities with daily living. There are also technical devices designed specifically for use in emergency situations.
Two-stage alarm	In a two-stage alarm system, an initial alarm is used to request that people remain in place and await instruction. A second alarm requires that everyone evacuate.
Universal design	The design of products, building interiors and other environments, programmes and services that are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Universal design does not exclude the use of assistive devices for people with disabilities who need them.