



British Columbia Earthquake Response Plan

Summary

1999 Edition



BRITISH
COLUMBIA



Inter-Agency Emergency
Preparedness Council

The British Columbia Earthquake Response Plan (1999)
may be downloaded in Adobe Acrobat® ready-to-print format
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Additional copies of this Summary
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The Earthquake Risk

Earthquakes are commonplace in BC — more than 200 are recorded each year on the Lower Mainland and on Vancouver Island; about 800 per year for the whole province. Although most of them are too small to be felt, an earthquake capable of causing structural damage can be expected to occur somewhere in the region about once every 10 years.

The province has experienced very strong earthquakes. In 1946, an earthquake with a magnitude of 7.3 hit Central Vancouver Island, causing minor damage as far away as Victoria and Vancouver. In the last century there have been seven quakes large enough to cause damage (magnitude 6 or greater) in Southwestern BC and in the adjacent areas of Washington.

An earthquake releasing massive amounts of energy (one registering eight or more on the Richter Scale) has also become an accepted possibility. In coastal BC, major earthquakes appear to have a repeat cycle of about every 300 to 800 years. The last major earthquake in the region occurred in the year 1700. Although we can't predict when the next one will occur, the probability is high that there will be a major earthquake within the next 200 years.

About 70% of British Columbia's population lives in the earthquake prone southwestern corner. In recognition of the province's earthquake risk, the Government of BC began to develop earthquake preparedness measures in 1988. The BC Earthquake Response Plan is a critical component of these measures. Originally published in 1992, this 1999 edition of the plan changes the responsibilities of certain ministries, and omits some general orientation information which is now entrenched in the *Emergency Program Act (1996)* and supporting regulations.

Emergency Management Basics

Emergency Management is usually considered to have four components:

- **Prevention:** lessening the impact of an earthquake through public education, building codes, land use regulations, tax and insurance incentives or disincentives, and so on.
- **Preparedness:** ensuring that individuals and agencies are prepared in advance to react to earthquakes. This includes developing emergency plans, mutual aid agreements, resource inventories, training programs, exercises, and emergency communications systems.
- **Response:** actions taken immediately after the earthquake has

occurred—primarily to save lives, treat the injured, and prevent further loss and injury. This includes activating emergency plans, opening emergency operations centres, mobilizing resources, issuing warnings and instructions, providing aid and, possibly, declaring a state of emergency.

- **Recovery:** restoring natural conditions. Recovery measures can extend over years, and can include physical restoration and reconstruction, financial assistance programs, counselling, temporary housing or relocation assistance, health and safety programs, and economic impact studies.

The Scope of this Plan

The BC Earthquake Response Plan addresses the areas of earthquake preparedness and response, and the initial stages of recovery. A more comprehensive recovery plan is under development. Prevention of damage (also sometimes called mitigation) is being addressed through other initiatives.

The plan confirms the areas of responsibility that legislation has assigned to the three levels of government—local, provincial and federal. It also breaks down provincial government responsibilities into specific emergency response functions, and assigns these functions to appropriate ministries (see “Emergency Response Functions” below).

These primary supporting ministries have each signed a memorandum of understanding committing them to the development of detailed plans for carrying out their functions.

Sharing the Responsibility

A basic premise of the plan, supported by current legislation, is that earthquake response is a shared responsibility. The following are the responsibilities that the plan identifies for the various levels of government:

Local Government Response

In the interests of speed and efficiency, the plan assumes that local authorities should remain responsible for managing and conducting their own emergency operations. Local governments have the resources on site (police and fire services, for example) that are required for emergency response. They also have the most knowledge about their jurisdictional area.

In the event of a damaging earthquake, an Emergency Operations Centre (EOC)

will likely be established by the local authority to direct and coordinate all response activities. Liaison with external agencies, and requests for provincial government assistance should take place through the EOC. The local authority may declare a local state of emergency on its own recognizance if additional powers are needed to respond to the situation, or ask the minister to declare a provincial state of emergency.

Provincial Government Response

The provincial government will handle the responsibilities that are within the jurisdiction of its ministries and agencies. It will also provide support for local operations, including overall coordination of provincial and federal resources. The province will have complete responsibility for response in areas where there is no local authority responsible for emergency management.

Particulars of local and provincial states of emergency are found in the *Emergency Program Act (1996)* and not in the BC Earthquake Response Plan.

As the BC Earthquake Response Plan was published, the British Columbia Emergency Response Management System (BCERMS) was in final developmental stages. BCERMS (a procedural system) will change some of the current organizational terminology.

The scope of the provincial response will depend on the damage caused by the earthquake, and the local government's capabilities. There are three major options:

1. If the earthquake is obviously a minor one, provincial agencies with response functions will simply deal directly with local governments, referring to the Provincial Emergency Program headquarters in Victoria for direction as required.
2. In the event of a more damaging earthquake, the province can set up Provincial Field Response Centres (PFRC) in or close to the affected area. A Provincial Emergency Coordination Centre (PECC) may be activated in Victoria for overall coordination of the response in BC. The PECC and PFRCs will coordinate provincial support for local government operations, and direct operations that are within the jurisdiction of provincial agencies.
3. A major catastrophic earthquake could require a level of provincial response that may only be possible under a declared state of emergency. Examples of special powers the province might need to invoke extraordinary circumstances include control over police and fire operations, ordering evacuations, and so on.

Federal Government Response

In the event of a catastrophic earthquake requiring a response beyond the capabilities of the province, the plan provides for coordination of additional resources including national assistance and international assistance, as arranged by the Government of Canada under the National Earthquake Support Plan.

Emergency Response Functions of Supporting Ministries

All provincial ministries will be required to provide resources in the event of an earthquake. However, the following specific functions have been identified as being critical in earthquake response.

Health Services: Ministry responsible for Health

- Emergency medical response to deal with heavy casualties.
- Evacuating and relocating patients from damaged or unsafe medical facilities and establishing emergency medical facilities.
- Expansion of normal functions in the areas of radiological/toxological services, vaccination, medical inspections of food and water, sanitation, public education and prevention of disease.

Emergency Social Services: Ministry responsible for Social Services

- Expansion of normal functions in the areas of food, clothing, shelter and reception of affected persons, where requirements are beyond the capabilities of local government to meet on their own.

Law and Order: Ministry responsible for Policing

- Expansion of normal police functions, especially in areas of traffic control, damage assessment, protection of property, search and rescue, and coroner assistance.

Heavy Urban Search and Rescue: Ministry responsible for the Provincial Emergency Program

- Providing resources and arranging for out of area teams to augment local authority urban search and heavy rescue capabilities.

Communications: Ministry responsible for the Provincial Emergency Program

- During periods of telecommunications breakdown, providing emergency communications within the local earthquake damage area (if the response is being provincially coordinated) and providing emergency communications between the local response area and Provincial Emergency Program headquarters.

Damage Assessment: Ministry responsible for the Provincial Emergency Program

- Gathering damage information and assessments from local authorities and ministries in order to determine the provincial response required.

Firefighting and Rescue: Ministry responsible for the Office of the Fire Commissioner

- Coordinating firefighting and rescue response; arranging additional resources, and accepting emergency powers.

Transportation: Ministry responsible for Transportation and Highways

- Expansion of normal highway system responsibilities in order to deal with damage.
- Designating and maintaining emergency routes required for response.
- Coordinating provision of transportation for the response effort.

Engineering and Construction: BC Buildings Corporation

- Coordinating demands for construction and engineering resources beyond local government capabilities.
- Determining priorities for response; arranging additional resources from the private sector and federal agencies.

Human Resources: Ministry responsible for the Public Service Employee Relations Commission

- Coordinating requirements for personnel at the provincial level, where local government capabilities may be exceeded.
- Providing centralized management to volunteers, and training incoming external personnel
- Staffing the PECC and PFRCs with skilled personnel.

Resource Support: Ministry responsible for the Purchasing Commission

- Coordinating extraordinary requirements for supplies, general equipment and facilities required for the response effort.
- Planning emergency procurement procedures, setting priorities where necessary, and arranging for delivery.

Coroner/Mortuary: Ministry responsible for the Office of the Coroner

- Expansion of normal role under emergency conditions.

Hazardous Materials: Ministry responsible for the Environment

- Expansion of normal role to deal with earthquake damage.

Public Information: Ministry responsible for Government Communications

- Provision of information to the public and the media.
- Control of media access in support of operational requirements.
- Assistance to the media as appropriate.

Food and Agriculture: Ministry responsible for Agriculture

- Locating bulk quantities of foodstuffs for delivery, if the private sector cannot cope under earthquake damage conditions.
- Coordinating the emergency requirements of the agriculture and fisheries sectors.
- Taking measures to protect the well-being of farm and domestic animals, if

this is beyond the capabilities of local governments.

Finance and Claims: Ministry responsible for Finance

- Administering provincial government financial expenditures.
- Administering relief claims, when approved, and service contracts.
- Estimating the financial impact of damage.
- Working with the banking sector to provide service to the public under emergency conditions.

Utilities: (no primary supporting ministry required)

- By arrangement with the major utilities corporations, ensuring that provincial government priorities for the restoration of utilities services (especially hydro, gas and telecommunications) will be followed.

