

Earthquake Planning for Businesses



April 1992

Prepared by:
Insurance Bureau of Canada
and

BC Gas
BC Hydro
BC Telephone
Municipal Authorities

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Introduction



Earthquakes and Your Business

This manual is sponsored by the Insurance Bureau of Canada and was prepared by representatives from various organizations (Reference: Acknowledgements - Page 44) for distribution to business owners and operators to assist in the audit of existing conditions and the improvement of earthquake preparedness in their business.

Experience in other jurisdictions indicates that many businesses are ill prepared for most disasters, particularly earthquakes. For example, in the recent San Francisco Bay Area earthquake, it is estimated that 50% of small business in Santa Cruz is permanently disabled. The directly related loss of jobs has significantly impacted the economy of the area.

This manual is not intended as a complete guide to emergency preparedness. Each building and type of occupancy brings with it individual conditions; each owner or operator must tailor plans to actual needs and operating styles.

In addition, this manual is not intended to address specific sectors or industries. It is intended as a primer that will assist small business managers or corporate emergency planners with a range of questions that will aid in the preparation of their own specific preparedness plans.

In summary, the intent of the manual is to help initiate the planning process and improve preparedness over time and as business needs and funding dictates.

As you proceed through the checklists, don't be discouraged if you have negative responses to many questions. **REMEMBER** that every corrective action resulting from a negative answer increases the earthquake preparedness of your business. The resulting information should help you prepare an emergency plan specific to your needs and requirements.

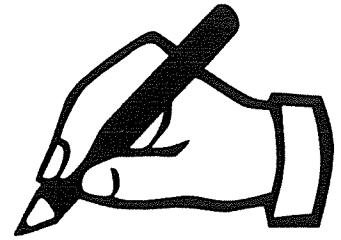
Questions, comments or requests for additional information should be directed to:

Your local city or municipal government, or:

The Insurance Bureau of Canada
409 Granville Street, Suite 1050
Vancouver, B.C.,
V6C 1W9

Telephone: (604) 684-3635.

Why Earthquake Planning is Important



The goal of earthquake planning is to promote safety, minimize impact and assist in a speedy recovery. Earthquake preparedness is the thrust of this manual.

Planning should be aimed at ensuring that your employees, facilities and business activities are prepared to meet emergency conditions.

If you are a building or business owner, your employees, building or business are your source of revenue. If these are disrupted in some way -- through physical loss, in whole or in part -- that income stream will be interrupted.

The emphasis in earthquake planning is to:

- Minimize potential for injury to employees/customers
- Evaluate hazards
- Reduce hazards
- Reduce expenses caused by loss and liability
- Put tested procedures and equipment in place, and
- Plan for business resumption immediately following an earthquake.

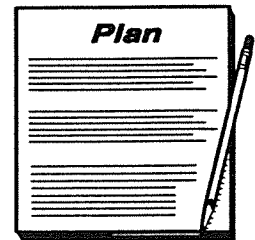
There have been several earthquakes of significant magnitude in Canada. The most serious loss of life in any recorded Canadian earthquake was in 1927, when a submarine earthquake magnitude 7.2 beneath the Grand Banks south of Newfoundland, caused an underwater landslide. This set up a seismic sea wave (tsunami) which drowned 27 people.

On the West Coast, magnitude 7 earthquakes occurred on Vancouver Island in 1918 and offshore in 1929. One of the best documented quakes was the 1946 magnitude 7.3 event near Courtenay. The shock was felt over most of Vancouver Island and throughout the Vancouver and Lower Mainland areas. Land slides and slumping occurred, but most of the serious damage was restricted to the east coast of the Island. Thirty schools had to be closed in the Courtenay region because of earthquake damage and one person was killed.

The largest recorded earthquake in Canada was a magnitude of 8.1 which occurred off the Queen Charlotte Islands in 1949. However, because the islands are sparsely populated, the amount of damage was slight.

British Columbia is susceptible to a major earthquake. The magnitude of such an earthquake cannot be predicted. However, recent events in California have heightened awareness on the need for emergency planning, preparedness and earthquake risk mitigation.

Business Pre-Emergency Planning



The overall objective in managing emergency operations is to ensure the effective and efficient response to emergency situations resulting from natural or human-induced disasters.

Specifically this will include:

- Policy direction of emergency operations
- Over-all management and coordination of emergency operations
- Co-ordination of requests for assistance and allocation of company resources and other support
- Establishment of priorities and resolution of conflicting demands for support
- Co-ordination of inter-regional aid and community based support
- Co-ordination, direction and distribution of emergency public and employee information
- Collection, evaluation and distribution of damage and other essential information
- Co-ordination and maintenance of liaison with appropriate governmental agencies and the news media

A most important consideration is that an undue reliance on the government emergency services may be unrealistic. For example, in a regional earthquake, you will probably need to be self-reliant for a minimum of 72 hours after a major earthquake.

In some cases, an Emergency Operations Centre (EOC) may be appropriate, particularly if your business is large or has more than one operating centre.

The EOC will centralize policy direction and overall management of emergency operations and recovery.

It is essential to select an appropriate safe location and provision of dedicated telephone and, if necessary, radio communication systems.

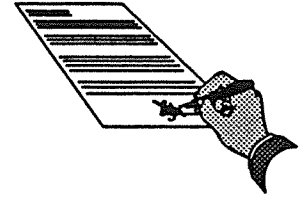
Activation procedures for the EOC are also essential. Conditions and personnel with authority to initiate use of the centre must be clearly defined and understood by management and employees.

A planning priority is to select personnel to staff the EOC and their roles.

There is a likelihood that essential lifelines such as roads, bridges, and transit systems could be severely disrupted during a major regional disaster such as an earthquake. Senior staff may be unavailable, injured at home or in transit. Continuity of management must recognize and plan for disruption of normal lines of authority.

Development of actual Emergency Procedures will differ from building to building and organization to organization. The sequence of events should follow the structure proposed in this guideline.

Your Risk Assessment



To decide how much action is required to reduce earthquake hazards, you must estimate your risk.

Earthquake risk varies from location to location, from business to business, from structure to structure, from person to person.

	Yes	No
Do you know if there is a risk of serious injury or even death for occupants of a specific building?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know the costs of repairing or replacing your building after a large earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know the cost to your business of not being able to use your buildings after a large earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Does your building comply with building and fire codes and other applicable requirements?	<input type="checkbox"/>	<input type="checkbox"/>
After being faced with a major emergency or loss of operating capacity, can your company or business recover its competitive position quickly and efficiently?	<input type="checkbox"/>	<input type="checkbox"/>

These may be difficult questions.

Risk assessment then, will form the basis of how much effort, time and money a business or building owner wishes to assign to each potential emergency condition and (as outlined in the next section) how much and over what period of time it is reasonable to improve a structure...if at all.

We can live more safely with the threat of earthquakes by understanding the risks and by taking reasonable precautions, such as those outlined in the following sections and check lists of this publication.

Further information sources are listed at the end of the manual.

Earthquake Preparedness



An essential ingredient in the risk reduction is **Preparedness**.

Earthquake Preparedness includes identifying and, where practicable, eliminating hazards where the impact of a major earthquake could:

- ➔ kill or injure people
- ➔ destroy or damage property
- ➔ ruin or impair business operations

It also includes both advance preparation and ongoing updates for the procedures needed to restore your operation in a timely manner following a major earthquake.

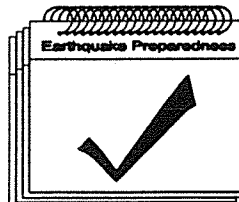
If your business is in a lease-owned building, you may be denied access to your facilities by the building owner pending a check of the building safety.

You should be aware that there's about a 75% chance of a major earthquake happening outside normal business hours.

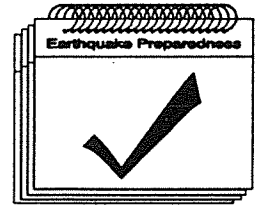
Preparedness Checklist



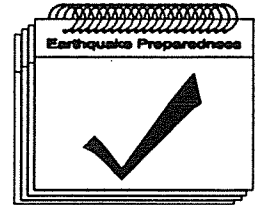
	Yes	No
Does your building or business have an Emergency Plan that includes earthquakes?	<input type="checkbox"/>	<input type="checkbox"/>
Does your building or business have an emergency preparedness program that acknowledges employees are its most important resource and their safety and well-being its major concern?	<input type="checkbox"/>	<input type="checkbox"/>
Does your business have someone responsible for developing/updating its Emergency Plan, with the responsibility to implement it after an earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Does your business have a specific Emergency Plan for each building occupied, and does it integrate with the emergency plans of other tenants?	<input type="checkbox"/>	<input type="checkbox"/>
Are there designated response personnel, including back-ups, within each building (and for each floor) that your business occupies in whole, or in part?	<input type="checkbox"/>	<input type="checkbox"/>
Do all persons who could be called upon to implement any portion of your Emergency Plan know what could be expected of them?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have clear, explicit and up-to-date notification procedures and a call-out list covering both business and non-business hours?	<input type="checkbox"/>	<input type="checkbox"/>



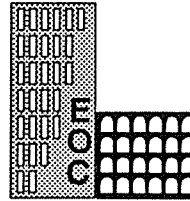
	Yes	No
If the earthquake occurs during winter months, knocking out the heating system for the office, is there a contingency plan for space heating?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware modern buildings with sealed windows may have to be evacuated if power fails during a very hot day due to a shutdown of air conditioning systems?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware any building may have to be evacuated if power failures prevent fans from clearing carbon monoxide, particularly from underground parking facilities?	<input type="checkbox"/>	<input type="checkbox"/>
Does your location require/have an emergency generator which automatically cuts in if commercial power fails? (If so, ensure it's securely anchored.)	<input type="checkbox"/>	<input type="checkbox"/>
Is the fuel supply sufficient to operate generator(s) for a minimum of 72 hours?	<input type="checkbox"/>	<input type="checkbox"/>
Does it have a low fuel alarm and flexible couplings for fuel and power?	<input type="checkbox"/>	<input type="checkbox"/>
Is the emergency generator tested once a month to ensure reliability?	<input type="checkbox"/>	<input type="checkbox"/>
Are there lists of maintenance personnel available to perform emergency repairs?	<input type="checkbox"/>	<input type="checkbox"/>
Does your location have battery-operated auxiliary lights which come on automatically if commercial power or emergency power fails?	<input type="checkbox"/>	<input type="checkbox"/>
Have emergency lighting levels been checked for adequacy?	<input type="checkbox"/>	<input type="checkbox"/>
Are batteries checked on a regular monthly basis?	<input type="checkbox"/>	<input type="checkbox"/>
Have provisions been made to protect fire suppression systems (sprinkler, Carbon Dioxide, Halon, etc.) from earthquake damage?	<input type="checkbox"/>	<input type="checkbox"/>
Has the company formulated a policy for the unique preparedness arrangements required for employees/customers having physical disabilities?	<input type="checkbox"/>	<input type="checkbox"/>
Does the plan take into consideration that outside help probably will not be available to the company for perhaps three days or more after a major earthquake?	<input type="checkbox"/>	<input type="checkbox"/>



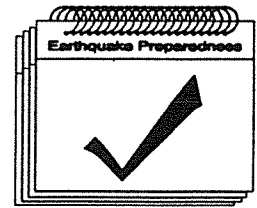
	Yes	No
Are interior partitioning walls securely anchored to the floor and to adjoining walls, with their tops adequately braced to the overhead structure?	<input type="checkbox"/>	<input type="checkbox"/>
Are lightweight restraining chains installed across the front of bookcase shelves to prevent them dumping their contents?	<input type="checkbox"/>	<input type="checkbox"/>
Are free-standing storage racks/shelves anchored to the floor and wall?	<input type="checkbox"/>	<input type="checkbox"/>
Are storage racks/shelves positioned "back to back" tied together with top braces?	<input type="checkbox"/>	<input type="checkbox"/>
Are heavier objects stored on lower shelves, lighter objects on higher shelves?	<input type="checkbox"/>	<input type="checkbox"/>
Are restraining bars installed a few inches above the base of each high shelf to prevent bulky items from being pitched out?	<input type="checkbox"/>	<input type="checkbox"/>
Have exterior building components been checked by qualified professionals for secureness and adequacy of support (such as awnings, chimneys, cornices, fascia, signs, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>
Have heavy mechanical or manufacturing equipment and appliances been adequately anchored or otherwise restrained?	<input type="checkbox"/>	<input type="checkbox"/>
Are separate hot water tanks strapped to a secure structural wall or equivalent to prevent movement and reduce probabilities for gas leaks/fires, water leaks, etc.?	<input type="checkbox"/>	<input type="checkbox"/>
Can large panes of glass that might shatter and injure employees be designed or installed to eliminate potential injuries?	<input type="checkbox"/>	<input type="checkbox"/>
Is glass that could break and injure employees used in the interior of offices for decorative or other purposes?	<input type="checkbox"/>	<input type="checkbox"/>
Are toxic materials (which include copying-machine toner and janitorial cleaning and other building maintenance supplies) safely stored?	<input type="checkbox"/>	<input type="checkbox"/>
Is space beneath desks and tables kept clear and readily accessible as a place of refuge during an earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
What percentage of your Office/Workplace Hazards Evaluation has been achieved to date?	_____ %	



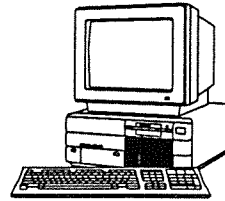
Emergency Operations Centre (EOC)



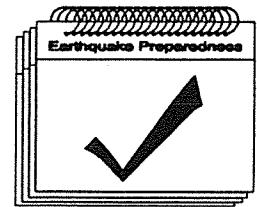
	Yes	No
Has your facility designated as the EOC been seismically evaluated?	<input type="checkbox"/>	<input type="checkbox"/>
Have you completed an evaluation of hazards associated with operating equipment and contents?	<input type="checkbox"/>	<input type="checkbox"/>
Will your emergency power supply support the EOC's needs for seven days for all essential equipment, including lighting, HVAC, communications equipment, computers, domestic hot water, cooking, fire protection, etc.?	<input type="checkbox"/>	<input type="checkbox"/>
Have provisions been made for dedicated telephone lines, satellite links, portable radios and alternate telecommunications systems for communications purposes?	<input type="checkbox"/>	<input type="checkbox"/>
Have you considered the use of HAM radio operators for information and for communications purposes?	<input type="checkbox"/>	<input type="checkbox"/>
Have you considered the security of your facility as part of your emergency plan?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have hard copies of the emergency plans for all groups within your organization for reference purposes?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have essential information regarding your business operation on computer hard drive?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have up-to-date drawings of all of your facilities available to the EOC?	<input type="checkbox"/>	<input type="checkbox"/>
Have you designated specific work areas within the EOC for the different operating units/groups?	<input type="checkbox"/>	<input type="checkbox"/>
Have you made provision for a specific room separate from the EOC to house and meet with representatives of the news media?	<input type="checkbox"/>	<input type="checkbox"/>



Electronic Data Processing Control Room Facilities



	Yes	No
Has your company developed a comprehensive disaster preparedness plan for its electronic data processing facilities?	<input type="checkbox"/>	<input type="checkbox"/>
Has your computer or control room facility been prepared to resist earthquakes in the following ways:		
➔ Have the built-up floors in the computer room been braced?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Are all walls and light fixtures braced?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Are all ceiling grids braced to handle sway?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Has the computer been placed away from walls or columns to minimize the possibility of damage due to falling objects?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Has computer equipment and tape storage shelving been anchored?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Have cables and their connections been tested for ability to resist a major earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Have air conditioning and cold water supply systems been made earthquake-resistant?	<input type="checkbox"/>	<input type="checkbox"/>
➔ Are there plastic or vinyl tarps/covers available to protect computers from leakage from fire sprinklers and pipes in the area?	<input type="checkbox"/>	<input type="checkbox"/>



Utilities Checklist



Gas	Yes	No
<p>Do you know that unnecessary shutoffs of natural gas or propane may result in long delays while waiting for service to be restored?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Do all employees know where the main gas service shutoff valve is located, if turning it off becomes necessary? Call your local gas utility office now if assistance is needed to find it.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Is there a crescent type wrench approximately 30 cm (12") long available in a location where anyone needing to turn off the main gas service valve will find it?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Have you contacted your gas utility if the meter appears vulnerable to vehicular traffic, or objects falling from overhead structures.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Is gas piping, water piping, sewage piping, electrical conduits, etc. secured against excessive movement and protected from objects that could fall from overhead structures.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>How much of your Gas Utility preparedness is complete now?</p>	<p>_____ %</p>	



Utilities Checklist



Telecommunications

Telephones should not be used except for emergency situations requiring assistance. Telephone services, including pagers and cellular phones, are likely to be congested right after a major earthquake because many people will be attempting to make calls at the same time. If a call must be made, stay on the line and wait for the dial tone. It's much

faster than hanging up and trying again because each new attempt goes to the end of the queue that exists. If there is no dial tone after several minutes, try the nearest coin telephone. Coin telephones are included in a pre-authorized group of services which are eligible for priority treatment.

	Yes	No
Coin phones may operate when business and home phones do not. Do you have a list of locations for nearby coin telephones and a supply of coins?	<input type="checkbox"/>	<input type="checkbox"/>
Have you pre-arranged for a distant (out-of-province) contact to act as your Message Centre in the event of a major earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Have key clients been pre-advised to check with that contact?	<input type="checkbox"/>	<input type="checkbox"/>
Have provisions been made for a communications system other than telephone so families of employees can be informed of the employees' conditions and vice versa?	<input type="checkbox"/>	<input type="checkbox"/>
Has a communication network been organized so families of employees can go to a central communication point near their homes where two-way radio or other link can be made with the office?	<input type="checkbox"/>	<input type="checkbox"/>
Has a notification network been established using "fan-out or alternate reporting site call procedures" to facilitate distribution of information to employees and their families?	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware that loss of electrical power will result in your telephone switchboard/network being inoperable?	<input type="checkbox"/>	<input type="checkbox"/>
What percentage of your Telecommunications Utility preparedness is complete now?	_____ %	



Your Employee Awareness Training

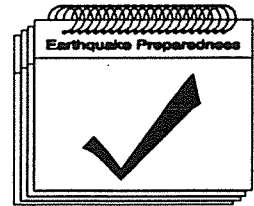
Employees fully aware of the potential impact of an earthquake in their place of work and at home will react well in the event of such a disaster.

If your employees are properly trained in their responsibilities and duties prior to, during, and after an earthquake, the magnitude of personal injuries, damage to equipment/property and business interruption can be kept at a minimal level.

Failure to educate and train your employees will increase the risk for significant losses in these areas.

The following checklist is designed to assist businesses to evaluate their awareness and training needs for emergency planning:

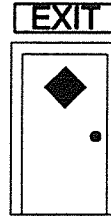
	Yes	No
Are emergency plans and procedures part of your company employee training program?	<input type="checkbox"/>	<input type="checkbox"/>
Does your program include earthquake preparedness at home for your employees?	<input type="checkbox"/>	<input type="checkbox"/>
Does that program include provisions for contact with family and friends of employees after an earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have an emergency response team to deal with all emergency situations?	<input type="checkbox"/>	<input type="checkbox"/>
Are objectives established for training and drills of emergency teams?	<input type="checkbox"/>	<input type="checkbox"/>
Have you developed an inventory of your company's emergency response training requirements, e.g. first aid, rescue, survival, fire extinguisher usage?	<input type="checkbox"/>	<input type="checkbox"/>
Have you completed a survey of your employees' skill levels?	<input type="checkbox"/>	<input type="checkbox"/>
Do all employees understand their duties and responsibilities during an emergency or disaster?	<input type="checkbox"/>	<input type="checkbox"/>
Are all floor plans prominently posted, showing exit routes and stairwells from floor areas?	<input type="checkbox"/>	<input type="checkbox"/>



Your Emergency Response Organization

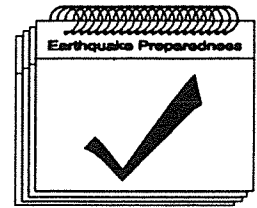


	Yes	No
Have floor wardens, monitors or coordinators been designated to organize employees, customers, and coordinate their activities after the earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Have emergency team members been trained in their duties, such as rationing food and materials, defining tasks and making assignments, determining if stairs are safe, directing evacuation and maintaining records of emergency supplies?	<input type="checkbox"/>	<input type="checkbox"/>
Have emergency response team members been given the responsibility and training for initial search and rescue immediately following the event (because help may be hours away)?	<input type="checkbox"/>	<input type="checkbox"/>
Have wardens been instructed in their responsibilities with respect to building management, city officials and other key emergency services personnel?	<input type="checkbox"/>	<input type="checkbox"/>
Have wardens been instructed to inspect each work area to determine what equipment and furnishings might potentially fall and injure employees?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a schedule for giving wardens training sessions once or twice a year?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company encourage employees to be trained in first aid and cardiopulmonary resuscitation?	<input type="checkbox"/>	<input type="checkbox"/>
Have drills been scheduled that are realistic enough to verify that procedures are sound and that important components have not been overlooked?	<input type="checkbox"/>	<input type="checkbox"/>
How much of your Emergency Response Organization is complete?	_____ %	

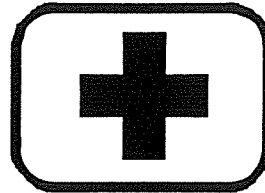


Your Evacuation Procedures

	Yes	No
Do all employees understand signals for evacuation?	<input type="checkbox"/>	<input type="checkbox"/>
Are all floor plans prominently posted showing exit routes and stairways from floor areas?	<input type="checkbox"/>	<input type="checkbox"/>
Are all exits clearly marked?	<input type="checkbox"/>	<input type="checkbox"/>
Is each exit route always kept free of obstruction with a minimum clear width of 1.1 metres (44 inches)?	<input type="checkbox"/>	<input type="checkbox"/>
Is every door leading to an exit always free to open from the interior so there is no chance of anyone being locked inside?	<input type="checkbox"/>	<input type="checkbox"/>
Do exit passages have emergency lighting?	<input type="checkbox"/>	<input type="checkbox"/>
Are there a minimum of two alternate means to escape from floors above or below ground level?	<input type="checkbox"/>	<input type="checkbox"/>
Are elevators programmed to return to the ground floor level automatically in the event of an emergency?	<input type="checkbox"/>	<input type="checkbox"/>
How many of your Evacuation Procedures are complete now?	_____ %	

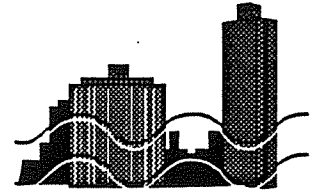


Your First Aid Supplies Checklist



	Yes	No
Are first aid supplies kept readily available?	<input type="checkbox"/>	<input type="checkbox"/>
Are first aid supplies in a cabinet safe from damage?	<input type="checkbox"/>	<input type="checkbox"/>
Are there enough medical supplies to handle a heavy casualty load that could result from an earthquake?	<input type="checkbox"/>	<input type="checkbox"/>
Are first aid supplies dispersed to locations throughout the office so that they are convenient to all employees and so they will not all be destroyed in a single event?	<input type="checkbox"/>	<input type="checkbox"/>
Are medical supplies portable in case they need to be moved to safer locations in an emergency?	<input type="checkbox"/>	<input type="checkbox"/>
Are the medical supplies secured so they will be available when needed and can be strictly controlled by the first aid attendant and/or warden?	<input type="checkbox"/>	<input type="checkbox"/>
Are there enough supplies to handle the needs of clients and others whom the business may have some legal liability to protect?	<input type="checkbox"/>	<input type="checkbox"/>
Are the first aid supplies regularly inspected and replenished?	<input type="checkbox"/>	<input type="checkbox"/>
Have selected employees been trained in the use of all the medical supplies?	<input type="checkbox"/>	<input type="checkbox"/>
Are supplies available to deal with corpses?	<input type="checkbox"/>	<input type="checkbox"/>
How many of your First Aid Supplies are ready now?	_____ %	

During an Earthquake



Employee Information

Remain Calm

At Work:

- Do not leave your work area unless you are clearly in danger where you are.
- Crouch down and cover your head and neck with your hands. Better yet, get under a nearby desk or heavy table and hang onto it; if it moves, move with it.
- Watch for falling plaster, bricks, light fixtures, and other objects.
- Keep away from file cabinets and other heavy objects that may fall.
- Move to the centre of the building. Move away from windows.
- Wait to use stairs until advised they are safe.
- Take directions from your floor warden.

Expect aftershocks ● Stay Calm

Outside:

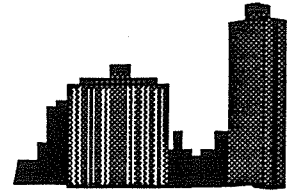
Stay outside, move into open areas -- well away from buildings, walls, trees and power lines.

In a Vehicle:

- If driving when an earthquake strikes, move to the shoulder of the highway, away from bridges, overpasses, power lines, and large buildings as quickly as is safe.
- Stay in your vehicle and wait for the shaking to stop.

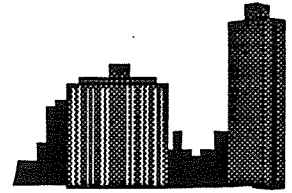
If riding public transit, the vehicle typically will stop. Remain calm and follow instructions from transit system staff members who have been trained to handle earthquake emergencies.

After an Earthquake



There are life-saving and organizational activities that should be performed in the first few hours following an earthquake. These include, but are not limited to the following:

- ⇒ Activate the emergency plans previously discussed in the Earthquake Preparedness section of this guide. This would include activating the Emergency Operations Centre (EOC) and the response team line of command.
- ⇒ Ensure steps are quickly taken to identify/organize available employees according to the operation/response requirements outlined in the Emergency Plan.
- ⇒ Ensure employees are familiar with the following procedures:
 - ⇒ assess the situation and check for hazards
 - ⇒ check for injuries and render first aid as needed. Seriously injured persons should not be moved unless doing so is the only way to avoid imminent danger of further injury.
- ⇒ Monitor emergency broadcast reports for damage and public safety information. If necessary, use battery-powered radios.
- ⇒ Check for obvious structural damage and any resulting hazards such as fires, gas leaks, exposed/arcing electrical components/wires, leaking sewage, broken water pipes, dangling fixtures/furnishings. Leave switches and valves as found unless a hazard exists.
- ⇒ Arrangements must be made with a professional structural engineer to inspect offices and buildings following the disaster in order to determine whether they are safe to continue to operate within or re-enter.



Utilities Information After an Earthquake



- ➡ DO NOT shut off the gas, unless there is a strong gas odour, a fire, or major foundation and structural damage is apparent.
- ➡ Report any smell of gas immediately to the gas utility.
- ➡ If the gas odour is very strong within a building, or has a strong presence both outside and inside a building, follow these procedures:
 - ➡ evacuate everyone to at least 100 metres (325 feet) from the building; if many people are to be evacuated, solicit assistance from police and fire departments, as available
 - ➡ extinguish cigarettes and all other potential sources of ignition
 - ➡ DO NOT operate any electrical switches; leave them as found
 - ➡ DO NOT plug in or remove any electrical cords/appliances
 - ➡ shut off the gas supply to the building at the gas meter, using a wrench approximately 30 cm long (12").
- ➡ **NEVER open a gas valve after a momentary shutoff.**
When it is safe to reactivate the gas supply, only a trained fully qualified person should do it.
- ➡ Treat all downed electrical wires as energized (live), unless confirmed otherwise by a representative of the electrical utility. Report any downed wires to the electrical utility. Rope off/secure areas where downed wires are involved, maintaining a distance of a minimum of 10 metres (33 feet) from barriers to downed wires.
- ➡ Ensure telephones are not used for any calls, except for emergencies requiring immediate assistance.
- ➡ Replace all telephone receivers that may have been dislodged.
- ➡ Conserve water as much as possible. Water tanks and toilet tanks are sources of stored water.
- ➡ If you suspect that water and sewer mains are broken near your location, shut off the water supply to your building both to conserve your supply and avoid contamination.
- ➡ If your water supply is operating, fill available containers with cold water for storage -- service still may be damaged by aftershocks.
- ➡ Do not use toilets if water or sewer lines are obviously broken. Make alternate arrangements for human waste disposal.

Your Business Recovery Plan



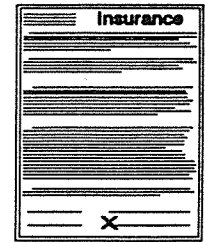
The effectiveness of a business recovery plan after an earthquake can mean the difference between the success or failure of your business.

The chances of survival as a business will be dependant on many factors. Companies should consider the following concerns:

Business resumption operations should be instigated as soon as practical after life safety concerns and initial damage assessment are dealt with.

	Yes	No
Does your company emergency plan include business resumption?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have an alternate location from which to operate?	<input type="checkbox"/>	<input type="checkbox"/>
Have you identified the critical functions of each department that must remain operating, and the staff needed to perform them?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have a staff succession plan in place? Can essential staff who may be injured or unavailable be replaced by other staff?	<input type="checkbox"/>	<input type="checkbox"/>
Has your company an identified Critical Incident Stress Debriefing procedure and planned professional guidance?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have a plan for keeping essential employees at work and for the orderly departure of non-essential employees?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have a mobilization plan for essential employees?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have sufficient food and other necessary provisions to sustain essential employees who must stay at, or return to work, after a disaster to get computer and other vital systems operating?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a plan for the orderly return of various employee groups?	<input type="checkbox"/>	<input type="checkbox"/>
Do employees have proper company identification that will give them access to office locations?	<input type="checkbox"/>	<input type="checkbox"/>

The Role of Insurance



A devastating earthquake could render a business incapacitated -- maybe temporarily, possibly totally.

Disaster relief and insurance play a vital role in recovery from the consequences of a devastating earthquake. There is no guarantee as to the amount of relief, nor is there assurance that the business or property owner will receive full value for their loss.

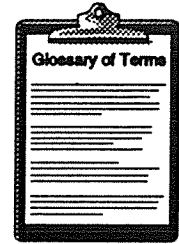
Appropriate insurance coverage compensates the victim more completely. For instance: the insured controls the amount of coverage; insurance can provide full value of the insured property; and it can cover loss of profit or contingent business interruption losses.

Insurance policies are not all alike. Some policies afford broader coverage than others. Hence, one of the first steps is for the business or building owner/manager to review, with an insurance broker, the property insurance policy to determine what is, or is not, covered.

In the event of a damaging explosion and ensuing fire, depending on the operation of the insured, several million dollars might be required as compensation for general liability. The same can be said with respect to automobile policy limits.

In particular, ask:

	Yes	No
Is earthquake insurance included in your company's policy?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company have a current property appraisal?	<input type="checkbox"/>	<input type="checkbox"/>
Is there insurance to match the value?	<input type="checkbox"/>	<input type="checkbox"/>
Is business interruption included? (What type? For how long?)	<input type="checkbox"/>	<input type="checkbox"/>
Does your company's policy include contingent off-premises coverage?	<input type="checkbox"/>	<input type="checkbox"/>
Can a temporary substitute location be funded?	<input type="checkbox"/>	<input type="checkbox"/>
Does your company's policy include coverage for all machinery and equipment including electronic data processing equipment?	<input type="checkbox"/>	<input type="checkbox"/>
Is your company's policy limit on the general liability section sufficient?	<input type="checkbox"/>	<input type="checkbox"/>



Glossary

aftershocks -- secondary earthquakes that follow the main one. They may be few or many and can occur in minutes or days after the main earthquake. Some may be severe enough to cause considerable further damage.

cardiopulmonary resuscitation (CPR) -- a first aid technique for restoring heartbeat and breathing.

carbon dioxide (CO₂) -- a gas used in fire control equipment.

codes (building, fire) -- published government regulations governing construction and safety of buildings and other structures.

contingent insurance -- coverage applicable to premises owned by others and located elsewhere but on which the insured business is dependent.

crescent wrench -- a wrench which can be adjusted to fit different sizes of nuts or bolt heads.

Critical Incident Stress Debriefing (CISD) -- a procedure to relieve the emotional upset of a person who has been through a disaster such as an earthquake.

dedicated telephone -- a phone reserved for emergency use and having priority for restoration to use after an emergency.

earthquake resistant -- a building designed to stand up to a moderate earthquake without damage and to a major earthquake without collapse (see magnitude).

Emergency Operations Centre (EOC) -- a pre-arranged and stocked place from which the response to a disaster will be coordinated.

essentially as built -- drawings and records which show the details of a structure. These will show important differences from the design drawings which resulted from modifications during construction or after.

fan out -- the procedure where one person contacts several others and each of them contacts several others in turn. A method of getting a message to a large number of people.

fascia -- decorative board that marks the edge of a roof. It can fall in an earthquake.

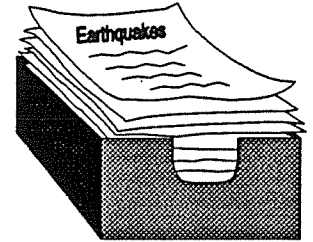
Halon -- a type of commercial fire control system.

Ham -- an amateur radio broadcaster. Hams have equipment that can communicate over considerable distances and are a useful supplement to other emergency broadcasting equipment.

hard copy -- a printed document or plan as contrasted to the same information stored in a computer.

hard drive -- the internal memory of a computer.

Further Information



Agencies Who Can Provide Assistance:

- emergency program of local municipal governments;
- Provincial Emergency Program;
- Emergency Preparedness Canada;
- and your local utilities.

Additional information is available from the Disaster-Emergency Preparedness Research Centre at the University of British Columbia.

Emergency Legislation

Emergency or disaster management legislation is in place as enacted by federal, provincial and various city and municipal levels of government. The federal legislation is Bill C-77, the Emergencies Act passed in 1988. In British Columbia, Act C-106, the Emergency Program Act also applies. Various city and municipal plans are also in place. You should be aware of the intent of this legislation and the various restrictions that may be applied to you and your business in the event of a declared public emergency.