

# Managing Hazards in New Zealand: A case study of Wellington

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## INTRODUCTION

New Zealand is a country at risk from a range of hazards and the capital city of Wellington provides an appropriate case study of approaches to managing these risks. Wellington City Council has recognised this risk in the practices it has adopted. The Council is committed to comprehensive emergency management, enabling people and organisations to prepare for, respond to, and recover from mass emergencies and disasters. The Emergency Management Office has commenced an all-hazards, all agencies programme that promotes hazard reduction, emergency readiness, response co-ordination and community recovery. It should be emphasised that this is a work in progress and is, as such, far from perfect. However, some the best emergency management practices from around the world are being applied together with a few Kiwi innovations, making this a good testing ground of what is possible as a city attempts to manage some serious risks.

## BACKGROUND

### Identifying the Need for Change

The 1991 Law Commission "Final Report on Emergencies" and the 1992 Civil Defence Review Panel initiated a process of change within New Zealand's civil defence system which has continued to today. The need for change has, as a result, been well documented and accepted within the country. Wellington City is one of a number of local authorities that have already taken positive steps to implement this change.

### From Civil Defence to Emergency Management

In July 1992 the Council approved a development plan as the basis for the city's civil defence strategy. This report focused on the adoption of the "four phases" as the fundamental means of changing the civil defence system in place at the time into a more proactive emergency management system. The development plan indicated that "more attention should be paid to mitigation and recovery" while continuing to build on the existing preparedness and response planning programmes.

In January 1993 Council received a report proposing specific activities necessary to the successful implementation of the adopted strategy. This report formally introduced the concepts of the all-hazards approach, comprehensive emergency management and integrated emergency management systems which have underlain the Council's practice for the past five years. In October 1993 Council officially changed the name of the Civil Defence Department to the Emergency Management Office in recognition of the change in strategic direction and practice. Subsequent business plans have all seen these concepts translated into action.

## The Emergency Services Review

A nation-wide process of change is underway as a result of the 1995 Report of the Emergency Services Task Force, headed by Sir Somerford Teagle, and Ian McLean's 1996 Review of Disaster Recovery Preparedness. These have led the Department of Internal Affairs to recommend changes to the national emergency management structure to Cabinet which, in turn, has adopted the following principles:

1. comprehensive emergency management.
2. the all-hazards approach.
3. integrated emergency management systems.
4. declarations made at the most appropriate level of government by elected representatives.
5. routine events and emergencies are best handled at the local level wherever possible.
6. community responsibility and self-reliance.
7. individual responsibility and self-reliance; including the owner of any property be responsible for its reconstruction.
8. structures underpinned with appropriate technical information and expertise.
9. recognition and involvement of volunteer organisations.

These principles are in keeping with Wellington City Council's emergency management practice over the past five years.

## EMERGENCY MANAGEMENT PRACTICES

Local Authorities have both a legal and moral obligation to public safety. Wellington City Council has accepted and fulfilled these obligations through its emergency management activities. Emergency management is a core function of local government, a point reconfirmed in the Cabinet approved principles (4,5,6) presented above. Council needs to continue to integrate emergency management into its services and commit the resources necessary to enable it to meet these obligations in the future. The Cabinet principles (8) further recognise the need for this to be properly supported through appropriate expertise.

The practice of emergency management is built on three fundamental principles, again recognised by Cabinet (1,2,3): comprehensive emergency management; an all-hazards approach and; integrated emergency management systems.

### All Hazards Approach

Hazards are the result of an *interaction* between human activities and the natural and technological processes that can generate extreme events. It is important that the hazard, the community's exposure to the hazard, and the likely effects of the hazard on the community are all understood. This is accomplished through the All Hazards Approach as practised by the Emergency Management Office and endorsed by the Cabinet principles (2).

This approach ensures emergency planning is effective and efficient. There is a danger that communities will focus too much attention on any single hazard to the extent that the community becomes prepared for one type of disaster and not for others. The all-hazard approach balances this and allows planning to be more effective in all situations. The second issue is planning initially for the common effects of the various hazards and then planning for the hazard-specific issues. This is a more efficient planning process as it avoids duplication.

In Wellington this means understanding all the natural and technological hazards the city faces and planning once for the problems in a way that can be used in all disasters. The hazards that can cause a disaster in Wellington are:

#### **Natural**

- Atmospheric (includes severe winds).
- Geologic (includes earthquakes, tsunamis and landslips).
- Hydrologic (includes coastal and river flooding).
- Wildfire (bushfire).

#### **Technological**

- Manufacturing of hazardous substances.
- Storage of hazardous substances.
- Transport of hazardous substances or mass transport of people and includes road, rail, air, sea and pipeline.
- Hazardous waste & contamination.

It is critical for Council to assess these hazards on an ongoing basis. This assessment must draw on research about the interactions between the physical, built and social environments in order to provide credible information for emergency management and the policy development process. To do this more thoroughly, Council is working with the Institute of Geological and Nuclear Sciences to develop analytical tools based upon the Geographic Information System. The overall project approach will be to achieve our objectives by implementing practical, economical and achievable techniques and methodologies. The project has the following objectives:

- Create an interactive platform for the risk assessment model so that parametric analyses and other sensitivity tests can be performed to evaluate the effect various mitigation options, strategies and policies may have on risk reduction.
- Demonstrate the level of risk resulting from interactions among built, social and physical environments.
- Demonstrate sensitivity in risk estimates due to variability in hazard and vulnerability parameters.
- Provide results in a format which Council can use to support policy recommendations.
- Increase community awareness of relationships between hazard and risk through development of an accessible interactive resource centre on the Internet.

### **Comprehensive Emergency Management**

Comprehensive Emergency Management is an internationally accepted concept of how communities can deal with hazards and disasters. Local authorities can use Comprehensive Emergency Management to ensure resources are being committed to emergency management in a balanced, effective and efficient manner. Comprehensive Emergency Management is based on four phases: mitigation, preparedness, response and recovery. These phases have been referred to in public awareness materials as the 4R's (reduction, readiness, response, and recovery) to help make the ideas easier to understand and remember.

It is important to adopt Comprehensive Emergency Management as a whole concept as each of the phases is dependent and linked to the others. Without an appropriate commitment to all four aspects the concept will not be able to help the community fully. Each of these phases accounts for a roughly equal part of the Emergency Management Office's work and is explained in more detail below.

#### **Mitigation (Reduction)**

Council undertakes a variety of programmes which all contribute to reducing the likelihood of a disaster occurring or lessen the negative impacts. These include aspects of effective asset

management, land-use management, and other specific risk-reduction projects. It is important for all Council units to recognise how their activities contribute to hazard reduction. The Emergency Management Office has a role in offering advice on mitigation projects and helping to coordinate projects that involve external agencies.

New Zealand has a several significant pieces of legislation which influence how we manage hazards. Key among these is the Resource Management Act (1991), the purpose of which is to “promote the sustainable management of natural and physical resources.” This Act directs local government to research relevant hazards and to “control any actual or potential effects of the use, development, or protection of land, including for the purpose of the avoidance or mitigation of natural hazards (sec31b).”

### Public Awareness & Preparedness (Readiness)

The second phase of Comprehensive Emergency Management is helping individuals and the community prepare for a disaster as recognised by the Cabinet principles (6, 7). As with other major events in the life of a community or an individual, preparation is a key step to a successful result and preparing for a disaster is no different. By increasing the community’s readiness, first at the individual and household level and then at the neighbourhood level, we improve the community’s ability to cope with the problems caused by a hazard impact.

Raising the community’s awareness of the hazards and their consequences is the first step to promoting a higher degree of preparedness. This awareness of the hazards is then coupled with specific actions that can be taken to prepare. It is more likely that members of the community will take appropriate steps to ready themselves if they appreciate the real implications of the hazards and understand the available preparedness options.

Awareness and preparedness naturally peaks following significant local and international disasters but quickly wanes. By monitoring awareness and preparedness through public surveying techniques it has been possible to target promotional activities effectively. However, increasing hazard awareness and promoting preparedness is a difficult task given that many widely held misconceptions must first be corrected and then the new information presented. This means that the promotional activities initiated during the past four years must be sustained over the long term to be successful.

### Volunteers

The 1995 Emergency Services Review recognises the valuable contribution that volunteers can make and recommends that the appropriate action is taken to maximise this resource. This view is supported by the Cabinet adopted principles (9). It is important to maintain a realistic view of who gets the work done in a disaster. There are a range of disaster workers from professionals to trained volunteers to those who are untrained but who are available to assist in the immediate aftermath of disaster. Each is an essential part of the system and should be used effectively. Moreover, each of these three groups of volunteers must work together to form a system that is focused and equipped for the real priorities after a disaster.

In Wellington this is already being undertaken through the Community Emergency Centres that are part of the wider community response to emergency situations. The organisation and structure of the Wellington centres is geared to allocate “on the day” volunteers to specific tasks and to provide the Emergency Management Office with relevant and timely disaster information. This role is

defined in the Wellington Emergency Management Volunteer Charter that has been jointly developed over the past year by Emergency Management Office staff and volunteer coordinators.

Another aspect of the volunteer system focuses on providing basic disaster skills to the community. The Emergency Management Office has worked with the New Zealand Red Cross and the New Zealand Fire Service to develop community training in Disaster First Aid, Light Search and Rescue, and Fire Control.

### Integrated Response & Recovery Planning

There is a hierarchy of response and recovery plans within the Council that ensures that the responsibility, for both planning and responding, remains with the appropriate parties. Council's plans are part of a larger system of emergency plans within the community that all relate to one another but serve distinct purposes. At the top of this network is the "Wellington City Civil Defence Plan" that is legally required by the Civil Defence Act (1983) to allocate specific roles and responsibilities during a declared state of emergency. This plan is strategic in scope and written from an all hazards perspective. That is to say it defines the way a disaster response is managed in general terms without focusing on one particular type of disaster.

The next level of planning within Council are the Standing Operational Procedures. These set out more specific information relating to how and by whom different aspects of the disaster response will be carried out. They form a more detailed agreement of responsibilities, explain the relationships between agencies and may set thresholds for involvement. This level of planning is currently underway with 18 separate Standing Operational Procedures being identified:

Fire	Shelter	Reconnaissance	Enquires
Search and Rescue	Water	Building Safety	Lifelines
Casualty	Evacuation	Debris	Security
Health	Transport	Warnings	Deceased
Food	Logistics	Public Information	

The Emergency Management Office develops these plans in conjunction with the appropriate Council Units and external agencies.

There are two other documents that are essentially Standing Operational Procedures. The first is the Emergency Operations Centre Standing Operational Procedures which details how the Emergency Management Office building is utilised in a disaster and provides emergency task descriptions. This is prepared and maintained by the Emergency Management Office staff. The second is the Building Emergency Plan(s) that cover the emergency response required within the Council buildings. This was prepared by a working group and is now administered by the Building Management Unit.

The next level of planning is undertaken by those Council Units (usually Commissioning units) and external agencies specified in the Standing Operational Procedures. These emergency response plans contain the fine detail of how a response is initiated and conducted. They are comprised of many elements and should include the necessary changes to normal policies and procedures, assignment of emergency roles and tasks, call-out lists, resource lists, and other critical information. In some cases these plans may assign specific tasks and responsibilities to third parties, such as service delivery providers who will need to produce similar plans of their own detailing how they will fulfil these functions.

The Emergency Management Office also fulfils Council's obligations as a rural fire authority under the Forest and Rural Fires Act 1977. This includes implementing a strategy for the "prevention, detection, control, restriction, suppression and extinction of fires" in rural areas and along the rural-urban interface. The Emergency Management Office works with the NZ Fire Service, the Department of Conservation and neighbouring local authorities to ensure effective and efficient rural fire protection is provided within the broader comprehensive emergency management framework.

The Wellington Emergency Management Office also has responsibility for the development of longer term plans for disaster recovery. These plans, outlined in the *Wellington City Disaster Recovery Planning Guide* address the immediate problems of stabilising the affected community and extend into the longer term programmes for community rehabilitation and restoration. These programmes cover aspects of community recovery such as building reconstruction, accommodation, mental health, public information and economic recovery. Implementation of these plans is undertaken in conjunction with other appropriate Council units and with representatives from the public and private sectors and with community agencies.

The response and recovery planning has encouraged a natural systems approach to be adopted. This approach means that responsibilities and roles of organisations and individuals in a disaster closely reflect those undertaken in normal times. It prevents the development of an independent 'disaster-only' system that may be in conflict with the normal system, especially in incidents where the scale or geographic extent of the problem does not warrant a city-wide declaration of civil defence emergency.

This natural system approach recognises that ownership of the relevant response and recovery planning by Council units is critical for its successful implementation. This approach extends to the way Council interacts with external organisations. In particular it guides our relationship with service providers through the competitive tendering process as it relates to the emergency planning hierarchy.

There are also response and recovery plans at the Central and Regional government level that Wellington City's plans must dovetail with and external agencies have plans that interact with all three levels of government planning. The goal is to develop and maintain this network of plans so that there are no gaps and no potential for conflict as a result of overlaps. The Emergency Management Office is actively promoting common planning formats and emergency management systems to improve planning locally and regionally.

### Incident Management System

Hazards can cause a varying degree of damage in the community depending on the severity of the event. The impact of hazards on the community can range from less serious accidents, through larger emergencies, up to disasters and it is important that the Council is prepared appropriately for every scale of event. The importance of local involvement in emergencies is recognised in the Cabinet principles (5).

It is not always possible to simply scale a response up or down to suit, because more serious events, especially disasters, often require organisations that do not normally work together to function in a highly co-ordinated manner or undertake tasks that they do not normally

perform. Council must make sure that its response arrangements are designed to suit the full range of events, from normal, unplanned maintenance and accident response to full scale disaster response and recovery activities.

The Emergency Management Office is working with other organisations to develop an Incident Management System for significant emergencies and disasters. This system provides a basic framework and methodology for co-ordinating an inter-organisational disaster response. The Incident Management System possesses certain design criteria that makes it useful for the range of applications that may be required in the management of an emergency incident, with special consideration given to the decision making process and information management. Moreover, this system provides continuity to the response between organisations, as well as over time as organisations change.

## CONCLUSION

The Wellington City Council has recognised the importance of emergency management and has implemented a set of practices over the past five years that will see the city become a prepared community. However, no local authority will be able to cope with a disaster in isolation regardless of its internal preparations. The support of the nation will be an inevitable requirement in the wake of a disaster of the scale that Wellington can very reasonably expect to experience. Wellington City Council can encourage better emergency management in New Zealand through its formal commitment to these concepts. This, in turn, will benefit Wellington at the time of its greatest need.