RICHMOND

Island City, by Nature

Business Disaster Response & Recovery Guide

Disclaimer

Every reasonable effort has been made to ensure the accuracy of the information provided in this Business Disaster Response & Recovery Manual. However, the information provided in this manual is meant to be a general guide to assist businesses interested in preparing business continuity plans. Individual businesses should ensure the advice is appropriate for their particular situation.

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MODULE 1
THE NEED FOR
EARTHQUAKE PREPAREDNESS

OBJECTIVE:

To provide an overview of earthquake preparedness issues, responsibilities, and the planning process.

> *At 5:04 pm on October 17, 1989, staff at a business in a downtown San Francisco high-rise were getting ready to leave. As the earthquake began to roll through their offices, furniture moved, light fixtures fell, filing cabinet drawers flew open and across the room. People couldn't stand or walk, and after a second or two of incomprehension, they grabbed onto whatever they could and held on. Only a few staff got under their desks or the conference table. When the shaking stopped, they quickly realized their offices were in complete shambles. Several people had been injured by the flying filing cabinet drawers, and there were no first aid supplies other than aspirin. However, even if they had supplies they may not have helped since no one was trained in their use. One of their office doors had jammed shut because of the movement, and they had no tools to open it. (Fortunately no one was in that room). They were twenty floors up in a building with no electricity, no back up power, no plan. The elevators didn't work, the inside stairwells were completely black, and people weren't sure what they were going to find on the streets below. Would it be better to stay put? Would they be able to get home? No one had a portable radio. No one was in charge. Employees made their own decisions about leaving immediately or waiting. Most people groped their way down the staircases, afraid to use matches.*

The purpose of this employee training manual is to help you, as a trainer, administrator or planner, set up an earthquake preparedness training program for your staff. As the example above illustrates, employee training is more than storing supplies or holding a drop, cover and hold drill once a year. For example, do your employees know:

- ❑ how to make their workplaces safer from falling objects;
- ❑ what to do at the moment of an earthquake;
- ❑ who decides to evacuate a building or not;
- ❑ basic first aid;
- ❑ how to turn off utilities;
- ❑ how to perform light search and rescue;
- ❑ who will determine if the building is damaged;
- ❑ what your recall and retention policies are;
- ❑ where emergency supplies are stored;
- ❑ what to do if there is an earthquake-related fire or hazardous materials spill?

This manual has been structured so that you can address one element at a time in an employee education program. This program involves a number of steps; they are not necessarily consecutive, but they are separate. The basic steps correspond to the modules in this set of training materials, each of which can be tackled when you are ready. You may have to address more than one step at a time, but you can work at each regardless of whether you've ***completed*** the preceding one.

An objective is listed for each module, as well as several important points to keep in mind. In addition, strategies are listed where appropriate, giving the trainer or planner some ideas for how to proceed. Be sure to note that many of the modules are accompanied by camera-ready masters, so you need to familiarize yourself with the contents of this entire program before beginning.

This employee education program provides for actions to be taken ***before***, ***during***, and ***after*** an earthquake. Planning and training is not simply a matter of thinking about what you will do in the event of an earthquake.

Actions taken ***before*** an earthquake can change how everyone behaves in an earthquake, and can also affect how well your organization functions after an earthquake. For example, by identifying and removing certain obvious hazards in your hallways, offices, and storage areas, you will reduce greatly the possibility of injuries to your employees, as well as the amount of cleanup work necessary after a quake.

By practising what to do ***during*** an earthquake, you will increase the confidence of employees that earthquakes are survivable, manageable events. Thinking about how you can provide assistance ***after*** a damaging earthquake or how you might handle your employees' psychological problems will help insure the continued regular functioning of your business.

KEEP IN MIND:

Several basic elements are important to remember as you begin developing a training program:

- ❑ **This is a group process.** All by yourself, you will not be able to develop and implement an effective employee education program for your company. The group process enables you to share information among colleagues, gain support for the entire program and, in fact, generate excitement and interest for what you all may learn.

- ❑ **Commitment from senior management is critical to the ultimate success of a program.** They need to "buy in" to the need for this planning, encourage and in some cases insist that employees participate, and demonstrate a personal commitment to preparing their employees and business for an earthquake.

- ❑ **Planning is a process that takes time.** It may be helpful to think incrementally, dividing your tasks into manageable steps. Decide what is most critical for your situation, and focus on those steps first. Don't expect the plan to fall into place all at once.

- ❑ **Some employees will have emergency responsibilities based on their jobs.** This will vary from business to business, but these people and their job related responsibilities in an emergency should be identified in the planning process.

- ❑ **Most emergency responsibilities are not specifically related to one's job -** search and rescue, first aid, and site security, for example. Some employees will have to be freed from regular assignments so that they can fulfil other emergency responsibilities. A suggested way of organizing employees and making team assignments is made in Module 3, *Earthquake Response Teams and Procedures.*

At a minimum you should:

- ❑ Be sure employees know what to do in an earthquake.
- ❑ Have the ability to communicate throughout the building in the event the phone system is not working.
- ❑ Identify and eliminate those non-structural hazards that represent the most serious threat to life safety.
- ❑ Provide training to employees so that they are familiar with the earthquake plan.

STRATEGY:

Included in this packet are two additional checklists to help you decide where you want to concentrate your earthquake preparedness effort. Since employee training is only one part of an overall corporate or business emergency plan, there are some ideas in these checklists that you may want to implement separately from your employee education program. Review these checklists, meet with your management team and discuss how well your business is prepared to survive a major disaster.

CAN YOU AFFORD NOT TO BEGIN PLANNING NOW?

EXECUTIVE'S CHECKLIST

1. **PREPAREDNESS AND MITIGATION:**

- ☐ Has a hazard vulnerability analysis of your business been conducted?
- ☐ Non-structural hazards should have been identified and reduced:
  - ☐ Have all file cabinets, bookshelves and equipment been bolted to structural elements of the buildings?
  - ☐ Have all heavy objects been removed from high shelves?
  - ☐ Have light fixtures and air ducts been secured to the structural elements of the buildings?
  - ☐ Are the windows equipped with safety glass, or have they been covered with protective film?
- ☐ Have education and employee awareness programs been established?
- ☐ Has the importance of preparing a home plan been emphasized to your employees so that if the disaster occurs while they are in the office their families are prepared?
- ☐ Have you identified who would turn off building utilities, if necessary? Is there a back up for this person?
- ☐ Have inventories been developed and maintained of critical supplies, equipment, and employee skills?
- ☐ Have specific company policies been established to inform the public about the delivery of services and goods in the event of an earthquake?
- ☐ Have the company's vital records been identified? And is there a records duplication program, which may include off-site storage for such records?
- ☐ Are there hazardous materials on site? Have procedures been developed for identifying and containing them?
- ☐ Have steps been taken to protect your computer equipment?

2. RESPONSE:

- ☐ Are there plans for conducting initial damage assessments, and identifying perilous conditions?

- Are there plans to maintain continuous communications with employees and other occupants of your building(s) in order to provide instructions and announcements, status of critical lifelines and emergency services, and information about damage and sources of assistance?

- Is emergency power available to supply critical operations, processes, and emergency equipment?

- Have evacuation plans been developed, co-ordinated, and tested? Is it clear who gives the order to evacuate? Who communicates the order to various departments?

- Have First Aid and CPR training courses been offered to employees?

- Have plans been developed to provide for the emergency housing, feeding, and non-medical care of employees for the first 72 hours after the disaster?

- Is there a plan to activate security procedures for securing vital records and documents?

- Has someone been assigned to act as liaison with the media after an event to insure that accurate information is given?

3. RECOVERY:

- Have plans been developed to conduct a comprehensive damage survey of the facilities to determine the need for temporary relocation and/or the timing of reoccupancy? (Consider hiring a structural engineer on retainer.)

- Are there plans for clean up, including securing contractors support to supplement crews in the repair of damage?

- Are there plans for business restoration that include essential facilities and/or establishing temporary facilities, ensuring key personnel report to work sites, restoring damaged utility systems to minimal operating levels, and controlling access to your facilities?

- Have arrangements been made to provide information to the news media about service hours, location of operations, and any changes in procedures?

- Has an employee recovery and assistance program been developed? Will you be able to provide flexible work hours, emergency cash grants, assistance with childcare in the first week or so, assistance with commuting, possibilities for telecommuting, etc.?

REASONS FOR DEVELOPING EARTHQUAKE SAFETY PROGRAMS

- Good business practice - minimizing damage to buildings and equipment, maximized ability to continue operations, serve clients, and save money in the long run.
- The public image resulting from acting, or not acting, responsibly.
- Compliance with applicable regulations.
- Worker safety - concern for the well being of friends and associates.
- Concern for public safety (visitors, clients, and bystanders).
- Key administrators personally committed to earthquake or disaster preparedness provide impetus and leadership.
- Employee morale and union/management relations.
- Media publicity on the need for earthquake preparedness.
- Aggressive programs of the organization's insurance carrier or local fire department.

MODULE 2
EARTHQUAKE RESPONSE
TEAMS AND PROCEDURES

OBJECTIVE:

To develop an emergency response plan that ensures the safety and well being of employees during and after a damaging earthquake.

EMERGENCY RESPONSE TASKS:

The following list suggests ways that you can apportion various emergency tasks to your employees. Some employees will have responsibilities based on their jobs; others will be given special emergency responsibilities.

1. The Planning Committee:

This committee can be composed of managers and employees. Interested individuals who have the time to participate will be most effective. People on this committee do not ***necessarily*** have responsibilities at the time of an earthquake - rather, this committee is responsible for insuring that the planning takes place and that someone is responsible for each of the major issues identified. This committee drives the planning process, and will also want to observe drills and oversee training.

2. Emergency Operations Centre:

The Emergency Operations Centre (EOC) is the designated location in your facility from which your emergency response will be co-ordinated. EOCs vary in size and complexity, depending upon the size of your facility, the nature of your operations, and the number of people employed. At a minimum, it should have telephones, two-way radios, facility maps, local maps and a situation board.

The CEO and designated managers/staff would staff the Emergency Operations Centre (EOC). The EOC also has some office staff, who would function as support to decision-makers.

3. Emergency Response Teams:

These tasks are usually not part of an employee's normal responsibilities. In order to have three or four people on each of these teams, they will have to be freed from their usual responsibilities, at the time of the earthquake. Depending upon the size and organization of your business, response teams can be organized by function or in relation to the design and use of your facility(ies).

All teams should have members designated for both daytime and evening operations, if applicable.

- **Team Organization Based on Functions:**

  First Aid
  Search and Rescue
  Fire Safety
  Site Security
  Evacuation

- **Team Organization Based on Facility Design/Use**

- **Floor Emergency Response Teams:**

  One Emergency Response Team (ERT) per floor or facility area - comprised of staff with primary work stations on that floor:

  3 or 4 people per team, cross-trained in:

  First Aid
  Search and Rescue
  Fire Safety

- **Facility-Wide Emergency Response Teams**:

  5 or 6 people per team, with responsibilities for:

  Site Security
  Evacuation

- **Small Business Emergency Response Team**

  If you have a small staff, make sure that at least one person has been put in charge of:

  EOC
  First Aid
  Fire Safety
  Search and Rescue
  Site Security

  Involve everyone in the planning process, and work on your plan as carefully as if you had 100 employees.

RECOMMENDED TRAINING:

To help people meet their responsibilities in an earthquake, it is necessary to provide training that goes beyond a handout at a staff meeting. The suggestions here include the basic concepts that each responder needs to understand in her or his area of responsibility. There are two ways of organizing the training: one is by organizational functions (planning committee, CEO, managers, maintenance staff); the other is by emergency response functions (first aid, search and rescue, fire safety, etc.) Both ways are discussed here. Also indicated are possible sources of more in-depth training and information.

1. ORGANIZATIONAL FUNCTIONS:

Planning Committee:

a. Familiarity with the earthquake threat and damage potential.
b. Understanding of components in emergency planning process.

c. Materials and/or training available from local police, fire, and offices of emergency services.

CEO, Emergency Operations Centre (EOC) Director and Staff:

a. Understanding of emergency situation co-ordination.
b. Familiarity with emergency communications capabilities.

c. Emergency response training available from the Justice Institute of B.C.

Managers/Department Supervisors:

a. Familiarity with what happens in an earthquake and the sorts of damages that result.
b. Understanding of human responses to disasters, and knowledge of the recommended ways for coping with distress.
c. Orientation to, and extensive familiarity with, the emergency response plan.

d. Information available from local offices of emergency services and Justice Institute of B.C.

Maintenance Staff:

a. Familiarity with non-structural hazard identification and reduction.
b. Familiarity with when and how to turn off utilities.
c. Understanding of techniques for food and water storage and distribution.
d. Knowledge of emergency sanitation provisions.

ə Training and/or advice available from local offices of emergency services, B.C. Gas, B.C. Hydro.

2. EMERGENCY RESPONSE FUNCTIONS:

First Aid:

a. Familiarity with principles and techniques of first aid and cardiopulmonary resuscitation.
b. Understanding of principles of triage.

c. Training available from the Red Cross, St. John Ambulance, and the Justice Institute, various Colleges (Continuing Education Departments).

Search and Rescue:

a. Knowledge of systematic procedures for sweeping buildings and locating victims.
b. Mastery of victim extrication techniques.

c. Training and/or advice available from local Fire or Police Departments, and Offices of Emergency Services.

Fire Safety Team:

a. Knowledge of operation of different types of fire extinguishers.
b. Familiarity of when and how to turn off utilities.
c. Understanding of principles of fire safety, including techniques for extinguishing various kinds of fires.

d. Local fire department and/or office of emergency services.

Site Security:

a. Understanding of damage potential and emergency situation co-ordination.
b. Knowledge of communications procedures.

c. Local first responder agencies can give advice, as can local offices of emergency services.

Evacuation:

a. Understanding of techniques for quick damage assessment.
b. Familiarity with procedures for crowd control.

c. Training and/or advice is available from local offices of emergency services.

PROCEDURES:

Response procedures can be as simple as a checklist, but it is important that all employees are familiar with the procedures, and that various possible earthquake events have been discussed in the preparation of those procedures. (Consider developing an employee earthquake education booklet that all employees receive as part of their orientation.)

Your emergency procedures are the core of your company's earthquake plan. How well your teams carry out their responsibilities will depend on how well each of them has prepared before the earthquake. Actions to be taken before an earthquake are suggested in each of the checklists in this packet. In addition, your teams should have had sufficient drills and training so that they can automatically and confidently perform necessary tasks.

KEEP IN MIND:

- Keep lists, procedures, responsibilities as simple and straightforward as possible. After an earthquake it is frequently difficult to extricate a cumbersome plan from the filing cabinet and use it effectively.
- Practice, practice, practice so that expected emergency responses are automatic.
- Have a backup procedure for every necessary step in your plan. Expect the unexpected and plan alternative actions.
- Be sure it is clear at all times who is in charge and who makes what decisions.

EARTHQUAKE RESPONSE PROCEDURES

Chief Executive Officer, or designee

(Note: some of these responsibilities can be given to the Planning Committee.)

Before:

- Maintain staff awareness.
- Hold drills and conduct/arrange training.
- Oversee identification of non-structural hazards.
- Make arrangements to have a structural engineer come to the company immediately after a damaging earthquake to assist in damage assessment.
- Inventory the staff for skills that may be useful in earthquake planning - ham radio operator, CPR certified, bi-lingual.
- Evaluate records system and determine if there are anywhere a back-up copy should be stored off-site.
- Make sure the area to be used as an emergency operations centre contains a map of the facility, a current personnel roster, critical phone numbers and dependable communications hardware.
- Designate a spokesperson for the media.
- Develop a release plan for your staff that takes into account family and other responsibilities outside the workplace.
- Promote employee family preparedness.

During:

- Drop, cover and hold on at the first sign of earthquake. Hold on to furniture legs if furniture moves. If outside, move away from buildings, trees, and power lines.

After:

- Account for all employees, clients, and visitors.
- Implement and co-ordinate emergency operations.
- Control internal and external communications.

- Decide on the need for evacuation and other critical issues.
- Keep a record of events, decisions and actions.
- If there is the slightest suspicion that the facility has suffered structural damage, make contact with the architect or structural engineer with whom there is a pre-existing agreement for post earthquake inspection.
- An evacuation outdoors should be ordered if the structural integrity of the building is in doubt. Non-structural damage would not necessarily require an evacuation.

EARTHQUAKE RESPONSE PROCEDURES

Emergency Operations Centre Director and staff

Before:

- Assemble all necessary information and supplies/materials (emergency plan, situation board, maps, markers, radios, walkie-talkies, personnel rosters) at designated EOC location.
- Define and assign EOC functional responsibilities (incoming reports, display, response decisions, communications) to staff members, as specified in your emergency plan.
- Identify and train all EOC support staff.
- Participate in all planned drills and exercises, practice activating EOC.

During:

- Drop, cover and hold at first sign of an earthquake. Move away from glass walls and windows. Hold onto furniture legs if furniture moves. If outside, move away from buildings, trees, and power lines.

After:

- Activate EOC.
- Request situation and damage reports from all Emergency Response Teams.
- Develop and display situation status.
- Determine whether evacuation is necessary and communicate that decision to all employees.
- Continue to update situation displays as additional Emergency Response Team reports come into the EOC.

EARTHQUAKE RESPONSE PROCEDURES

Managers and Department Supervisors

Before:

- Maintain current personnel rosters. Keep them in a safe, easily accessible place.
- Keep an emergency kit (food, water, personal items) in a safe, accessible place - probably near a main door. Encourage employees to also maintain their own kits.
- Participate in centre drills, encouraging employees to do so as well.
- If the department supervisor has an emergency response team assignment, make sure there is a back up to take control of the department personnel.
- Provide information to employees on earthquakes and earthquake preparedness.

During:

- Drop, cover and hold at first sign of an earthquake. Move away from glass walls and windows. Hold on to furniture legs if furniture moves. If outside, move away from buildings, trees, and power lines.

After:

- If an evacuation is ordered, lead employees out of the building, by designated route.
- Know the procedures for getting first aid or other help to those who need it.
- Report missing employees to EOC.
- Calm anyone who seems excessively frightened.

EARTHQUAKE RESPONSE PROCEDURES

Maintenance Staff
(includes Custodial and Food Workers)

Before:

- Assist the Planning Committee and/or CEO in the identification of non-structural hazards.
- With direction from the Planning Committee and/or CEO, assist in the reduction of non-structural hazards.
- Maintain inventory of food and water supplies.

During:

- Drop, cover and hold at first sign of earthquake. Hold on to furniture legs if furniture moves. Move away from windows and glass. If outside, move away from buildings, trees and power lines.

After:

- Check utilities and do whatever is necessary to minimize any danger. Determine which utilities still work and which don't. Report findings to the EOC.
- Make a note of structural and non-structural damage when checking utilities. Report any identified damage to the EOC.
- Assist in evacuation, if one is required.
- Set up an emergency sanitation system or procedures. Be sure not to use water or toilets until lines have been checked for breakage.
- Monitor use of emergency water supplies (including water from hot water heaters).
- Inventory supplies of food available to feed employees and visitors, and begin planning distribution of food, if situation warrants.

EARTHQUAKE RESPONSE PROCEDURES

First Aid Team

Before:

- Make sure that first aid supplies are up to date and always complete.
- Keep emergency cards (list of medical resources in the area) and health cards (for each employee) up to date.
- Make sure that staff who are expected to administer first aid, have their training up-to-date.
- Develop a method of direct communication from the floor to the EOC.

During:

- Drop, cover and hold at first sign of earthquake. Hold on to furniture legs if furniture moves. Move away from windows and glass walls. If outside, move away from buildings, trees, and power lines.

After:

- Activate team. Initiate response.
- Make situation report immediately to the Emergency Operations Centre.
- Administer first aid and record all cases and treatments.
- Determine the need for further medical assistance. Co-ordinate requests for assistance through the EOC.

EARTHQUAKE RESPONSE PROCEDURES

Search and Rescue Team

Before:

- Assist the Planning Committee and/or CEO in the identification of non-structural hazards.
- With direction from the Planning Committee and/or CEO, assist in the reduction of non-structural hazards.
- Maintain inventory of food and water supplies.

During:

- Drop, cover and hold at first sign of an earthquake. Hold onto furniture legs if furniture moves. Move away from windows and glass. If outside, move away from buildings, trees and power lines.

After:

- Activate team. Initiate response.
- According to pre-established pattern, check (visually, vocally, physically) every room on the floor. Report location of problems to Emergency Operations Centre.
- Assist in administering first aid, as appropriate.
- Look for obvious structural problems or significant structural damage as the team sweeps through the floor - report any damage to the Emergency Operations Centre.

EARTHQUAKE RESPONSE PROCEDURES

Fire Safety Team

Before:

- Make sure that extinguishers are in working order and that other equipment is complete and in an accessible place.
- See that team members, as well as other staff, have received training in equipment use.

During:

- Drop, cover and hold at first sign of earthquake. Hold onto furniture legs if furniture moves. Move away from windows and glass walls. If outside, move away from buildings, trees and power lines.

After:

- Activate team. Initiate response.
- Check for and confirm existence of fire(s). Report location to Emergency Operations Centre and Site Security.
- Control fire, if possible.
- Rescue anyone at risk.
- Secure areas.

EARTHQUAKE RESPONSE PROCEDURES

Site Security Team

Before:

- Work with the Planning Committee and the CEO to establish a release policy for all employees. Communicate the need for this policy to supervisors and employees.
- Develop procedures for how a release will be handled in view of available damage information - for the site as well as the entire community.

During:

- Drop, cover, and hold at first sign of earthquake. Hold on to furniture legs if furniture moves. Move away from windows and glass walls. If outside, move away from buildings, trees and power lines.

After:

- Activate team. Initiate response. Make initial situation report to EOC.
- Lock all external gates and doors, and secure building(s). Station one team member at main gate/front door to deal with community. Direct media to briefing room and/or spokesperson.
- Have a team member route fire, police, rescue and medical to area of need. Keep the Emergency Operations Centre informed of activities.
- Assist in co-ordination of building evacuation if necessary.
- Release employees according to plan, as the situation warrants.

EARTHQUAKE RESPONSE PROCEDURES

Evacuation Team

Before:

- Keep plans for the designated emergency assembly area current.
- Make sure that necessary supplies are accessible.

During:

- Drop, cover and hold at first sign of an earthquake. Hold onto furniture legs if furniture moves. Stay away from windows and glass walls. If outside, move away from buildings, trees and power lines.

After:

- Activate team.
- Ensure that the emergency assembly area is accessible and safe.
- Report to Emergency Operations Centre.
- Account for all employees and report group status to EOC.
- Determine the need for help if an evacuation is ordered. Assist in the evacuation.

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MODULE 3
NONSTRUCTURAL HAZARD
IDENTIFICATION AND REDUCTION

OBJECTIVE:

To help identify those hazards in the workplace that pose a serious threat to your employees, and to suggest ways to reduce those hazards prior to the next earthquake.

In an earthquake, non-structural elements may become unhooked, dislodged, thrown about, and tipped over. This can cause injuries and death, extensive damage, and interruption of operations. Anything that does not actually hold the building up is non-structural, including floors, ceilings, windows, and all furnishings. Eliminating these hazards can reduce injuries ***significantly*** and cut down on property losses.

KEEP IN MIND:

- **Non-structural hazards can often be very easy and inexpensive to fix.** Positioning furniture differently in the room, bolting heavy and tall furniture to the walls, and removing dangerous and heavy items from top shelves are all possible fixes.

- **Use one or a combination of your emergency response teams (planning committee and maintenance team)** to identify and reduce or eliminate the hazards. Focus on those hazards that represent the greatest life safety threat, and those that are simple to fix. Develop an incentive program to encourage employees to reduce hazards in their own work place. Work incrementally; don't let the program overwhelm you.

- Windows are among the most expensive non-structural hazards to correct, but shattered glass can be a problem even in moderate earthquakes. Shatter-resistant, transparent films can be put on glass to prevent broken pieces from flying about.

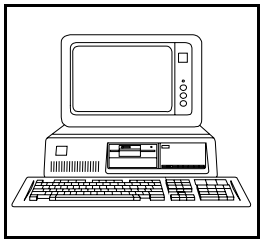
STRATEGIES:

- Have an assigned team of employees use the ***Checklist of Non-structural Earthquake Hazards*** (see pages ??) to identify non-structural hazards throughout your facility.

- Assign a team to fix the identified hazards. Encourage employees to remove obvious hazards or move furniture that is placed in a hazardous manner.

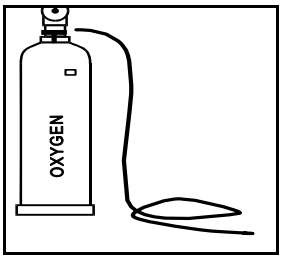
CHECKLIST OF NONSTRUCTURAL EARTHQUAKE HAZARDS

EQUIPMENT AND FURNISHINGS:



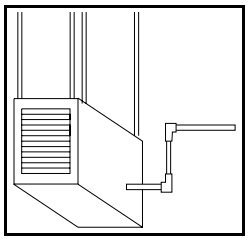
- ☐ Do desktop computers have unsecured monitors?
- ☐ Are the tops of tall (4 or 5 drawer) file cabinets unsecured at their tops to the wall?
- ☐ Do file cabinet drawers lack latches?
- ☐ Are large and heavy office machines unrestrained and located where they could slide a few inches and fall off counters to the floor or roll a couple feet on casters and block exits?
- ☐ Are computers, tape racks and associated mainframe computer equipment, that are about twice as tall as wide, unbraced?
- ☐ Are raised computer floors unbraced, such as is the case when the short posts supporting the floor are not bolted to the concrete slab at their base plates?
- ☐ Are tall storage cabinets or lockers unattached to the wall or unattached back-to-back to each other?
- ☐ Do tall industrial storage racks lack adequate bracing or, for racks significantly taller than wide, are large anchor bolt connections to the concrete slab lacking?
- ☐ Are heavy or potentially sharp wall decorations insecurely mounted (without closed eyehooks for example)?
- ☐ Do valuable, fragile art objects lack protection against tipping over or sliding off shelves or pedestals?
- ☐ Are refrigerators or ranges unrestrained by built-in kitchen cabinetry or attachments to floor or wall?
- ☐ Is specialized industrial or other equipment placed on countertops without protection against sliding off and falling?
- ☐ Is floor-supported freestanding industrial or other large equipment unsecured against overturning (if about twice as tall as wide) or sliding (if sliding a couple feet would cause a hazard)?
- ☐ Are fire extinguishers insecurely mounted?
- ☐ Are potted plants or miscellaneous heavy items placed on top of file cabinets or other high locations without restraint?
- ☐ Are display cases or aquariums unprotected against overturning or sliding off tables?

HAZARDOUS MATERIALS:



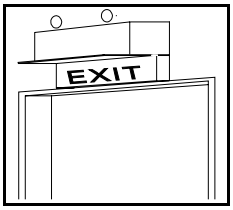
- Are compressed gas cylinders unsecured, or secured only with one loose or weak chain, rather than tightly secured with a nylon strap, a strong chain near the top and near the bottom, or a rack designated to restrain cylinders?
- Are laboratory chemicals on shelves unrestrained?
- Do tanks or vats lack earthquake bracing?
- Does hazardous material piping lack accommodation for movement where it connects to equipment which could slide, swing, or tip, or where piping crosses expansion joints structurally separating wings of a building?
- Are automatic gas shut-off devices (excess flow, leak detector actuated, or earthquake triggered) lacking, even though especially hazardous substances are piped through a building?
- Is equipment containing hazardous material unsecured, which is prone to sliding or overturning, and has the potential of causing a spill?
- Are containers of hazardous materials stored on unbraced storage racks or tall pallet stacks?

OVERHEAD ELEMENTS:



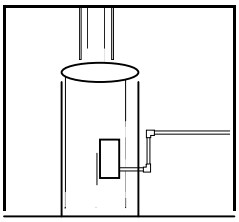
- Does the suspended ceiling lack diagonal bracing wires?
- Are the lay-in fluorescent light fixtures merely resting on the hung ceiling grid, without positive independent support such as at least two hanger wires per light fixture?
- Are pendant or stem light fixtures free to swing excessively?
- Are decorative ceiling panels or latticework insecurely attached?
- Are spotlights unable to remain securely attached if they were shaken?
- Do sound system speakers in elevated locations lack positive anchorage?
- Are suspended space heaters, especially gas fired, unbraced and/or lacking flexible gas connections?
- Do hanging plants or displays lack closed eyehooks, or would they hit a window if they swung?
- Could chandeliers swing and impact each other or windows?
- Are air distribution grills or diffusers only loosely mounted (rather than screwed to adequately supported sheet metal ducts or to the ceiling or wall)?
- Are large metal air distribution ducts, especially if they are suspended a few feet, without diagonal bracing?

ELECTRICAL EQUIPMENT:



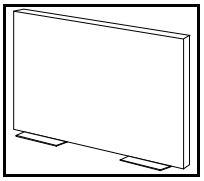
- Is the emergency power motor-generator inadequately secured, especially if mounted on motor vibration isolation springs?
- Are the batteries for the emergency power generator unsecured?
- Is the fuel tank for the generator unbraced?
- Are emergency battery-powdered lights prone to falling off shelf supports?
- Are transformers or tall switchgear not strongly anchored?
- Are radios or other essential telecommunications equipment unsecured?
- Are tall telephone or telecommunications racks unbraced?
- Are unsecured large pieces of equipment served by large diameter conduit, without allowance for distortion of the conduit?

MECHANICAL EQUIPMENT:

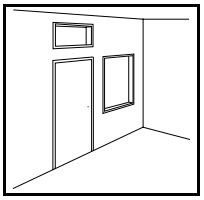


- Are the water heaters unrestrained?
- Is the furnace or boiler unrestrained?
- Are fans, chillers, pumps, or other heating ventilating air conditioning equipment, that is typically found in mechanical rooms unrestrained, or mounted on vibration-isolation springs without seismic restraint added?
- Are large diameter pipes unbraced, or do pipes cross expansion joints without accommodation for movement?
- Are the fire sprinkler risers without a v-brace to the wall, or are the large diameter sprinkler pipes without diagonal braces to the structure above?

PARTITIONS:



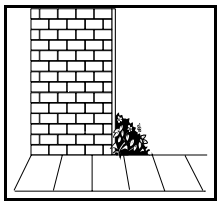
- Are free-standing, movable, partial-height partitions (especially if supporting bookshelves) inadequately braced?
- Do partitions lack plastic or safety glass panels?
- Are masonry partitions not reinforced (usually brick or hollow tile walls)?
- Do lightweight drywall partitions extend only as high as the hung ceiling, without braces or other support by the structure above, and are these partitions used as lateral support for tall shelving or cabinets?



WINDOWS:

- Are large panes of non-safety glass present, and is it unknown whether the mounting of the panes was designed by architect/engineer to accommodate expected seismic distortion of the surrounding structure?
- Are transoms (glass panes over doors) of non-safety glass?

EXTERIORS:



- Are decorations or appendages inadequately attached?
- Are statuary or decorative objects unanchored?
- Are fences made of concrete, concrete block, stone, or brick, inadequately reinforced to resist earthquakes, or is their earthquake resistance unknown?
- Are large trees leaning or in poor health?
- Is signage inadequately secured, especially if heavy?
- Are lights inadequately attached?
- Is the natural gas metre large and heavy, yet unsecured against sliding that could cause a pipe to leak?

MODULE 4
STORING SUPPLIES

OBJECTIVE:

To identify and obtain the medical supplies, tools and equipment, water, and food needed in order to care for all employees after an earthquake.

After a damaging earthquake, it may not be possible for you to leave your facility or for emergency responders to get to you. You may spend **72 hours or longer** on the premises, without any material help from outsiders.

Stocking supplies, i.e., first aid kits, tools, water, and food, in a secure place is an important part of your preparedness plan. Keeping those supplies fresh and up-to-date is also essential. It is a good idea to have inventories of supplies and written records of where they are kept.

It works well to assign the procurement, storage, and maintenance of specific supplies to the teams with those particular responsibilities after the earthquake.

This module contains a checklist for use in assigning responsibility for acquiring and maintaining supplies, lists of medical and non-medical supplies, and information on storing food and water.

KEEP IN MIND:

- You don't have to get ***every*** earthquake supply on the market, but do try for the necessary basic supplies listed below:
  - adequate first aid supplies
  - flashlights and extra batteries
  - extra fire extinguishers
  - search and rescue tools
  - battery-powered radios and extra batteries
  - enough liquids for all the people in the building
  - space blankets or heavy-duty plastic bags
  - sanitation supplies
  - useful non-prescription drugs
- Your priorities in acquiring supplies should correspond to what will be most needed to save lives and deal with injuries immediately after the earthquake. For example, first aid supplies are more important than water, and fire extinguishers are more important than food.

ACTIVITIES:

1. Consult the master list of ***Equipment/Supplies by Committee***, and determine which supplies are most critical; decide on needed quantities and estimate costs.

2. Using the ***Comprehensive List of Supplies and Equipment***, have each team meet separately and begin the process of acquiring what is needed. Develop a schedule for each team to follow in 1) acquiring the supplies, 2) finding appropriate storage space for them, and 3) checking and replenishing them regularly.

3. If you do not have a cafeteria in your facility, follow the recommendations in ***Storing Foods*** and encourage each employee to put together his or her own small earthquake food kit.

EQUIPMENT/SUPPLIES BY COMMITTEE

These are suggested supplies for businesses that set up teams or functions as part of their earthquake emergency plan. Even small businesses will want to think about establishing these teams and modifying the amount of equipment needed.

A. Planning Committee:

- ☐ Emergency Preparedness Plan
- ☐ Evacuation Plan
- ☐ Supply Storage Map

B. Administrator/EOC:

- ☐ Roster of employees
- ☐ Emergency assignment list
- ☐ Map of facility
- ☐ Evacuation Plan
- ☐ Walkie-talkie
- ☐ Bullhorn
- ☐ Battery-operated radio and batteries
- ☐ Clipboards
- ☐ Paper and writing implements

C. First Aid Team:

- ☐ Health cards on each employee
- ☐ Emergency cards
- ☐ First aid supplies
- ☐ First aid equipment (blankets, stretchers)
- ☐ Flashlights
- ☐ Evacuation Plan
- ☐ Paper and writing implements
- ☐ Clipboard
- ☐ Non-prescription drugs
- ☐ Identification badge or armband

D. Search and Rescue Team:

- ☐ Roster of employees
- ☐ Map of facility
- ☐ Fire extinguishers
- ☐ Flashlights
- ☐ Axes and crowbars
- ☐ Shovels and ropes
- ☐ Master keys and bolt cutters

- Walkie-talkies
- Gloves and goggles
- Hard hats

F. Site Security Team:

- Map of facility
- Evacuation Plan
- Master keys
- Walkie-talkies
- Signs to post and writing implements
- Identification badge or armband

G. Fire Safety Team:

- Fire extinguishers (CO2, water, and A, B, C type)
- Shovels and axes
- Gloves
- Walkie-talkies

H. Evacuation Team:

- Evacuation Plan
- Map of facility
- Employee roster
- Master keys
- Bullhorns
- Walkie-talkies
- Signs to post and writing implements

I. Maintenance Team:

- Facility map - showing utility connections
- Tools for shutoff of utilities
- Fire extinguishers
- Evacuation Plan
- Supply storage map
- Sanitation supplies
- Food and water
- Paper and writing implements

COMPREHENSIVE LIST OF SUPPLIES AND EQUIPMENT

1. First Aid and Emergency Supplies:

Every business should provide everything in the list of recommended first aid supplies. There should be a first aid kit for each large office, floor, or building. These supplies can also be used for day-to-day needs, but someone should be in charge of seeing that every kit hasn't run out of anything.

2. Disaster Medical Supplies:

Additional medical supplies should be provided for use in disasters only. Disaster medical supplies can be specially packaged in units to be used when necessary in an emergency. Included here are suggested medical supplies for both small offices and large ones.

3. Non-Medical Emergency Supplies and Equipment:

In additional to medical supplies, businesses should also try to have available a number of other tools, supplies and equipment (see list).

OFFICE EMERGENCY KITS

(one per room - suggested)

- ☐ Employee roster - updated as needed
- ☐ List of disaster procedures
- ☐ Pen, pencil, small notebook
- ☐ Adhesive tape
- ☐ Analgesics - non-aspirin tablets and chewables
- ☐ Liquid and waterless soap
- ☐ Band-Aids
- ☐ Compresses - sanitary pads, diapers
- ☐ Gauze pads, bandages - including one triangle bandage
- ☐ Pre-moistened towelettes or baby wipes
- ☐ Safety pins
- ☐ Tissues
- ☐ Scissors
- ☐ Tweezers
- ☐ Space blanket
- ☐ Brush - soft-bristle paintbrush (for glass fragments)
- ☐ Light stick or flashlight with batteries
- ☐ Litre of water in plastic container
- ☐ Plastic drop clothes

MEDICAL SUPPLY KIT

(suggested)

The supplies below will serve
approximately 150 - 200 persons for 72 hours

Item	Quantity - suggested
□ Kerlix-type, bulky gauze bandages, 3" x 4 yards	30 rolls
□ Gauze pads, 4" x 4"	400 pads
□ Band-Aids, :"	100
□ Triangular bandages	10
□ Sterile surgical pads (as in ABD pads), 8" x 10"	40 pads
□ Steri-strips, 2" x 4"	50
□ Tincture of bezoin, 4 oz. bottles	3 btls
□ Silvadene Cream, 400 gram jars*	5 jars
□ Elastic bandages, 6"	40
□ Paper adhesive tape, 1" x 5 yds.	12 rolls
□ Sterile eye pads**	50 pads
□ Sterile saline, 1000 cc. for eye & other irrigation	12 btls
□ Cotton-tip applicators, 6"	200
□ Cardboard splints, 18"	24
□ Kwik Kold	32
□ Liquid Soap (5 oz.)	6
□ Disposable towels, 13" x 19"	500
□ Facial tissues	12
□ Scissors (bandage, 52")	5
□ Tweezers, 4 2"	2
□ Tongue depressors (can be used as splints or to apply Silvadene Cream)	500
□ Aspirin, 5 gr.	500 tabs.
□ Acetaminophen, 325 mg.	500 tabs.
□ Safety pins, assorted	3 gross
□ Paper cups, 3 oz.	400

* This is a burn dressing, which should be used if no medical care is available. It can be put on 2E and 3E degree burns and lends relief and protection against infection.

** Do not put a sterile eye pad on a dirty wound. Eye pads are good if the injured eye has good irrigation.

**** Inventory and replace missing items every six months ****

NON-MEDICAL EMERGENCY SUPPLIES AND EQUIPMENT

(building-wide - suggested)

- ☐ Axes
- ☐ Space blankets
- ☐ Bullhorn (battery operated) and extra batteries
- ☐ Can opener, manual
- ☐ Coleman lantern and fuel
- ☐ Crowbars
- ☐ Cups, paper or plastic
- ☐ Fire extinguishers
- ☐ Flashlights with extra batteries
- ☐ Hammers
- ☐ Hardhats
- ☐ Hoses for fire fighting and siphoning
- ☐ Knives, heavy duty
- ☐ Light sticks
- ☐ Masking tape
- ☐ Matches with wax-protected tips
- ☐ Pails
- ☐ Picks
- ☐ Plastic garbage bags - waterproof (for warmth and sanitation)
- ☐ Plastic water containers - number depends on population size
- ☐ Rope, nylon
- ☐ Saws, hand
- ☐ Screwdrivers
- ☐ Shovels
- ☐ Stretcher
- ☐ String
- ☐ Tarps, drop cloths
- ☐ Toilet paper
- ☐ Transistor radio, AM-FM, battery operated, extra batteries
- ☐ Walkie-talkies (hand-held) with extra batteries
- ☐ Wastebaskets with waterproof plastic liners
- ☐ Wire
- ☐ Wire cutters
- ☐ Wrenches

STORING WATER AND FOODS

STORING WATER:

Water for drinking is most the important. Bathing and washing will take additional water.

You already have some water stored. The hot water heaters are full of water. Ice cubes can be melted. If there are no chemicals in the holding tanks of the toilet, there are a few litres of water there that can be used. Do not flush toilets until you know the state of the sewers and the water availability.

Water can be safely stored in plastic jugs. Buy jugs specifically for this purpose or use empty bleach containers; don't rinse them out since the remaining bleach acts as a purifier. Change this water every six months and date the bottles.

If you have water pressure after a quake, start running some water into additional containers. It can be stored and purified later for drinking. The water from taps after a quake can be contaminated.

1. Water for Three Days (minimum):

Bottled water (sold commercially). This should last for one year.

Needs: 4 litres all-purpose water per person per day
1 litre drinking water per person per day

Note: Hot water tanks and toilet tanks contain some emergency water.

2. How to Purify Water:

Boiling: Boil vigorously for 5 minutes. To improve taste, pour from one container to another several times.

Purification Tablets: Available at any drug store. Follow directions on package.

Bleach Purification: Liquid household bleach can also be used. It must contain hypochlorite, preferably 5.25%. Add according to table below then stir and mix.

Amount of Water	Clear Water	Cloudy Water
4.5 litres	4 drops	10 drops

Remember, purification compounds must be in contact with the water for at least 30 minutes to kill the bacteria. The water must be well mixed. The treated water should have a slight chlorine taste.

STORING FOOD

- **If you *do not* have a cafeteria in your facility:**

  Have the employees bring earthquake kits to work. Each kit should have foodstuffs, such as granola bars, cans of juice, packages of dried fruit - items that have a long storage life and are not easily squished. The amount of food should be sufficient to get them through **at least 72 hours** without severe hunger pains. These kits can be stored in desks or other handy places in offices. Once every six months, the supplies in the kits should be refreshed.

- **If you *do* have a cafeteria:**

  Make sure you date and rotate your food supplies so that they do not get old.

  After an earthquake, use the food in the refrigerator and freezer first. Although the quake may not interrupt power, aftershocks or fires may; shortages elsewhere could also result in loss of electric current.

  When opening cans of fruits or vegetables, do not throw away the liquid in which they are packed. This is another source of liquid if there is a water shortage.

  Do not drink or eat anything from open containers near shattered glass. Strain suspected liquids through a clean handkerchief.

FOOD TYPES FOR USE IN AN EMERGENCY:

A. Suggested canned foods:

Luncheon meat, canned ham, canned nuts, fruits, fruit juices, vegetables, date-nut rolls, soft drinks

B. Suggested dry foods:

Cereals, peanut butter, crackers, granola or energy bars, instant coffee, tea, milk powder, sugar, candy, freeze-dried foods.

C. Suggested equipment and supplies:

Can openers (non-electric)
Pots, pans, serving utensils
Coffee pots
Paper cups, plates, bowls, napkins, towels
Plastic utensils
Serving trays
Matches

MODULE 5
DRILLS

OBJECTIVE:

To train your employees, and to test the various elements of your response plan in order to evaluate it and revise it.

During a damaging earthquake, life-protecting actions must be taken immediately. There will not be time to decide what to do next; everyone **must already know** how to react appropriately. After an earthquake, further life-protecting actions, such as emergency evacuation or first aid administration, may be necessary. Well-trained employees and the administrator will guarantee that these crucial steps are taken appropriately.

Earthquake drills and exercises are an extremely important part of your preparedness plan because they:

- **teach** employees how to respond to the complications of an actual earthquake
- help you **evaluate** how well all parts of your emergency plan work together and how well the staff training has worked.

The module contains a checklist for administrators and group leaders to use in planning for and executing different kinds of drills, a drop and cover scenario, a checklist for making and evaluating an evacuation plan, and a checklist to evaluate team activities after a tabletop or full-scale exercise.

KEEP IN MIND:

- Plans are of **ABSOLUTELY NO USE** if they aren't ***known*** to everyone: all employees regardless of department or location.
- Plans should be ***exercised*** periodically to refresh memories and educate newcomers. After every exercise, evaluate how it went and revise your plan if that has been shown to be necessary.
- There are many different kinds of drills:
  - drop, cover, and hold on
  - evacuation
  - tests of parts of the plan - for example, medical "tabletop" or "walk-through" drills, in which all employees meet to discuss what their roles will be during and after a quake, once or twice a year

- full-scale exercises (mock disaster) - once every two years

- Before you conduct drills, some preliminaries are necessary:
  - Illustrations of possible damages - structural and non-structural (glass, bookcases, ceiling tiles, light fixtures)
  - Demonstrations of ways to:
    - protect head and body
    - find shelter
    - cope with resultant (fire, injury to self or others)
    - evacuate the building
- Tailor your drills to take into account the particular circumstances in your facility with your employees.

DRILL PREPARATIONS FOR ADMINISTRATORS AND GROUP LEADERS

1. Different drills require different preparations and practice schedules:

a) Drop and cover:

- Review drill rationale and procedures
- Practice the drop, cover and hold drill three or four times a year

b) Evacuation:

- Practice post-quake evacuation at least twice a year.
- Have groups walk through the normal fire drill route to an open area outdoors.
- Ask everyone to make mental notes as they go along of things that might become hazards during and after an earthquake:
  - power failure (emergency lighting?)
  - halls and stairways cluttered with debris
  - smoke in the hallways
  - exit doors that are blocked or jammed
  - an aftershock (drop and cover on the spot)
  - bricks, glass, and other dangerous debris
  - fallen electrical wires
- When everyone returns to the office, discuss all the hazards and make plans to remove them or cope with them afterwards.

c) First aid ("shock"):

- To determine your first aid capabilities, stage a make believe earthquake that causes injuries; give some employees messages in envelopes that describe an injury.
- Stage a drop and cover drill, and then have the dead and injured people act out their assigned roles.

- Other employees with (and without) first aid responsibilities have to determine what has happened and take actions to deal with all injuries.

- Everyone is responsible for her/his own safety first, but all employees should know what to do if someone else is injured and needs help. This drill should present everyone with "what if" questions:

  - If someone is injured and can't walk?

  - If someone has been cut by shattered glass and is bleeding?

  - If someone has been knocked out by falling light fixtures or ceiling tiles?

  - If someone has become very distressed?

- Practice this at least once a year.

d) Tabletop or walk through:

- Call a staff meeting and have someone read a description of an earthquake, and the structural and non-structural damages that have resulted.

- Begin the discussion by asking representatives of various committees to explain their responsibilities and how they would discharge them after the earthquake in question.

- Note areas of overlap and confusion, and modify plan accordingly.

- Practice this once a year - more frequently if there has been substantial staff turnover.

e) Full scale:

- Preparing for full-scale drills requires fairly extensive staff commitment for two or three months. Committee reps should be give time to participate.

- Enlist help from community agencies.

- Hold a full-scale drill every two years.

- Allow 2 or 3 hours for full debriefing within a week of the drill.

2) Before and after the drills, hold meetings with representatives of all the teams to discuss each team's respective responsibilities and recommended preparations for an earthquake emergency:

- Planning - oversee whole process.
- Administrator/EOC - co-ordinate response.
- First aid.
- Search and Rescue.
- Site Security - direct police, medical, and fire personnel to places within building; close off building if necessary.
- Fire Safety - special fire patrol; gas shutoff.
- Evacuation - arrange evacuation area and organize evacuation to it.
- Maintenance - food and water supplies, sanitation supplies and provisions.
- Other special teams - for example, psychological aid.

3) Discuss with all teams the plan's overall goals and purposes:

a) Let the purpose of each part of the emergency plan (preparedness, emergency response, evacuation) determine what a specific drill's goals should be.

b) Decide which kinds of drills can best test the goals.

c) List five main objectives of each drill (for example: reaction time, co-ordination, communication, training).

d) Decide criteria for success and/or revision of plan's parts.

4) Discuss and determine procedures for evacuating building:

- *see* ***Checklist for Developing and Evaluating an Evacuation Plan***

5) Plan for the unexpected - generate alternative procedures for each of your steps:

- power fails
- routes can be blocked
- aftershocks can rearrange things
- there could be fire

- injured people can't move

6) Using the *Team Tasks Checklist*, evaluate each drill and everyone's performance; begin immediately to make any indicated changes in the plan or its implementation.

DROP AND COVER SCENARIO

This scenario should be used in all offices, work rooms, labs, shipping and receiving areas, cafeterias - wherever people spend time during a workday. In each setting, one person should read aloud the following script.

Imagine that you hear a low, rumbling, roaring sound. The noise builds, getting louder and louder, for about ten seconds. Then... WHAM! There's a terrific jolt. You feel like someone suddenly slammed on the brakes in the car, or like a truck just rammed into the side of a building.

The floor seems to be moving beneath you. It's hard to stand up, or even stay in your seat. If you do stand up, you feel like you're riding a raft down a fast river. When you walk, it's like trying to walk on a trampoline or a waterbed. You hear someone say, "EARTHQUAKE: Drop and cover!"

All of you should take cover as quickly as possible - either under desks, under tables, or away from dangerous equipment that could fall. Now, please listen very carefully.

The shaking and commotion may last from 20 to 60 seconds, depending on the magnitude of the quake. We'll have someone count off the seconds for as long as this earthquake lasts *(begin counting the time now).*

The building is creaking and rattling. Books are falling from the bookcases. Hanging lamps and plants are swaying. Suddenly a flowerpot falls to the floor and smashes. A windowpane just shattered and glass is falling all over the floor. The tables are sliding too.

Be sure to stay in the drop and cover position no matter what else happens. If your desk or table is moving, grab the legs and move with it.

You hear noises outside. People are shouting and screaming. The shaking is making church bells ring in the distance. You hear crashing sounds from loose parts of your building and other buildings falling down inside and outside. Trees outside are swaying, scraping, or falling down.

Inside pictures are moving on their nails or falling to the floor, desk drawers are sliding open. The lights begin to flicker off and on... and they just went out! Now a door is swinging back and forth on its hinges: BANG - it slammed shut!

There's silence now. Just as suddenly as the noise and shaking began, they stop. The room grows quiet *(stop counting the time now).*

Please everyone, return to your seats or wherever you were. It is important that you remain calm and wait for instructions. When it is safe to move around, I'll tell you. We may have to leave the building, but we must not evacuate until that has been determined to be the best thing to do. As we walk outside to an open space, stay together.

Sometimes aftershocks follow the first major quake, so it may be necessary to drop and cover again to avoid injury. The shaking may begin any second, so be ready to take cover.

REMINDERS FOR THE DROP AND COVER DRILL

1. Leader:

- take cover
- talk calmly
- give instructions on follow-up activities

2. Employees:

If you're inside:

- take cover
- don't go outside
- keep quiet and listen for instructions
- remain in a safe position for at least 60 seconds
- leave shelter only when told to

If you're outside:

- go to open area away from hazards
- don't go inside
- keep quiet and wait for instructions
- remain in a safe position for at least 60 seconds

3. When no shelter is available:

- move to an inside wall, away from windows, kneel there
- bend head close to knees, cover sides of head with elbows, clasp hands behind neck
- if coat or jacket is handy, throw it over your head

4. If you're in a bus or car:

- driver should stop as soon as possible - away from buildings, trees, power poles, and highway overpasses
- passengers should stay in the vehicle and hold on

CHECKLIST FOR DEVELOPING AND EVALUATING AN EVACUATION PLAN

A. Organization - provision is made, and responsibility assigned, for the following functions:

- Determining optimum evacuation routes - can be the same as a fire route, but need not be
- Everyone in the building should ***know*** about the evacuation routes and area
- Ordering evacuation
- Communicating orders to others
- Assessing the safety of the emergency assembly area
- Clearing the evacuation route or designing another
- Assisting in evacuation
- Helping disabled persons
- Accounting for all employees
- Shutting down utilities and equipment
- Securing the facility
- Announcing facility re-entry or another plan

B. Emergency Situation - during an earthquake, everybody does only one thing:

DROP, COVER AND HOLD ON

C. Evacuation Orders - consideration must be given to the following:

- Criteria to help you determine when ***not*** to evacuate
- Degrees of evacuation - when each is called for:
  - partial
  - complete
- Procedure for communicating order
- Procedure for transmitting other messages

D. Evacuation Process - the following must be done:

- All areas searched and all people accounted for
- Evacuation route and area checked out
- Evacuation instructions developed and communicated
- All able-bodied people evacuated
- All disabled people helped by someone

E. Assembly and Accountability - must have a system and team for:

- Accounting for everyone
- Reporting roll call results to EOC
- Communicating rescue needs to internal and external medical and rescue crews
- Determine who is in most need of medical aid

F. Securing the Facility - there should be a system and team for:

- Closing all but one door of the building
- Checking the safety of the facility
- Reporting all findings to EOC
- Liaison with outside helping agencies

G. Conclusion of Evacuation - you must have system for deciding to:

- Terminate the evacuation order
- Co-ordinate a return to the facility **OR**
- Issue an order to send all employees away (home or an alternative evacuation site)

TEAM TASKS CHECKLIST

(for drill evaluation)

A. Planning Committee:

- ☐ monitored work of other teams?
- ☐ noted areas for change and improvement?

B. Chief Administrator:

- ☐ were all employees familiar with drop and cover?
- ☐ did everyone remain in the quake-safe position for 60 seconds?
- ☐ were all employees accounted for?
- ☐ were internal and external communications controlled?
- ☐ was a record of events and decisions kept?
- ☐ did group leaders take cover during the drill?
- ☐ did group leaders remain calm and reassure others?
- ☐ were all employees evacuated to a safe outdoor area?
- ☐ did students remain quiet during the evacuation?
- ☐ does the evacuation procedure consider the possibility of strong aftershocks?
- ☐ did group leaders remember to take rosters and response checklists with them when they evacuated?
- ☐ did employees demonstrate their ability to help each other?

C. First Aid Team:

- ☐ were first aid supplies up to date and complete?
- ☐ were emergency cards and health cards for each employee up to date?
- ☐ was the team ready quickly to begin treating the injured?
- ☐ was a record kept of every treatment administered?
- ☐ were needs for further medical assistance determined and reported?
- ☐ did the team report immediately and regularly to the EOC?

D. Search and Rescue Teams:

- ☐ were supplies and equipment complete and easily located?
- ☐ was every room in the building checked (visually, vocally and physically)?
- ☐ were locations of injured reported the First Aid Team?
- ☐ were the locations of other problems reported to the EOC?

E. Site Security Team:

- ☐ were all equipment and records ready and easily located?
- ☐ were all external gates and doors locked?

- □ was one team member stationed at the main gate/front door to deal with community?
- □ were fire, police, medical, and rescue sent to areas where they were needed?
- □ was the EOC constantly informed about what was going on?

F. Fire Safety:

- □ was equipment ready and easily located?
- □ was a systematic search for fires undertaken?
- □ were fires reported to EOC and Site Security?
- □ all fires were controlled?
- □ staff at risk were rescued?
- □ was the EOC constantly informed about what was going on?

G. Evacuation Team:

- □ plans for designated emergency assembly area were current?
- □ determined that the emergency assembly area was accessible and safe?
- □ communicated findings to the EOC?
- □ were necessary supplies up to date and easily located?
- □ determined need to evacuate?
- □ assisted in evacuation process?
- □ took roll call and reported status of all groups to EOC?
- □ supervised group in the assembly area for the duration?

H. Maintenance Staff:

- □ was all equipment complete and easily located?
- □ checked utilities immediately and minimized any danger?
- □ checked sanitation system and determined damages.
- □ reported all findings to the EOC?
- □ inventoried supplies available to feed staff?
- □ began planning for the distribution of food and water?
- □ took whatever steps necessary to establish alternate sanitation provisions?

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MODULE 6
PREPARE

STEPS TO TAKE - DROP, COVER AND HOLD:

When you feel an earthquake, **DROP** under a desk or sturdy table. Stay away from windows, bookcases, file cabinets, heavy mirrors, hanging plants, and other objects that could fall. Watch out for falling plaster or ceiling tiles. Stay under **COVER** until the shaking stops. **HOLD** onto the desk or table. If it moves, move with it. Here are some additional tips for specific locations.

If you're in a **HIGH-RISE BUILDING** and not near a desk or table, move against an interior wall, and protect your head with your arms. Face away from the windows. Do not use elevators. Do not be surprised if alarm or sprinkler systems come on.

If you're **OUTDOORS**, move to a clear area away from trees, signs, buildings or downed electrical wires and poles.

If you're on a **SIDEWALK NEAR BUILDINGS**, get into a building's doorway to protect yourself from falling bricks, glass, plaster, and other debris.

If you're **DRIVING**, slowly pull over to the side of the road and stop. Avoid overpasses, power lines, and other hazards. Stay inside the vehicle until the shaking is over.

If you're in a **CROWDED STORE OR OTHER PUBLIC PLACE**, do not rush for exits. Move away from display shelves with objects that could fall on you.

If you're in a **WHEELCHAIR**, stay in it. Move to cover, if possible, lock your wheels, and protect your head with your arms.

If you're in the **KITCHEN**, move away from the refrigerator, stove and overhead cupboards. (Take time NOW to anchor appliances and install security latches on cupboard doors to reduce hazards.)

If you're in a **STADIUM OR THEATRE**, stay in your seat and protect your head with your arms. Do not try to leave until the shaking is over. Then leave in a calm, orderly manner.

AFTER AN EARTHQUAKE, BE PREPARED FOR AFTERSHOCKS. PLAN WHERE YOU WILL TAKE COVER WHEN THESE OCCUR.

FAMILY EARTHQUAKE PLANNING GUIDE:

1. Know Your Immediate Surroundings:

Know the safest places in your house or workplace. Usually a hallway is one of the safest places, if it is not crowded with objects. Kitchens and garages tend to be the most dangerous places in the typical home.

Always know how to safely exit your house and work place in an emergency.

Know where shutoff valves for water, gas, and electricity are and how to operate them. If you are not sure, call your utility company.

2. Make Special Provisions:

Elderly, disabled or persons under medication may have difficulty moving around after an earthquake. Plan to have someone help them evacuate if necessary. Also, store several days' supply of any special foods or medication that will be needed.

People who don't speak English often rely on family and friends for information. If they are separated during an earthquake, they may need help. Prepare emergency cards written in English indicating identification, address, and any special needs.

After an earthquake, be concerned with your own safety before taking care of pets. Store extra water and food for pets. After a quake, keep pets in a secure place at home.

3. Know Your Community's Resources:

Know the locations of the nearest fire and police station.

Within three days after a damaging earthquake, emergency shelters and medical centres will be set up. Contact the Emergency Services Program office; find out the plans for your area.

Know your neighbours and their skills. You may be able to help each other after an earthquake. Your neighbours probably will be the first to offer assistance. It may be 72 hours before outside emergency assistance arrives.

4. Plan Where to Meet:

Make a plan on where and how your family will reunite after a quake. Choose a person outside the area - preferably someone out of the province - to contact if family members are separated. Long distance service probably will be restored sooner than local service. Refrain from using the phone immediately after an earthquake, and make local calls only for emergencies.

Know the policies of your children's school or day care centre. Make plans to have someone pick up your children, if, after an earthquake, you are unable to do so.

SENIOR CITIZEN PLANNING GUIDE:

1. Plan and Prepare:

- Plan for family, friends, and neighbours to check on each other after an earthquake, (telephones may not be working, so this should be arranged between people who live near one another).

- Keep a list of your medicines, allergies, and your special equipment. Include the name, address, and telephone number of your doctor, pharmacist, family members, clergy, or special friends. Take this list with you if you must leave home after an earthquake.

- Falling objects pose one of the greatest hazards in an earthquake. Seniors may not be able to quickly get under a table or desk for protection. Get rid of hazards in the home that could fall and cause injury. If you cannot do these things yourself, ask a friend or family member for help.

- Keep a 72-hour supply of emergency food and water. Have a well-stocked first-aid kit, and an extra pair of glasses, flashlight and batteries, portable radio, and essential medicine.

2. Special Needs:

Many seniors have special needs. Taking the following actions can increase your chances of safely riding out an earthquake.

- If your life support equipment requires electricity, buy an emergency generator. It is important to know how to properly operate and fuel your equipment.

- If you use oxygen, have someone secure the tank to prevent it from tipping. If you use a wheelchair or walking aids, keep them near you at all times. If possible, have extra walking aids in different places in your home.

- Place a battery-operated night light in each room. In a power outage, they will stay on four to six hours.

3. Protect Yourself:

- Have a whistle or horn to signal for help.

- If you use battery-operated equipment, store extra batteries and replace them when the shelf life is reached.

To help you know what to do when the shaking starts consult **Steps to Take - Drop, Cover and Hold** .

PEOPLE WITH DISABILITIES PLANNING GUIDE:

1. Plan and Prepare:

- Develop a "buddy" system with your family, friends, neighbours, and co-workers. Plan how to help each other in an emergency. If you live alone, you may want to give your buddy a key to your home.

- Make a list of your medications and allergies; special equipment; names, addresses and phone numbers of your doctor, pharmacy, family members and friends; and any other important information. Give a copy to each buddy and keep a copy with you at all times.

- Anchor items such as medical equipment, heavy appliances, bookcases, and hanging plants. Place heavy objects on low shelves. Move beds away from heavy picture frames and windows.

- Remove barriers such as bookcases, which may block your safe exit after an earthquake. Install security night-lights to provide emergency lighting if the power goes off.

- Make a 72-hour emergency supply kit. (Use the *Basic Home Emergency Supply Checklist* as a guide, page ?.) Make a first aid kit, with extra medicine and a pair of glasses. Store extra batteries for battery-operated equipment such as hearing aids and wheelchairs. Keep a mini-survival kit in your car.

2. Special Tips:

- If you are deaf or hearing impaired, keep a battery-operated television for receiving emergency information if the power is out. Store a flashlight, pencil, and pad for communicating. Arrange for hearing friends or co-workers to relay emergency information that is broadcast on the radio.

- If you are vision impaired, keep extra canes around your home. Plan alternate evacuation routes from the home and office. Store extra food and supplies for your guide dog.

- If you use a wheelchair, tie a lightweight drawstring bag to it where you can keep medicines, sanitary aides, a small flashlight, and a horn to signal for help. Find two useable exits from each room and from your building. Participate in earthquake drills, moving to cover, if possible, locking the wheels, and protecting your head with your arms, a pillow, lap robe, books, or any handy object.

MOBILE/MANUFACTURED HOME AND APARTMENT PLANNING GUIDE:

A major earthquake can damage apartment complexes and mobile/manufactured home parks, and can injure or kill residents.

The following steps should be taken by owners or managers:

- Consult building codes to ensure that your building meets current seismic safety standards.
- Develop an emergency plan for your apartment building or mobile/manufacturing home park. Include measures for storing water and food, obtaining first aid training, appointing floor or area leaders, conducting drills, and other such activities.
- Provide residents with information on how to secure furniture and other household items. Also provide them with information on what to do during and after an earthquake.
- Encourage residents to develop their own plans for shutting off damaged utilities, reuniting family members, and evacuation, if necessary.
- Identify residents with special needs, such as people with mobility, sight or hearing impairments; non-English speaking people; or elderly people. Then make sure their needs are addressed in your emergency plans.
- Organize teams that are responsible for first aid, light search and rescue, communications, and damage assessment. Compile a list of resources and skills available among your residents.
- Practice earthquake drills in your complex or park.
- Find out where the nearest Emergency Reception Centre is located and inform your residents.
- Organize a meeting at which a local emergency/disaster planner can provide information on earthquake preparedness.

PROTECT YOUR PET:

Everyone can benefit from having a household evacuation plan in place. It is the best way to protect your family in case of disaster, whether it's a large-scale natural catastrophe or an emergency that causes you to leave your house temporarily. Every disaster plan MUST include your companion animals! Post this page in a visible and accessible place, and make sure every member of your family is familiar with the plan.

Keep up-to-date identification on your dog or cat at all times. Make sure the collar is properly fitted (avoid chain link collars for dogs and use breakaway collars for cats). It is a good idea to have a friend or family member's phone number on your pet's identification tag in case you cannot be contacted.

Have a current colour photograph of your pet, showing any distinguishing markings, with your emergency supplies. If you and your pet become separated, these photographs will help identify him/her.

If you know a disaster is imminent, bring your pets inside immediately! Get your animals under control as quickly as possible, either on a leash or inside a carrier.

Disasters often strike suddenly, while you're away from home. You can improve your pet's chances for safety if you leave him/her inside, with collars and identification tags, when you go out. Consider an arrangement with a neighbour who would be willing to evacuate your pet in your absence. Make sure that person knows your animals, can locate your emergency supplies, and has a key to your house. Provide them with instructions and phone numbers.

1. If you evacuate, take your pet!

Your animal's best protection is to be with you. But remember, taking your pets requires special planning, so take the following steps:

- Locate a safe place for your pets before disaster strikes. Evacuation shelters generally don't accept animals.
- Call hotels and motels in your immediate area and a reasonable distance from your home. Ask whether they accept pets, under what conditions, and whether there are restrictions as to the size or number of animals.
- Ask friends or family members whether they will provide foster care for your pets.

NOTE: Some animal shelters will provide temporary foster care for pets in times of disaster, but this should be considered only as a last resort.

2. If you must leave your pet behind:

Leaving your pet at home alone will place your animal at a greater risk for injury or loss, so make every effort to take your pet with you. If you have no alternative but to leave your pet behind, there are some precautions you must take.

- Give your pet access to a safe, secure room without windows but with adequate ventilation, such as a bathroom. Leave enough food for a least three days (ask your veterinarian ahead of time what's best for your pet). A sufficient supply of water is critical. One animal can easily drink several gallons of water a day when under stress. Place water in containers that aren't easily knocked over, and
- leave a faucet dripping into a bathtub or sink with an open drain. If you expect flooding, provide access to elevated spaces or counters. Leave familiar bedding and safe toys.

- Don't confine dogs and cats in the same space. Keep small animals and birds safely caged.

- Make sure your pets are wearing proper identification (a collar and a tag).

- Place a notice on your front door advising what pets are in the house and where they are located. Provide a telephone number where you or a contact can be reached as well as the name and number of your vet.

- If you have a bird, leave food in dispensers that regulate the amount of food and supply extra water. Birds must eat daily to survive. Secure cages so they won't swing or fall. Cover the cage with a thin cloth or sheet to provide security and filtered light.

NEVER LEAVE A DOG TIED OUTSIDE!

DISASTER SUPPLIES FOR YOUR PET:

- Portable carrier (essential for cats)
- Food/water bowls
- Supply of your pet's food and water in plastic bottles
- Litter and litter box for cats
- Supply of your pet's regular medications
- First Aid kit
- Health records, including vaccination records
- Instructions on your pet's feeding schedules and diet, medications, and any special needs
- Leashes

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FORMS

EMERGENCY RESPONSE TEAM

Name	Dept.	Business Phone	Pager	Cellular Phone	Fax Number	Home Phone
	Designated PR					

Date: _____ Updated: _____

By: _____

VENDOR INFORMATION

Vendor	Business Phone	Contact	After Hours Phone	Contact

Date: _____ Updated: _____

By: _____

EMERGENCY EXPENSE RECORDS

Purchase Order #	Vendor	Item/Service Purchased	Dollar Amount
		Sheet Total	$

Date: _____ Updated: _____

By: _____

CASH EXPENDITURE

To Whom	By Whom	Cash/Check	Item Purchased	Dollar Amount

Date: _____ Updated: _____

By: _____

EMERGENCY INCIDENT LOG FOR _____

Date	Time	Type of Emergency	Discovered By	Cause and Origin

Date: _____ Updated: _____

By: _____

EMERGENCY RESPONSE PLAN REVIEW DATES AND DRILL RECORDS FOR THE YEAR _____

	Dates	Participants
Plan Review		
Next Review		
Next Review		
Next Review		
Next Review		
Plan Drill		
Plan Drill		

Date: _____ Updated: _____

By: _____

CRITICAL EQUIPMENT AND MATERIALS

Equipment/Room	Location	Preventive Action Required
Emergency Generator		
Command Centre Emergency Supplies		
Hazardous Materials Storage		
Phone System Equipment		
Satellite Equipment Room		
Computer Centre		
Workstations/PCS		
Elevator Control Room		
Copiers		
Fax Machines		

Date: _____ Updated: _____

By: _____

COMPUTER AND INFORMATION MANAGEMENT
List in order of importance

Location	Equipment	Serial #	Security Level	Own/Lease	Service Agr./Vendor	Warranty Expiration	Manager In Charge

Date: _____ Updated: _____

By: _____

INSURANCE INFORMATION

Agency: _____ Office Phone: _____

Contact: _____ Home Phone: _____

Coverage Type	Policy Number	Carrier	Coverage Amount	Renewal Dates	Additional Info (Deductible, etc.)
Contents					
Vital Records					
Electronic Equipment					
Business Interruption					
Structure					
Other					

Date: _____ Updated: _____

By: _____

BUILDING UTILITY AND EQUIPMENT SHUT OFFS

Building/Address	Utility	Shut Off Location
	Gas	
	Water	
	Electric	
	Sprinkler	
	Boiler	
	Sump Pumps	
	Other:	
	Gas	
	Water	
	Electric	
	Sprinkler	
	Boiler	
	Sump Pumps	
	Other:	
	Gas	
	Water	
	Electric	
	Sprinkler	
	Boiler	
	Sump Pumps	
	Other:	
	Gas	
	Water	
	Electric	
	Sprinkler	
	Boiler	
	Sump Pumps	
	Other:	

Date: ______________________ Updated: ______________________

By: ______________________

EMERGENCY SUPPLIES

Item	Location	Quantity	Inspected By	Date
Blankets				
Bottled Water				
First Aid Supplies				
Flashlight/Batteries				
Rubber Boots				
Rubber Gloves				
Cotton Cloves				
Eye Protection				
Protective Clothing				
Dust Masks				
Respirators				
Brooms				
Mops				
Buckets				
Flat Shovels				
Trash Bags and Barrels				
Paper Towels				
Axe				
Crowbar				
Cordless Drill				
Circular Saw				
We/Dry Vacuum				
Nylon Rope				
Basic Tool Kit				
Fasteners				
Roll 6 Mil Plastic				
Ladders				
Staple Gun/Stapler				
Duct Tape				
Tarp				
Hard Hats				
12 Gauge Extension Cords				

Date: _____ Updated: _____

By: _____

EMERGENCY SUPPLIES

Item	Location	Quantity	Inspected By	Date
Portable Quartz Lights				
Generator				
Gasoline				
Plastic Milk Cartons				
Cardboard Boxes				
Labels				
Markers				
Packing Tape				
Scissors				
Battery Operated Radio				
Two-way Radios				
As Built Drawings				

Date: _____ Updated: _____

By: _____

FIRE DETECTION/ALARM CHECKLIST

Equipment	Yes/No	Location(s)
Main Control Panel		
Fire Extinguishers		
Class A		
Class B		
Class C		
Automatic Sprinklers		
Fire Pump		
Smoke Detectors		
Heat Detectors		
Fire Alarm – Main Panel		
Fire Alarm – Pull Stations		
Standpipes		
Hose Stations		
FD Connections – Siamese		
Emergency Lighting		
Lighted Exit Signs		
Fire Doors		

Date: _____ Updated: _____

By: _____

PAPER AND MICROGRAPHICS
BUSINESS RECORDS MANAGEMENT
List in order of importance

Location or Office	Type of Information	Cabinet or Drawer	Security Level	Manager In Charge

Date: _____ Updated: _____

By: _____

SPECIALIZED TRAINING/SKILLS BANK

Training/Skill	Employee	Department/Office	Phone/Pager

Date: ______________________ Updated: ____________________________

By: ______________________

KEY SERVICE VENDORS

Vendor Type	Contractor/Vendor	Business Phone	After Hours Phone
Alarm Systems			
Computer Systems			
Disaster Restoration Contractor			
Electric Company			
Electrician			
Elevator Service			
Engineering Firm			
Environmental Services			
Gas Company			
Glass Company			
HVAC Service			
Janitorial Supplies			
Locksmith			
Movers/Storage			
Office Equipment			
Office Supplies			
Phone System Service			
Plumber			
Printer/Business Forms			
Security Systems			
Sign Maker			
Steam Company			
Water Company			
Other Daily Operations Supplier			

Date: _____ Updated: _____

By: _____

EMERGENCY RESPONSE OVERVIEW
Cross-Reference List

Emergency Team Member (Alphabetical Order)	Critical Issue/Functional Responsibility

Date: _____ Updated: _____

By: _____

City of Richmond
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